Appendix G:
Traffic Analysis

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Agua Mansa Logistics Center

TRAFFIC ANALYSIS

CITY OF COLTON

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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
CCI	Construction Cost Index
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
NCHRP	National Cooperative Highway Research Program
PCE	Passenger Car Equivalents
PHF	Peak Hour Factor
Project	Agua Mansa Logistics Center
OPR	Office of Planning and Research
RTP	Regional Transportation Plan
SBCTA	San Bernardino County Transportation Authority
SBTAM	San Bernardino Transportation Analysis Model
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
TA	Traffic Analysis
TUMF	Transportation Uniform Mitigation Fee
v/c	Volume to Capacity
vphgpl	Vehicles per Hour Green per Lane
WRCOG	Western Riverside Council of Governments

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1 SUMMARY OF FINDINGS

This report presents the results of the traffic analysis (TA) for the proposed Agua Mansa Logistics Center ("Project"), south of Agua Mansa Road and west of Rancho Avenue at 1500 W. Agua Mansa Road in the City of Colton. The Project's location relative to the surrounding area is shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This TA has been prepared in accordance with the San Bernardino County Congestion Management Program (CMP) Guidelines for CMP Traffic Impact Analysis Reports (Appendix B, 2016 Update), the County of San Bernardino Transportation Impact Study Guidelines (dated July 9, 2019), and consultation with City staff during the TA scoping process. (1) (2) The City approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA. Due to the adoption of California Environmental Quality Act (CEQA) guidelines Section 15064.3, this TA does not address significant environmental impacts.

1.1 SUMMARY OF FINDINGS

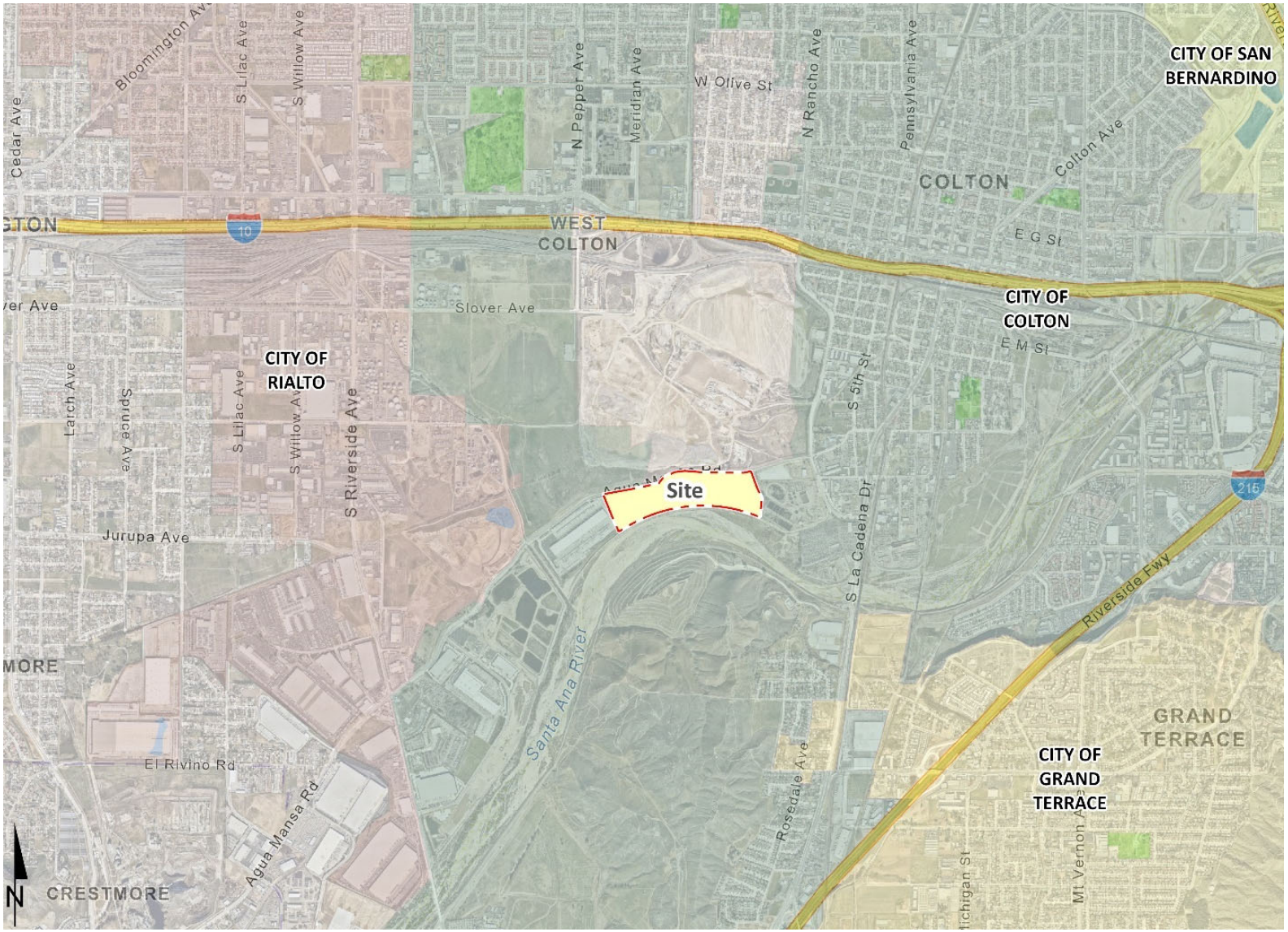
The Project is to construct the following improvements as design features in conjunction with development of the site:

- Project to install a traffic signal at Driveway 3 on Agua Mansa Road.
- Project to construct Agua Mansa Road at its ultimate half-width as a Major Arterial (96-foot right-of-way) from the Project's western boundary to the Project's eastern boundary consistent with the City's standards.

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

The development of the proposed Project is not anticipated to require the construction of any off-site improvements, however, there are improvement needs identified at off-site intersections for future traffic analysis scenarios where the Project would contribute traffic (as measured by 50 or more peak hour trips). As such, the Project Applicant's responsibility for the Project's contributions towards off-site intersection deficiencies is fulfilled through payment of fair share or participation in the pre-existing fee programs that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay requisite fair share contributions and fee payments consistent with the City's requirements (see Section 7 *Local and Regional Funding Mechanisms*).

EXHIBIT 1-1: LOCATION MAP



1.2 PROJECT OVERVIEW

Exhibit 1-2 illustrates the preliminary Project site plan. The Project is proposed to consist of 930,021 square feet of High-Cube Cold Storage Warehouse and High-Cube Fulfillment Center Warehouse use. Building 1 is proposed for 474,021 square feet of High-Cube Cold Storage Warehouse use and Building 2 is proposed for 114,000 square feet of High-Cube Cold Storage Warehouse use (25% of total building square footage) and 342,000 square feet of High-Cube Fulfillment Center Warehouse use (75% of total building square footage).

The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual (11th Edition, 2021) and the High Cube Warehouse Trip Generation Study (WSP, January 2019) were used to estimate the trip generation. (3) (4) The proposed Project is anticipated to generate 1,986 two-way trips per day, with 119 AM peak hour trips and 137 PM peak hour trips (actual vehicles). The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

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

- Existing (2021)
- Opening Year Cumulative (2024) Without Project
- Opening Year Cumulative (2024) With Project
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

1.3.1 EXISTING (2021) CONDITIONS

Information for Existing (2021) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, historic (2016, 2018, and 2019) traffic counts were utilized in conjunction with a 2% per year growth rate (compounded annually) to reflect 2021 conditions. The 2016, 2018, and 2019 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules.

EXHIBIT 1-2: PRELIMINARY SITE PLAN



1.3.2 OPENING YEAR CUMULATIVE (2024) CONDITIONS

The Opening Year Cumulative conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor from Existing conditions of 2.0% per year, compounded annually, is included for Opening Year Cumulative (2024) traffic conditions. The total ambient growth rate for Opening Year Cumulative (2024) traffic conditions is 6.12%. The ambient growth is consistent with the growth used by other projects in the area. This comprehensive list was compiled from information provided by the City of Colton and other near-by agencies.

1.3.3 HORIZON YEAR (2040) CONDITIONS

Traffic projections for Horizon Year (2040) with Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM). The Horizon Year (2040) conditions analysis will be utilized to determine if improvements funded through regional transportation fee programs, such as the City's Development Impact Fee (DIF) program, or other approved funding mechanisms can accommodate the long-range cumulative traffic at the target level of service (LOS) identified by the City of Colton (lead agency). Other improvements needed beyond the "funded" improvements (such as localized improvements to non-DIF facilities) are identified as such.

1.4 STUDY AREA

To ensure that this TA satisfies the City of Colton's requirements, Urban Crossroads, Inc. prepared a project TA scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology.

The following 23 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for this TA based on consultation with City of Colton staff. The "50 peak hour trip" criterion generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of influence (i.e., study area). Other analysis intersections, within the adjacent cities were not selected for evaluation as the Project is anticipated to contribute less than 50 peak hour trips.

EXHIBIT 1-3: STUDY AREA

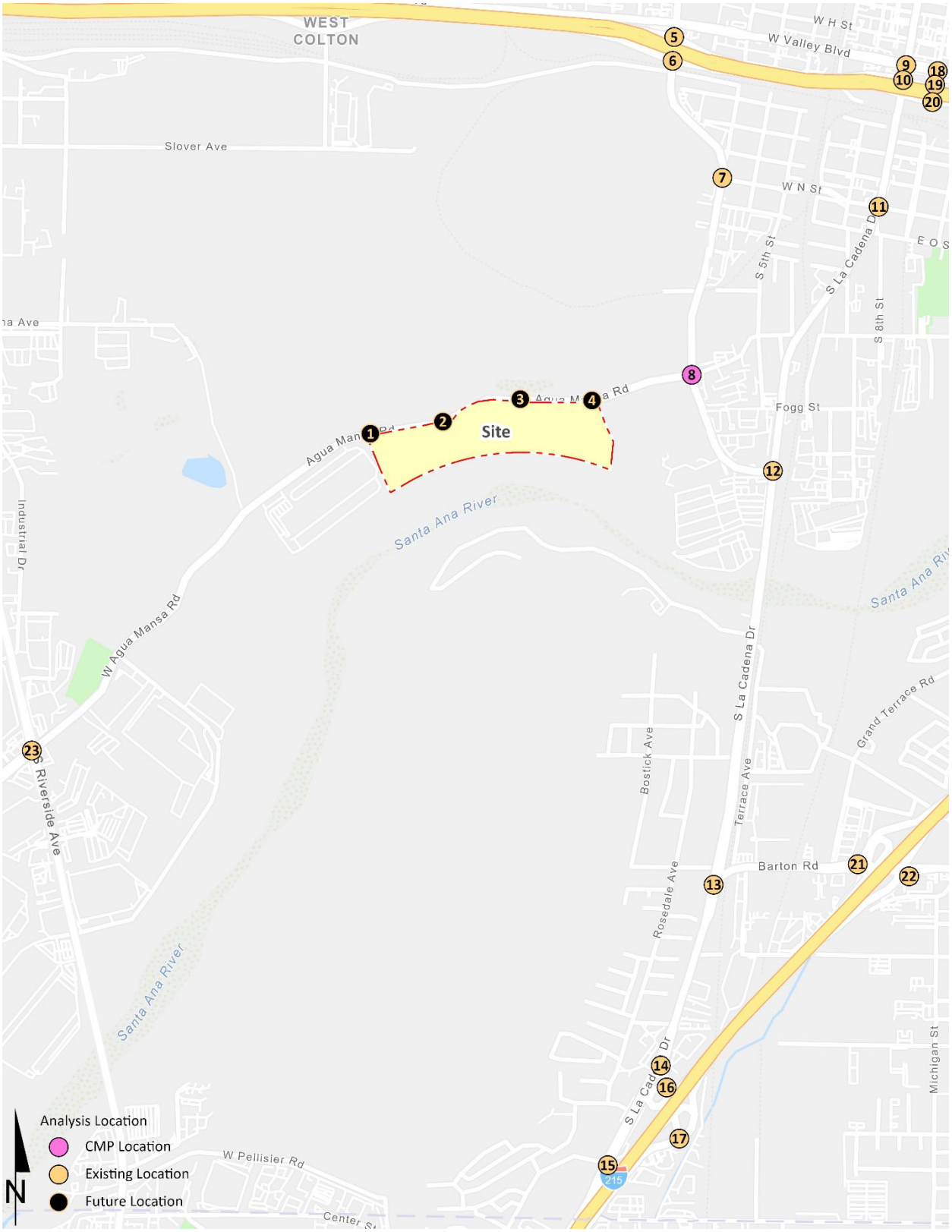


TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	Driveway 1 & Agua Mansa Rd. – Future Intersection	City of Colton	No
2	Driveway 2 & Agua Mansa Rd. – Future Intersection	City of Colton	No
3	Driveway 3 & Agua Mansa Rd. – Future Intersection	City of Colton	No
4	Driveway 4 & Agua Mansa Rd. – Future Intersection	City of Colton	No
5	Rancho Av. & I-10 WB Ramps	Caltrans	No
6	Rancho Av. & I-10 EB Ramps	Caltrans	No
7	Rancho Av. & N St.	City of Colton	No
8	Rancho Av. & Agua Mansa Rd.	City of Colton	Yes
9	La Cadena Dr. & Valley Bl.	City of Colton	No
10	La Cadena Dr. & I-10 WB On-Ramp	Caltrans	No
11	La Cadena Dr. & N St.	City of Colton	No
12	La Cadena Dr. & Rancho Av.	City of Colton	No
13	La Cadena Dr. & Barton Rd.	City of Colton	No
14	Iowa Av. & La Cadena Dr.	City of Colton	No
15	La Cadena Dr. & I-215 SB On-Ramp	Caltrans	No
16	Iowa Av. & I-215 SB Off-Ramp	Caltrans	No
17	Iowa Av. & I-215 NB Ramps	Caltrans	No
18	9th St. & Valley Bl.	City of Colton	No
19	9th St. & I-10 WB Off-Ramp	Caltrans	No
20	9th St. & I-10 EB Ramps	Caltrans	No
21	I-215 SB Ramps/La Cross Av. & Barton Rd.	Caltrans	No
22	I-215 NB Ramps & Barton Rd.	Caltrans	No
23	Riverside Av. & Agua Mansa Rd.	City of Rialto/City of Colton	No

The intent of a CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. Study area intersections that are identified as CMP facilities in the County of San Bernardino per the San Bernardino County Transportation Authority (SBCTA) CMP are indicated in Table 1-1. (1)

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 *Opening Year Cumulative (2024) Traffic* Conditions and Section 6 *Horizon Year (2040) Traffic Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented in Table 1-2.

TABLE 1-2: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO

#	Intersection	Existing		Opening Year Cumulative (2024) Without Project		Opening Year Cumulative (2024) With Project		Horizon Year (2040) Without Project		Horizon Year (2040) With Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Driveway 1 & Agua Mansa Rd.	N/A	N/A	N/A	N/A	A-D	A-D	N/A	N/A	A-D	A-D
2	Driveway 2 & Agua Mansa Rd.	N/A	N/A	N/A	N/A	A-D	A-D	N/A	N/A	A-D	A-D
3	Driveway 3 & Agua Mansa Rd.	N/A	N/A	N/A	N/A	A-D	A-D	N/A	N/A	A-D	A-D
4	Driveway 4 & Agua Mansa Rd.	N/A	N/A	N/A	N/A	A-D	A-D	N/A	N/A	A-D	A-D
5	Rancho Av. & I-10 WB Ramps	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
6	Rancho Av. & I-10 EB Ramps	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
7	Rancho Av. & N St.	A-D	A-D	E	A-D	E	A-D	E	A-D	E	E
8	Rancho Av. & Agua Mansa Rd.	A-D	A-D	A-D	E	E	F	E	F	F	F
9	La Cadena Dr. & Valley Bl.	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
10	La Cadena Dr. & I-10 WB On-Ramp	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
11	La Cadena Dr. & N St.	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
12	La Cadena Dr. & Rancho Av.	A-D	A-D	A-D	A-D	A-D	A-D	A-D	E	A-D	E
13	La Cadena Dr. & Barton Rd.	A-D	A-D	A-D	A-D	A-D	A-D	E	A-D	E	A-D
14	Iowa Av. & La Cadena Dr.	A-D	A-D	A-D	A-D	A-D	A-D	A-D	E	A-D	F
15	La Cadena Dr. & I-215 SB On-Ramp	E	E	F	F	F	F	F	F	F	F
16	Iowa Av. & I-215 SB Off-Ramp	A-D	A-D	F	E	F	E	F	F	F	F
17	Iowa Av. & I-215 NB Ramps	F	E	F	F	F	F	F	F	F	F
18	9th St. & Valley Bl.	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
19	9th St. & I-10 WB Off-Ramp	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
20	9th St. & I-10 EB Ramps	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
21	I-215 SB Ramps/La Crosse Av. & Barton Rd.	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
22	I-215 NB Ramps & Barton Rd.	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D	A-D
23	Riverside Av. & Agua Mansa Rd.	A-D	A-D	E	E	E	E	F	F	F	F

A - D = E = F =

1.5.1 EXISTING (2021) CONDITIONS

Intersections

The following existing study area intersections are currently operating at an unacceptable LOS during the peak hours:

- La Cadena Drive & I-215 Southbound On-Ramp (#15) – LOS E AM and PM peak hours
- Iowa Avenue & I-215 Northbound Ramps (#17) – LOS F AM peak hour; LOS E PM peak hour

Off-Ramp Queues

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

1.5.2 OPENING YEAR CUMULATIVE (2024) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2024) Without Project traffic conditions:

- Rancho Avenue & N Street (#7) – LOS E AM peak hour only
- Rancho Avenue & Agua Mansa Road (#8) – LOS E PM peak hour
- La Cadena Drive & I-215 Southbound On-Ramp (#15) – LOS F AM and PM peak hours
- Iowa Avenue & I-215 Southbound Off-Ramp (#16) – LOS F AM peak hour; LOS E PM peak hour
- Iowa Avenue & I-215 Northbound Ramps (#17) – LOS F AM and PM peak hours
- Riverside Avenue & Agua Mansa Road (#23) – LOS E AM and PM peak hours

There are no additional intersections anticipated to operate at a deficient LOS during the peak hours with the addition of Project traffic. California law does not require developers of new projects to remedy pre-existing deficiencies; rather, a developer is required to make a fair share contribution to the local government, reflecting the development's generation of impacts on the public facility.

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 under Opening Year Cumulative (2024) traffic conditions, consistent with Existing (2021) traffic conditions.

1.5.3 HORIZON YEAR (2040) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without Project traffic conditions:

- Rancho Avenue & N Street (#7) – LOS E AM peak hour only
- Rancho Avenue & Agua Mansa Road (#8) – LOS E AM peak hour; LOS F PM peak hour
- La Cadena Drive & Rancho Avenue (#12) – LOS E PM peak hour only
- La Cadena Drive & Barton Road (#13) – LOS E AM peak hour only
- Iowa Avenue & La Cadena Drive (#14) – LOS E PM peak hour only
- La Cadena Drive & I-215 SB On-Ramp (#15) – LOS F AM and PM peak hours
- Iowa Avenue & I-215 SB Off-Ramp (#16) – LOS F AM and PM peak hours

- Iowa Avenue & I-215 Northbound Ramps (#17) – LOS F AM and PM peak hours
- Riverside Avenue & Agua Mansa Road (#23) – LOS F AM and PM peak hours

With the addition of Project traffic, there are no additional study area intersections anticipated to operate at a deficient LOS during one or both peak hours for Horizon Year (2040) With Project traffic conditions.

California law does not require developers of new projects to remedy pre-existing deficiencies; rather, a developer is required to make a fair share contribution to the local government, reflecting the development's generation of impacts on the public facility.

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 under Horizon Year (2040) traffic conditions, consistent with Existing (2021) traffic conditions.

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. The site adjacent recommendations are shown on Exhibit 1-4.

Recommendation 1 – ***Driveway 1 & Agua Mansa Road (#1)*** – The following improvements are necessary to accommodate site access:

- Project to install a stop control for the northbound exiting Project traffic and a shared left-right turn lane.
- Project to construct a westbound left turn lane with a minimum of 100-feet of storage.

Recommendation 2 – ***Driveway 2 & Agua Mansa Road (#2)*** – The following improvements are necessary to accommodate site access:

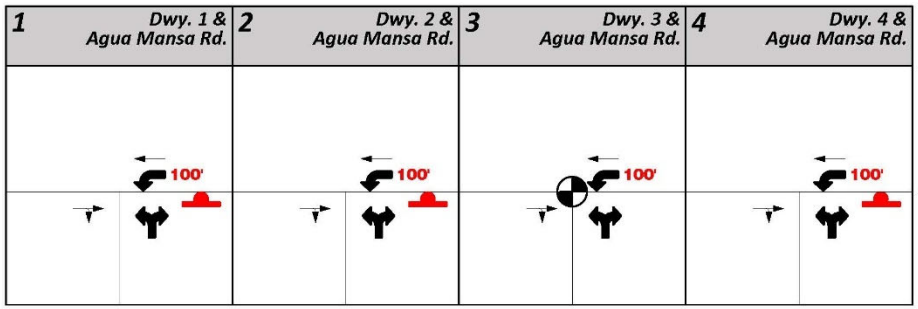
- Project to install a stop control for the northbound exiting Project traffic and a shared left-right turn lane.
- Project to construct a westbound left turn lane with a minimum of 100-feet of storage.

Recommendation 3 – ***Driveway 3 & Agua Mansa Road (#3)*** – The following improvements are necessary to accommodate site access:

- Project to install a traffic signal. Although the intersection does not meet peak hour or daily volume-based traffic signal warrants, a traffic signal is desired by the Project Applicant since the driveway is the primary Project access and serves trucks for both buildings.
- Project to construct a northbound shared left-right turn lane.
- Project to construct a westbound left turn lane with a minimum of 100-feet of storage.

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





= New Traffic Signal
= Stop Sign Improvement
= Existing Lane
= Lane Improvement
100' = Turn Pocket Improvement

Recommendation 4 – ***Driveway 4 & Agua Mansa Road (#4)*** – The following improvements are necessary to accommodate site access:

- Project to install a stop control for the northbound exiting Project traffic and a shared left-right turn lane.
- Project to construct a westbound left turn lane with a minimum of 100-feet of storage.

Recommendation 5 – Agua Mansa Road is an east-west oriented roadway located on the Project's northern boundary. Project to construct Agua Mansa Road at its ultimate half-width as a Major Arterial (96-foot right-of-way) from the Project's western boundary to the Project's eastern boundary consistent with the City's standards.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Department of Transportation (Caltrans) 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 City of Colton sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

1.6.2 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the cumulative deficiencies identified under Existing (2021), Opening Year Cumulative (2024), and Horizon Year (2040) traffic conditions are summarized in Table 1-3. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of development impact fees or fair share that would be assigned to construction of the identified recommended improvements.

Table 1-3 also summarizes the applicable cost associated with each of the recommended improvements based on the preliminary construction cost estimates found in Appendix G of the San Bernardino County CMP in conjunction with a cost escalation factor of 1.66 to reflect current (2021) costs. A rough order of magnitude cost has been prepared to determine the appropriate contribution value based upon the Project's fair share of traffic as part of the project approval process. Based on the Project fair share percentages, the Project's fair share cost is estimated at $378,890. These estimates are a rough order of magnitude only as they are intended only for disclosure purposes and do not imply any legal responsibility or formula for contributions or mitigation.

Recommendation 6 – Prior to the issuance of building permits, the Project Applicant shall pay the Project's fair share amount of $348,027 for the improvements identified in Table 1-3 at intersections located within the City of Colton, or as agreed to by the City and Project Applicant.

TABLE 1-3: SUMMARY OF IMPROVEMENTS AND ROUGH ORDER OF MAGNITUDE COSTS

#	Intersection	Jurisdiction	Existing (2021)	Opening Year Cumulative (2024) Without Project	Opening Year Cumulative (2024) With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in City DIF or SBCTA CMP?[1]	Project Responsibility[2]	Total Cost[3,4]	Fair Share %[5]	Fair Share Cost[6]
7	Rancho Av. & N St.	Colton	None	None	Install a Traffic Signal	Same	Same	No	Fair Share	$600,000	9.1%	$54,415
									Total:	**$600,000**		**$54,415**
8	Rancho Av. & Agua Mansa Rd.	Colton	None	Add EB left turn lane	Same	Same	Same	No	Fair Share	$82,918	12.2%	$10,157
						Add SB right turn lane	Same	No	Fair Share	$82,918		$10,157
									Total:	**$165,835**		**$20,314**
12	La Cadena Dr. & Rancho Av.	Colton	None	None	None	Modify the traffic signal to implement overlap phasing for the EB right turn lane	Same	No	Fair Share	$124,377	6.8%	$8,440
									Total:	**$124,377**		**$8,440**
13	La Cadena Dr. & Barton Rd.	Colton	None	None	None	Add 2nd WB left turn lane	Same	No	Fair Share	$82,918	2.3%	$1,916
									Total:	**$82,918**		**$1,916**
14	La Cadena Dr. & Iowa Av.	Colton	None	None	None	Add 2nd NB through lane	Same	No	Fair Share	$298,504	1.7%	$5,140
						Add 2nd SB through lane	Same	No	Fair Share	$298,504		$5,140
									Total:	**$597,008**		**$10,280**
15	La Cadena Dr. & I-215 SB On-Ramp	Caltrans	Install a Traffic Signal	Same	Same	Same	Same	No	Fair Share	$600,000	1.6%	$9,865
									Total:	**$600,000**		**$9,865**
16	I-215 SB Ramps & Iowa Av.	Caltrans	None	Add 2nd NB through lane	Same	Same	Same	No	Fair Share	$298,504	1.4%	$4,212
				Add 2nd SB through lane	Same	Same	Same	No	Fair Share	$298,504		$4,212
									Total:	**$597,008**		**$8,423**
17	I-215 NB Ramps & Iowa Av.	Caltrans	Add SB right turn lane	Same	Same	Same	Same	No	Fair Share	$82,918	1.1%	$904
				Add SB left turn lane	Same	Same	Same	No	Fair Share	$82,918		$904
				Add 2nd SB right turn lane	Same	Same	Same	No	Fair Share	$82,918		$904
						Add 2nd EB left turn lane	Same	No	Fair Share	$82,918		$904
						Modify the traffic signal to implement overlap phasing for the SB right turn lane	Same	No	Fair Share	$124,377		$1,357
									Total:	**$456,047**		**$4,974**
23	Agua Mansa Road Bridge	Colton, Rialto	None	Add SB right turn lane	Same	Same	Same	No	Fair Share	$82,918	1.2%	$987
						Add 3rd NB through lane	Same	No	Fair Share	$298,504		$3,554
						Add 3rd SB through lane	Same	No	Fair Share	$298,504		$3,554
						Add 2nd EB through lane	Same	No	Fair Share	$298,504		$3,554
						Add 2nd WB through lane	Same	No	Fair Share	$298,504		$3,554
									Total:	**$1,276,933**		**$15,202**
	Agua Mansa Road Bridge[11]	Colton						No	Fair Share	$3,421,778	7.2%	$245,061
									Total:	**$3,421,778**		**$245,061**
									Total Costs for Horizon Year (2040) Improvements	**$7,921,903**		**$378,890**
									Total Project Fair Share Contribution to the City of Colton (non-DIF/other)[8]		**$348,027**	
									Total Project Fair Share Contribution to the City of Rialto[9]		**$7,601**	
									Total Project Fair Share Contribution to Caltrans[10]		**$23,262**	

[1] Improvements included in City of Colton DIF program or SBCTA CMP 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] Costs have been estimated using the data provided in Appendix "G" of the CMP (2003 Update) for preliminary construction costs.

[4] Appendix "G" costs escalated by a factor of 1.658 except Traffic Signals.

[5] Program improvements constructed by project may be eligible for fee credit, at discretion of City. See Table 7-1 for Fair Share Calculations.

[6] Rough order of magnitude cost estimate.

[7] Project will construct the improvement as part of the Project design features.

[8] Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Colton.

[9] Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Rialto.

[10] Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within Caltrans' jurisdiction.

[11] Agua Mansa Road bridge widening cost provided by City staff and cost has been adjusted to reflect inflation from the estimated 2008 bridge cost estimate of $2,745,991.

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Recommendation 7 – The Developer's fair-share amount for the intersections that either share a mutual border with or are wholly located within the jurisdiction of Caltrans that have recommended improvements which are not covered by a pre-existing fee program is $23,262. Developer shall be required to pay the amount shown above to the City of Colton prior to the issuance of building permits. The City of Colton shall hold Developer's Fair Share contribution in trust and shall apply Developer's Fair Share Contribution to any fee program adopted or agreed upon by the City of Colton and other agencies.

Recommendation 8 – The Developer's fair-share amount for the intersections that either share a mutual border with or are wholly located within the jurisdiction of the City of Rialto that have recommended improvements which are not covered by a pre-existing fee program is $7,601. Developer shall be required to pay the amount shown above to the City of Colton prior to the issuance of building permits. The City of Colton shall hold Developer's Fair Share contribution in trust and shall apply Developer's Fair Share Contribution to any fee program adopted or agreed upon by the City of Colton and other agencies.

1.7 TRUCK ACCESS

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

1.8 SIGHT DISTANCE

Sight distance has been evaluated for each of the Project driveways. As defined by the California Department of Transportation (Caltrans) Highway Design Manual, sight distance is the continuous length of highway ahead visible to the driver. At unsignalized intersections, 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 11 ½ second criterion has been applied to the outside travel lanes in either direction to provide the most conservative sight distance. The 11 ½ second criterion allows waiting vehicles to either cross all lanes of through traffic by turning left or cross the near lanes by turning right without requiring through traffic to radically alter their speed.

The sight distance is based on the posted speed limit plus 5 miles per hour. It is anticipated that the minimum 855-foot sight distance for left turning vehicles and 785-foot sight distance for right turning vehicles could be accommodated for the Project driveways on Agua Mansa Road based on a speed limit of 45 miles per hour. The sight distance lines, limited use area, and clear sight triangles are illustrated on Exhibit 1-6. Obstructions within the limited use area should be limited to 36-inches in height in order to maintain adequate visibility/sight distance.

EXHIBIT 1-5: TRUCK ACCESS (PAGE 1 OF 3)

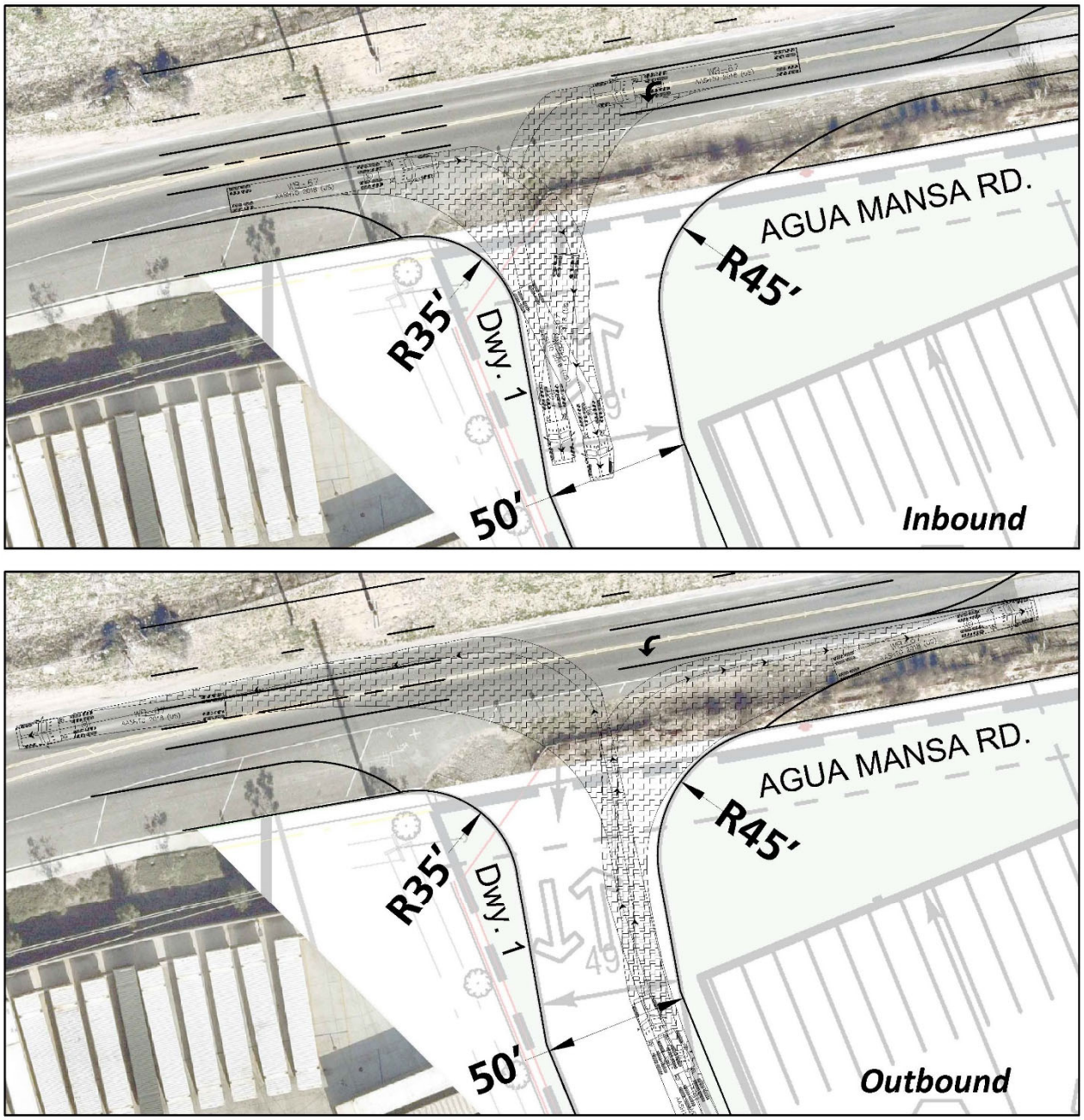


EXHIBIT 1-5: TRUCK ACCESS (PAGE 2 OF 3)

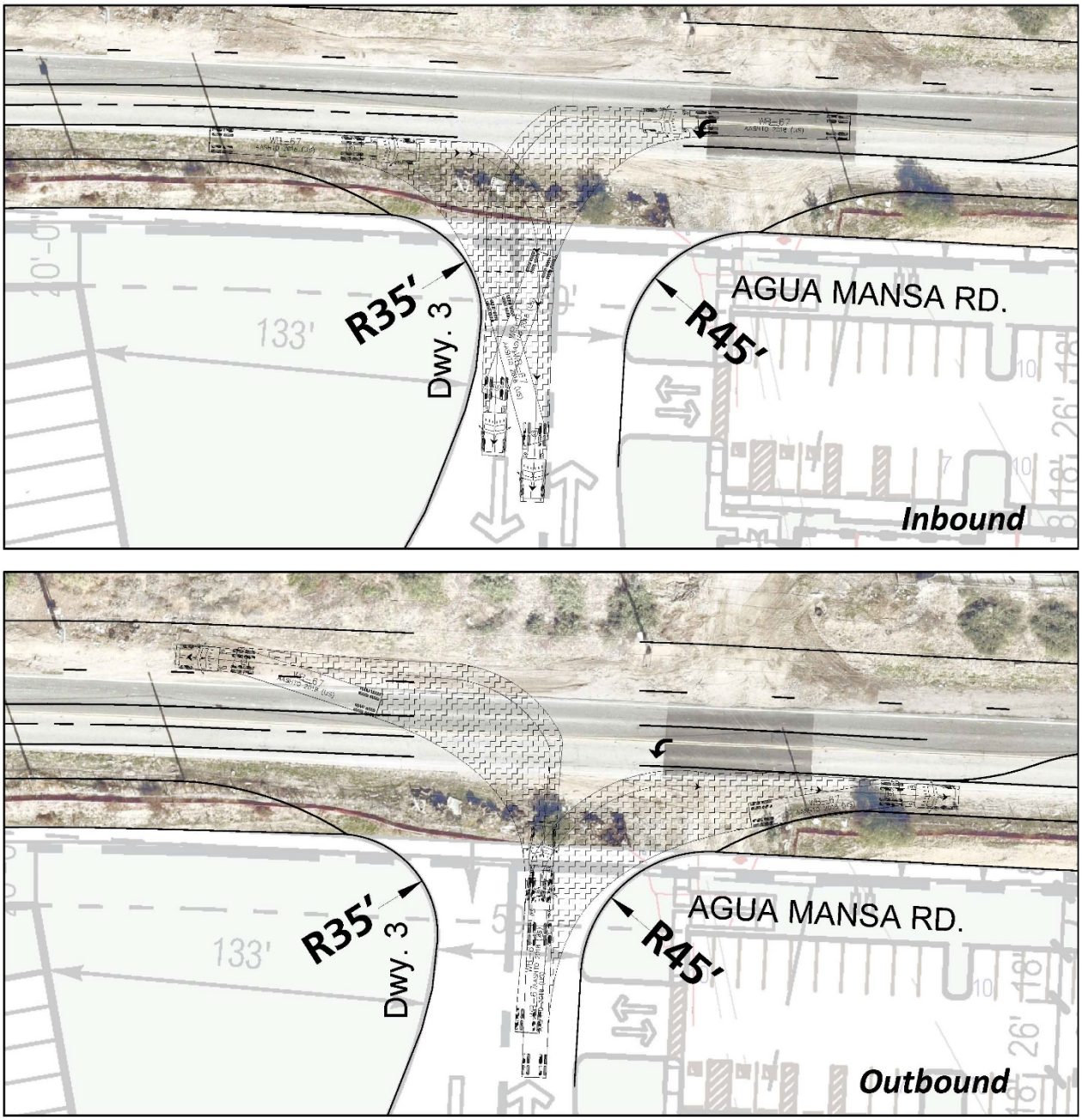
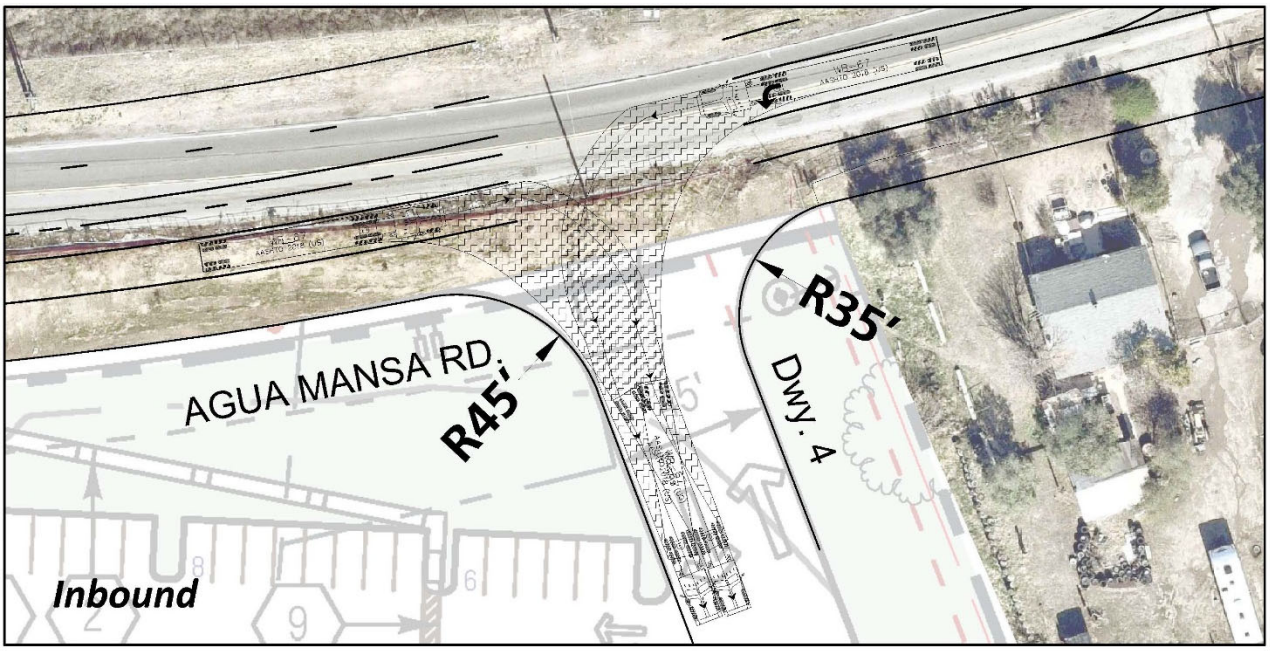
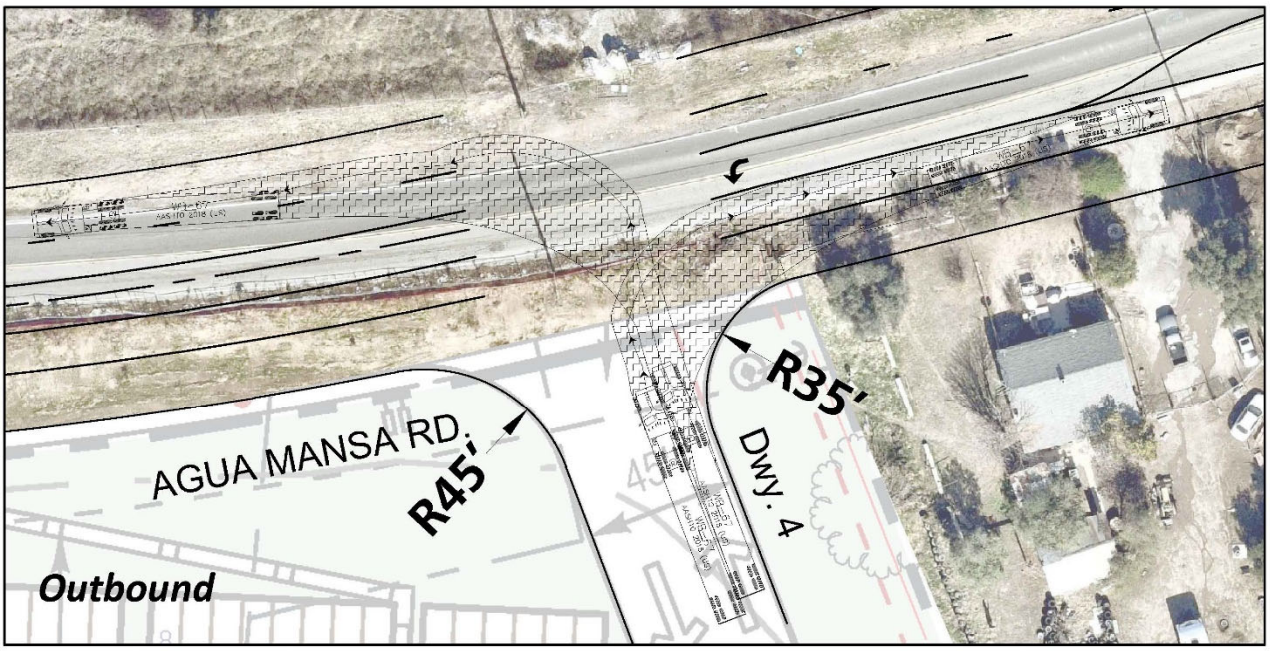
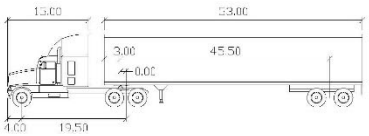


EXHIBIT 1-5: TRUCK ACCESS (PAGE 3 OF 3)







WB-67

Feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 20.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

N

GRAPHIC SCALE
0 25 50
1"=50'

EXHIBIT 1-6: SIGHT DISTANCE (PAGE 1 OF 4)



LEGEND:

= DRIVERS EYE

855' = MINIMUM SIGHT DISTANCE

= LIMITED USE AREA
(THERE SHALL BE NO OBSTRUCTION WITHIN THE LIMITED USE AREA. OBSTRUCTIONS INCLUDE, BUT NOT LIMITED TO, ANY SIGNS OR OBJECTS HIGHER THAN 3' MEASURED FROM PAVEMENT WITHIN THE AREA OF LIMITED USE.)

N

GRAPHIC SCALE
0 60 120
1"=120'

EXHIBIT 1-6: SIGHT DISTANCE (PAGE 2 OF 4)

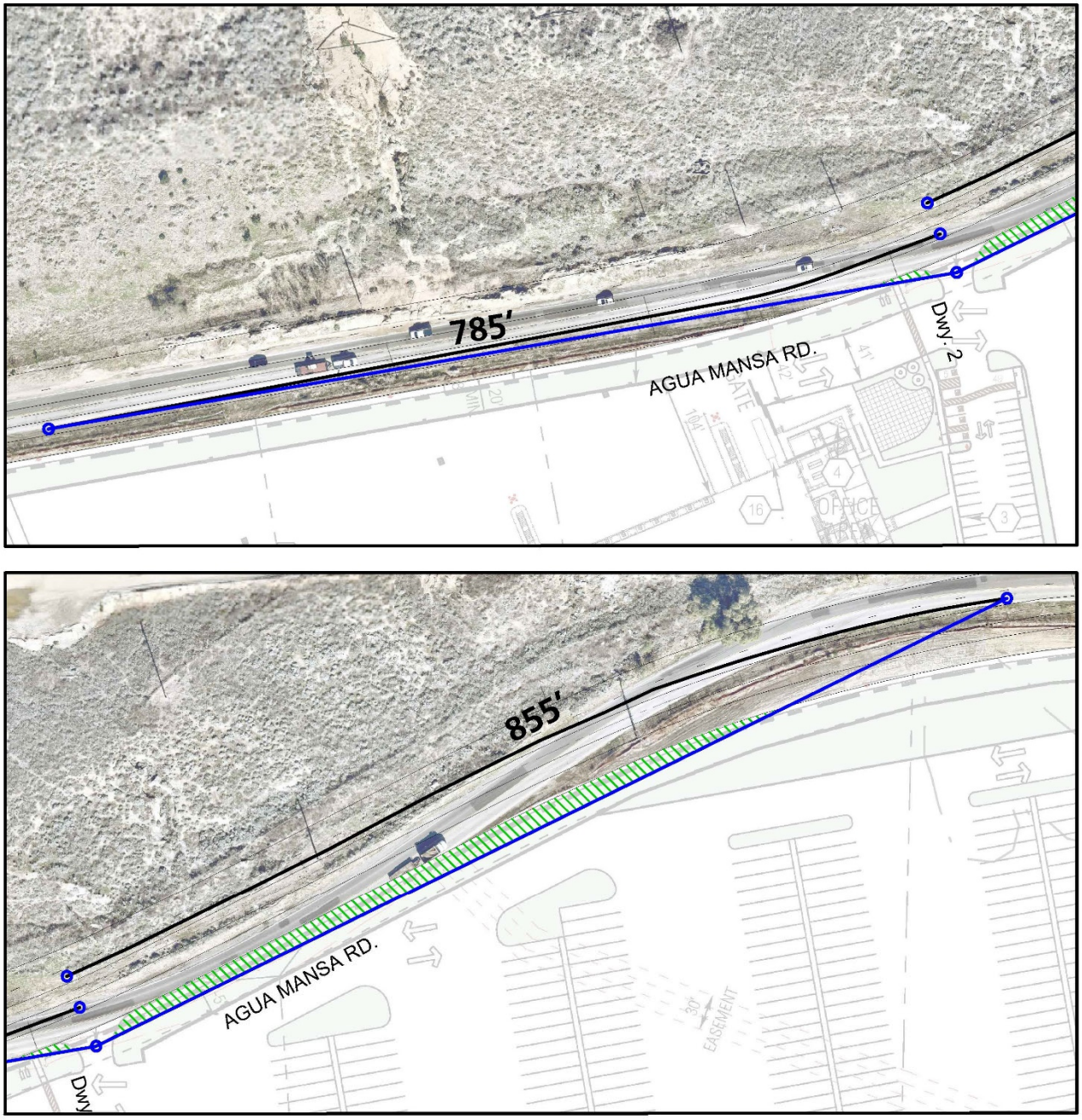
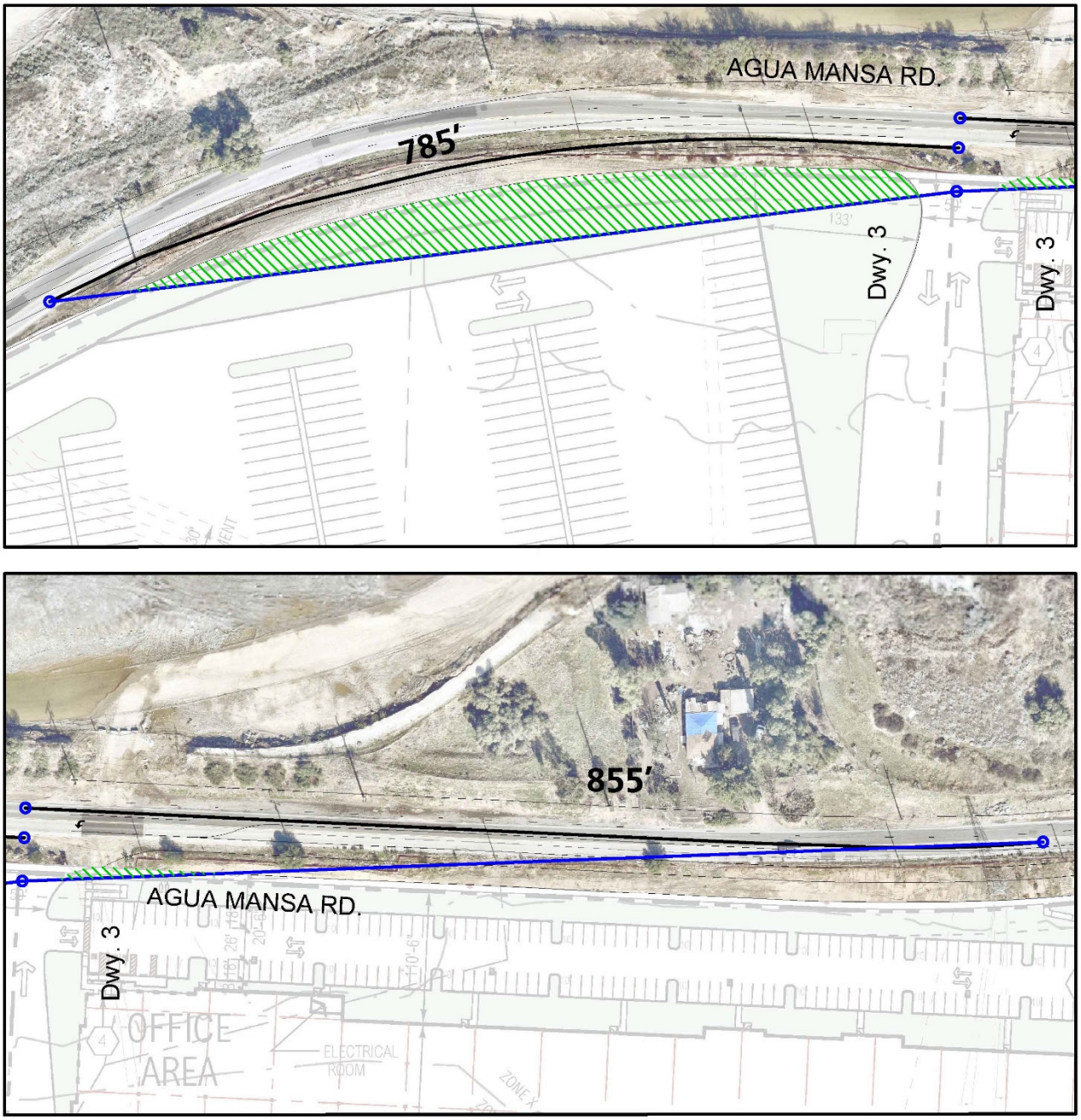


EXHIBIT 1-6: SIGHT DISTANCE (PAGE 3 OF 4)



LEGEND:

= DRIVERS EYE

855' = MINIMUM SIGHT DISTANCE

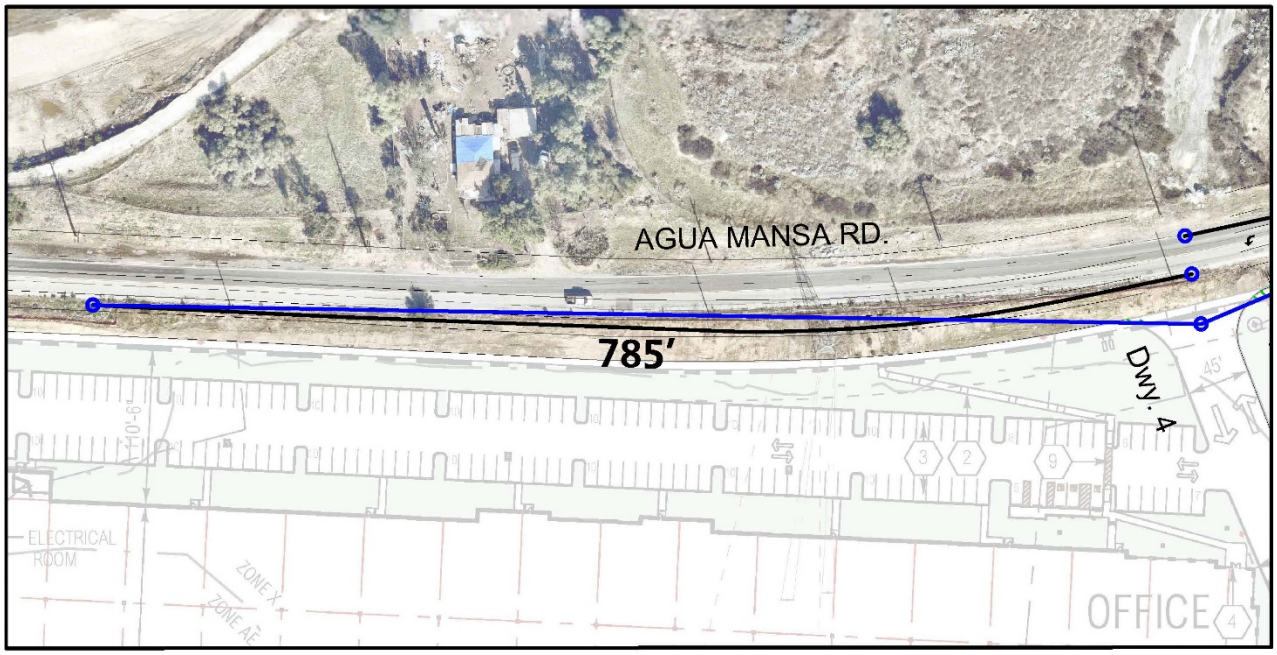
= LIMITED USE AREA

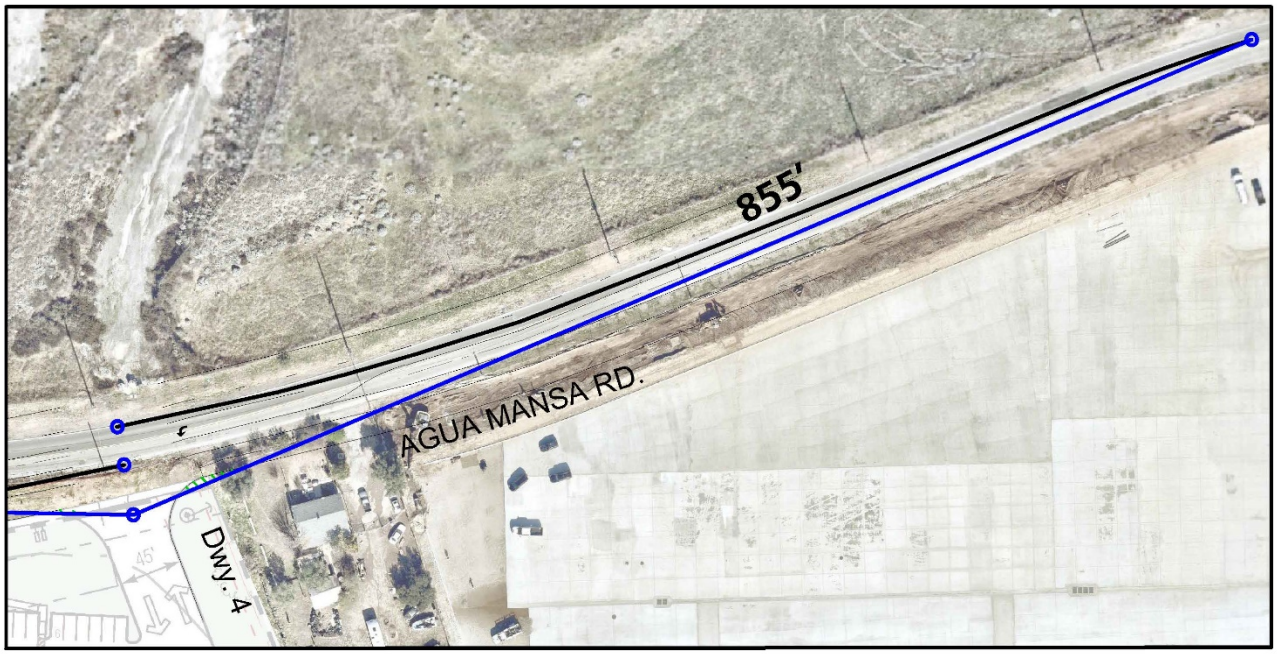
(THERE SHALL BE NO OBSTRUCTION WITHIN THE LIMITED USE AREA. OBSTRUCTIONS INCLUDE, BUT NOT LIMITED TO, ANY SIGNS OR OBJECTS HIGHER THAN 3' MEASURED FROM PAVEMENT WITHIN THE AREA OF LIMITED USE.)

N

GRAPHIC SCALE
0 60 120
1"=120'

EXHIBIT 1-6: SIGHT DISTANCE (PAGE 4 OF 4)





LEGEND:

- DRIVERS EYE
- 855' = MINIMUM SIGHT DISTANCE
- LIMITED USE AREA (THERE SHALL BE NO OBSTRUCTION WITHIN THE LIMITED USE AREA. OBSTRUCTIONS INCLUDE, BUT NOT LIMITED TO, ANY SIGNS OR OBJECTS HIGHER THAN 3' MEASURED FROM PAVEMENT WITHIN THE AREA OF LIMITED USE.)

N

GRAPHIC SCALE
0 60 120
1"=120'

2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Colton's applicable TA Guidelines.

2.1 LEVEL OF SERVICE

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

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (5) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Colton requires signalized intersection operations analysis based on the methodology described in the HCM. (5) 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.

Consistent with Appendix B of the San Bernardino County CMP, the following saturation flow rates, in vehicles per hour green per lane (vphgpl), will be utilized in the traffic analysis for signalized intersections:

Existing and Opening Year Cumulative Traffic Conditions:

- Exclusive through: 1800 vphgpl
- Exclusive left: 1700 vphgpl
- Exclusive right: 1800 vphgpl
- Exclusive dual left: 1600 vphgpl
- Exclusive triple left: 1500 vphgpl

Horizon Year (2040) Traffic Conditions:

- Exclusive through: 1900 vphgpl
- Exclusive left: 1800 vphgpl
- Exclusive dual left: 1700 vphgpl
- Exclusive right: 1900 vphgpl
- Exclusive dual right: 1800 vphgpl
- Exclusive triple left: 1600 vphgpl or less

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)

The traffic modeling and signal timing optimization software package Synchro (Version 10) has been utilized to analyze signalized intersections within the City of Colton. 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.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis

as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (5)

California Department of Transportation (Caltrans)

The traffic modeling and signal timing optimization software package Synchro (Version 10) has also been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e., I-10 Freeway ramps at Rancho Avenue and La Cadena Boulevard and the I-215 Freeway Ramps at Iowa Avenue, etc.).

2.2.2 UNSIGNALIZED INTERSECTIONS

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

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM (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 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). (6)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (6) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. 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 study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	Driveway 1 & Agua Mansa Rd. – Future Intersection	City of Colton	No
2	Driveway 2 & Agua Mansa Rd. – Future Intersection	City of Colton	No
3	Driveway 3 & Agua Mansa Rd. – Future Intersection	City of Colton	No
4	Driveway 4 & Agua Mansa Rd. – Future Intersection	City of Colton	No
7	Rancho Ave. & W. N. St.	City of Colton	No
15	La Cadena Dr. & I-215 On-Ramp	City of Colton, Caltrans	No
19	9th St. & I-10 WB Off-Ramps	City of Colton, Caltrans	No
20	9th St. & I-10 EB Ramps	City of Colton, Caltrans	No

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 *Opening Year Cumulative (2024) Traffic Conditions* and Section 6 *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

The study area for this TA includes the I-10 Freeway at Rancho Avenue and La Cadena interchanges and the I-215 Freeway at Iowa Avenue and Barton Road interchanges. 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 interchanges identified above. Specifically, the queuing analysis is utilized to identify any potential queuing and "spill back" onto the I-10 or I-215 Freeway mainline from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. There are two footnotes which appear on the Synchro outputs. One footnote indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The other footnote indicates whether or not the volume for the 95th percentile queue is metered by an upstream signal. If the upstream intersection is at or near capacity, the 50th percentile queue represents the maximum queue experienced.

2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

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

2.5.1 CITY OF COLTON

Per the City of Colton General Plan, LOS D is considered the acceptable threshold for intersections. Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis.

2.5.2 COUNTY OF SAN BERNARDINO

Per the County of San Bernardino Guidelines, the following LOS will be utilized for study area intersections located within the County: Require development to achieve a peak hour LOS D or better. Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis.

2.5.3 CALTRANS

Consistent with the City of Colton LOS threshold of LOS D, LOS D will be used as the target LOS for freeway ramps, freeway segments, and freeway merge/diverge ramp junctions.

2.5.4 SAN BERNARDINO COUNTY CMP

The CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better, where feasible, except where an existing LOS F condition is identified in the CMP document. However, LOS D has been utilized for the purposes of this TA.

2.6 DEFICIENCY CRITERIA

To determine whether the addition of project traffic at a study intersection results in a project-related traffic deficiency, the following thresholds will be utilized:

- A traffic deficiency occurs at a study intersection if the addition of project-generated trips reduces the peak hour level of service of the study intersection to change from acceptable level of service (LOS "A", "B", "C" or "D") to an unacceptable level of service (LOS "E" or "F");
- A traffic deficiency occurs at a study intersection if the project-generated trips worsen the pre-project level of service grade at a deficiently operating (LOS "E" or "F") intersection.

The proposed significance thresholds will be applied at study area intersections for the purposes of determining project-related deficiencies.

2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future (Horizon Year) traffic less existing baseline traffic:

Project Fair Share % = Project (2040) AM/PM Traffic / (2040 With Project AM/PM Total Traffic – Existing AM/PM Traffic)

The project fair share percentage has been calculated for both the AM peak hour and PM peak hour and the highest of the two has been selected. The Project fair share contribution calculations are presented in Section 7 *Local and Regional Funding Mechanisms* of this TA. The cost of implementing the improvements shown in Table 1-3 have been estimated based on the preliminary construction cost estimates found in Appendix G of the San Bernardino County CMP in conjunction with a total cost escalation factor of 1.66 to more closely approximate current (2020) costs. These cost estimates have been utilized in conjunction with the Project fair share percentages to determine the Project's fair share cost of the recommended improvements (see Table 7-1). These estimates are a rough order of magnitude only as they are intended only for discussion purposes and do not imply any legal responsibility or formula for contributions or physical improvements.

3 AREA CONDITIONS

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

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Colton staff (Appendix 1.1), the study area includes a total of 23 existing and future intersections as shown previously on Exhibit 1-3. 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 CITY OF COLTON GENERAL PLAN CIRCULATION ELEMENT

The study area contains intersections that exist within the City of Colton. Exhibit 3-2 shows the City of Colton General Plan Circulation Element and Exhibit 3-3 illustrates the City of Colton General Plan Roadway Cross-Sections. The study area roadways that lie within the City of Colton are described below.

Major Arterials are designed to accommodate four travel lanes with a median, within a typical 104-foot right of way, carry high traffic volumes and provide limited access. Their primary function is to link the major arterial highways to the secondary arterials. Driveway access is also typically limited on these facilities, where feasible. The following study area roadways within the City of Colton are classified as Major Highways:

- Agua Mansa Road
- Barton Road
- La Cadena Drive
- Rancho Avenue

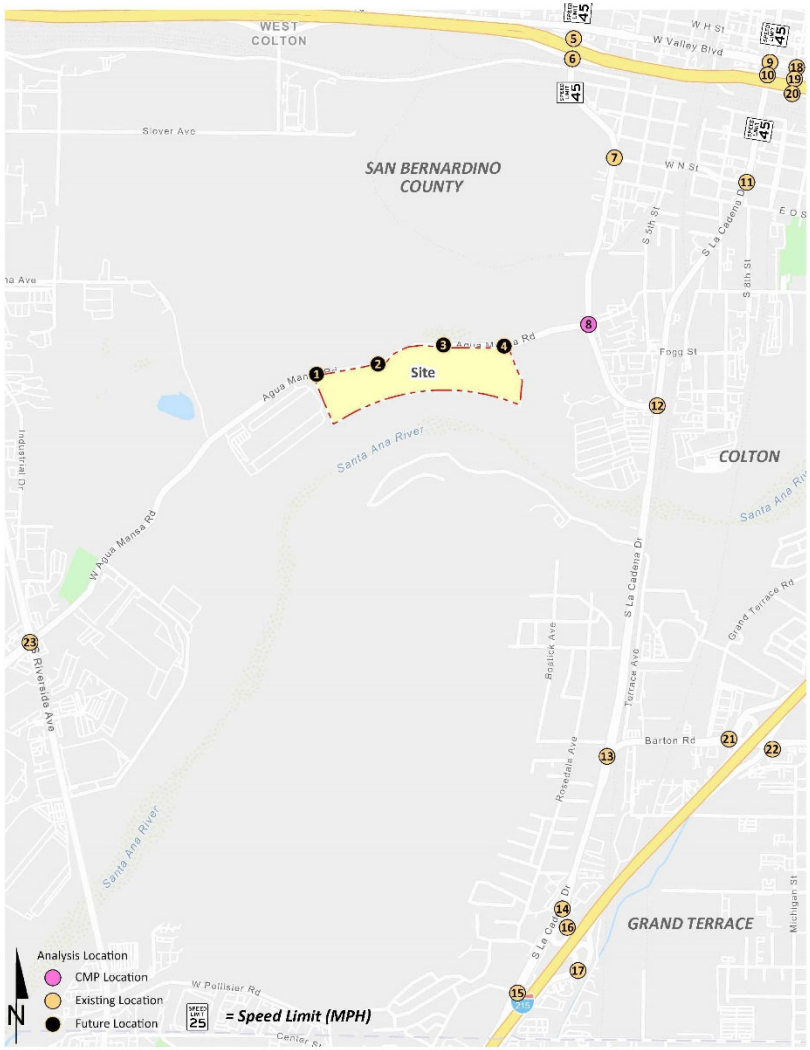
Collectors are designed to accommodate four travel lanes, within a typical 88-foot right of way. They connect to Major Highways. The following study area roadway within the City of Colton is classified as a Secondary Highway:

- N Street

3.3 BICYCLE & PEDESTRIAN FACILITIES

Exhibit 3-4 shows the City of Colton General Plan Bicycle Plan. As shown on Exhibit 3-4, there are planned Class II bicycle routes along Barton Road, La Cadena Drive, and Agua Mansa Road and planned Class III bicycle routes along La Cadena Drive within the study area. There are existing Class III bicycle routes along Rancho Avenue. Field observations indicate nominal pedestrian and bicycle activity within the study area. Exhibit 3-5 illustrates the existing pedestrian facilities within the study area. As shown on Exhibit 3-5, there are limited existing pedestrian facilities within close proximity to the Project site.

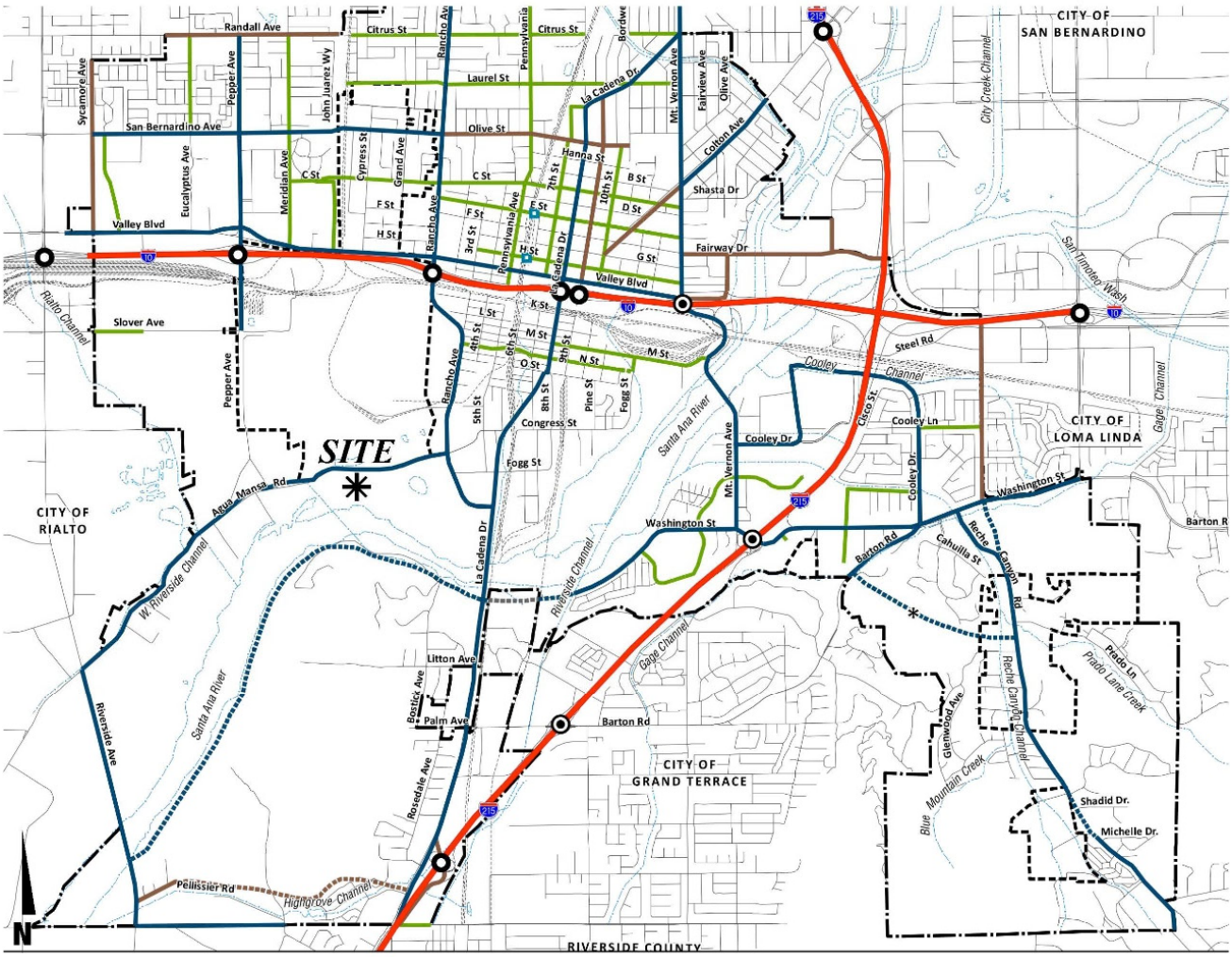
EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



1 Dwy. 1 & Agua Mansa Rd.	2 Dwy. 2 & Agua Mansa Rd.	3 Dwy. 3 & Agua Mansa Rd.	4 Dwy. 4 & Agua Mansa Rd.	5 Rancho Av. & I-10 WB Ramps
Future Intersection	Future Intersection	Future Intersection	Future Intersection	4D / 4D
6 Rancho Av. & I-10 EB Ramps	7 Rancho Av. & W. N St.	8 Rancho Av. & Agua Mansa Rd.	9 La Cadena Bl. & Valley Bl.	10 La Cadena Bl. & I-10 WB On-Ramp
4D / 4D	4D / 2U / 4D	4D / 2U / 2U / 4D	4D / 4D / 4D	4D / 4D
11 La Cadena Dr. & W. N St.	12 La Cadena Dr. & Rancho Av.	13 La Cadena Dr. & Barton Rd.	14 La Cadena Dr./ Iowa Av. & La Cadena Dr.	15 La Cadena Dr. & I-215 SB On-Ramp
4D / DEF / DEF / 2U / 2U / DEF / 4D	4D / 4D / 4D	4D / 2U / 4D	4D / 2U / RTO / 2U	4D / S / 2D / 4D
16 Iowa Av. & I-215 SB Off-Ramp	17 Iowa Av. & I-215 NB Ramps	18 9th St. & Valley Bl.	19 9th St. & I-10 WB Off-Ramp	20 9th St. & I-10 EB Ramps
2U / 2U	2U / 4D / 4D	4D / 4D / 4D	4D / 2U / 4D	2U / S
21 I-215 SB Ramps / La Crosse Av. & Barton Rd.	22 I-215 NB Ramps & Barton Rd.	23 Riverside Av. & Agua Mansa Rd.		
4D / R / 4D / 4D / 2U	4D / 4D / 4D	4D / 4D / 4D / 4D		

= Traffic Signal
S = All Way Stop
R = Roundabout
= Stop Sign
RTO = Right turn Overlap
DEF = Defacto Right turn
= Free Right turn
= Channelized Yield
4 = Number of Lanes
D = Divided
U = Undivided

EXHIBIT 3-2: CITY OF COLTON GENERAL PLAN CIRCULATION ELEMENT



Circulation Plan

- Freeway
- Major Arterial
- Planned Arterial
- Secondary Arterial
- Planned Secondary
- Collector Street
- Planned Collector
- Planned Roadway Located in Another City

* Conceptual roadway location. Final roadway location to be determined on proposed subdivision design.

Freeway Interchanges

- Interchanges
- Interchanges with Planned Improvements

Street Closure

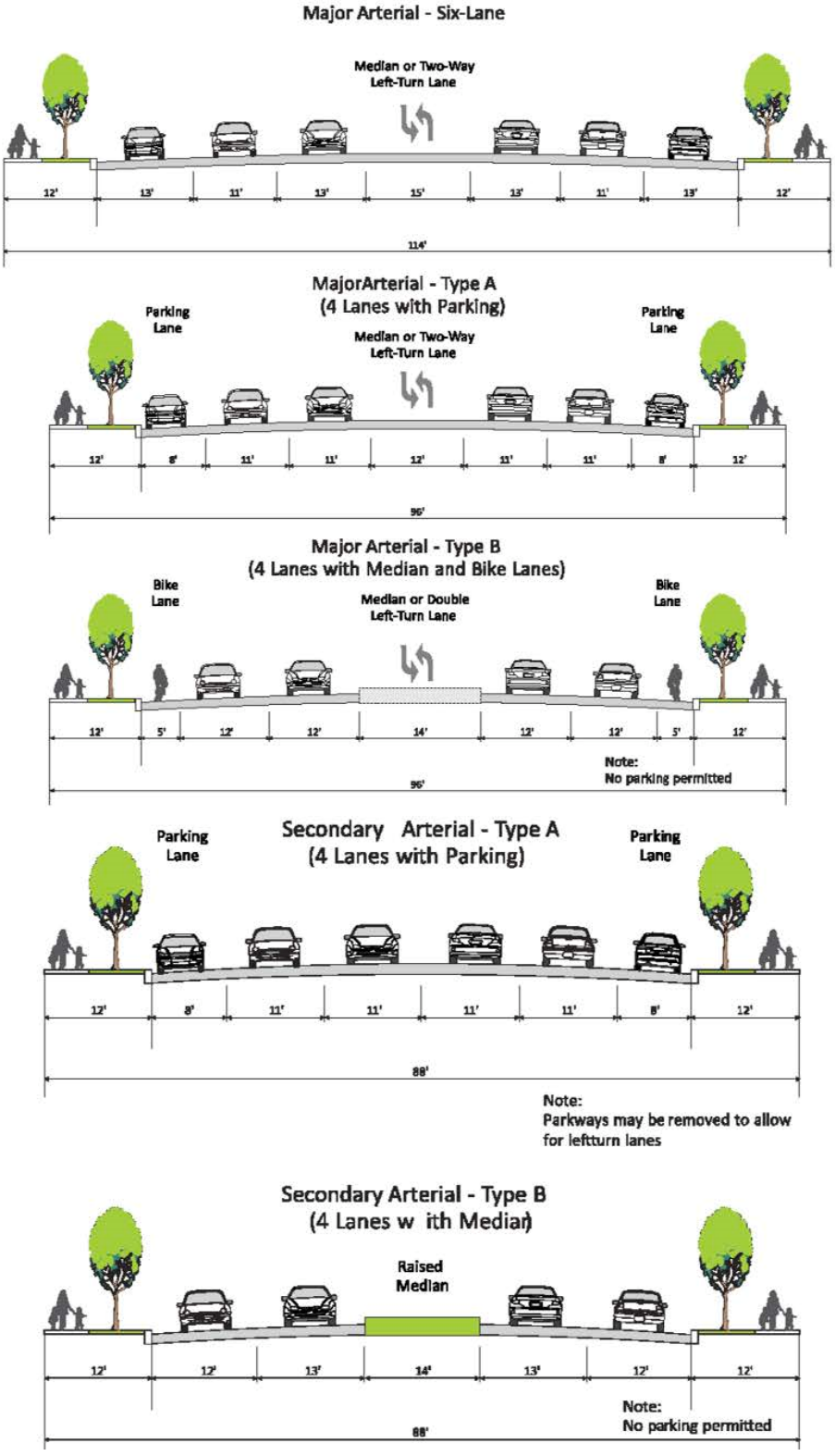
- Street Closure (BSNF Quiet Zone Project)

Boundaries

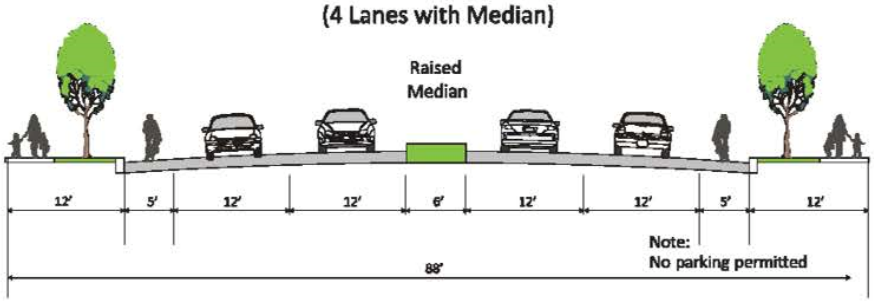
- City Boundary
- Sphere of Influence
- Railroad Tracks
- Watercourse

EXHIBIT 3-3: CITY OF COLTON GENERAL PLAN ROADWAY CROSS-SECTIONS

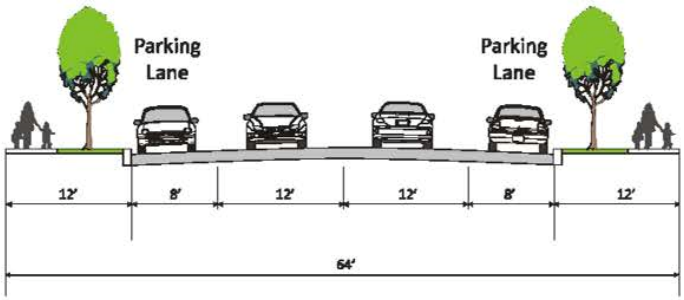
Page 1 of 2



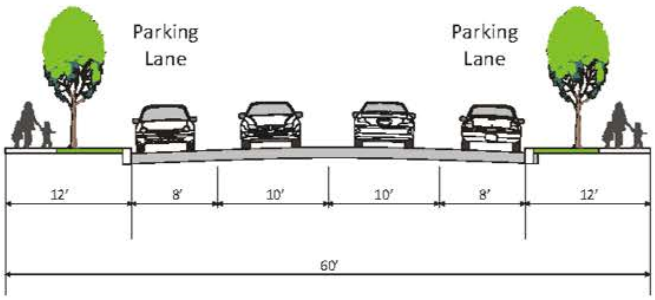
Secondary Arterial with Bike Lane - Type C
(4 Lanes with Median)



Collector Street
(2 Lanes with Parking)



Local Street
(2 Lanes with Parking)



Hillside Local Street
(2 Lanes)

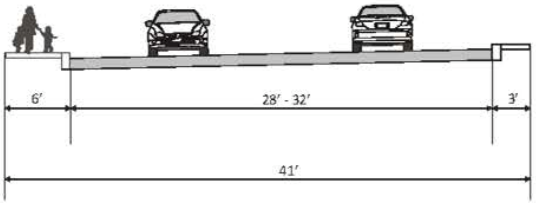


EXHIBIT 3-4: CITY OF COLTON BICYCLE FACILITIES

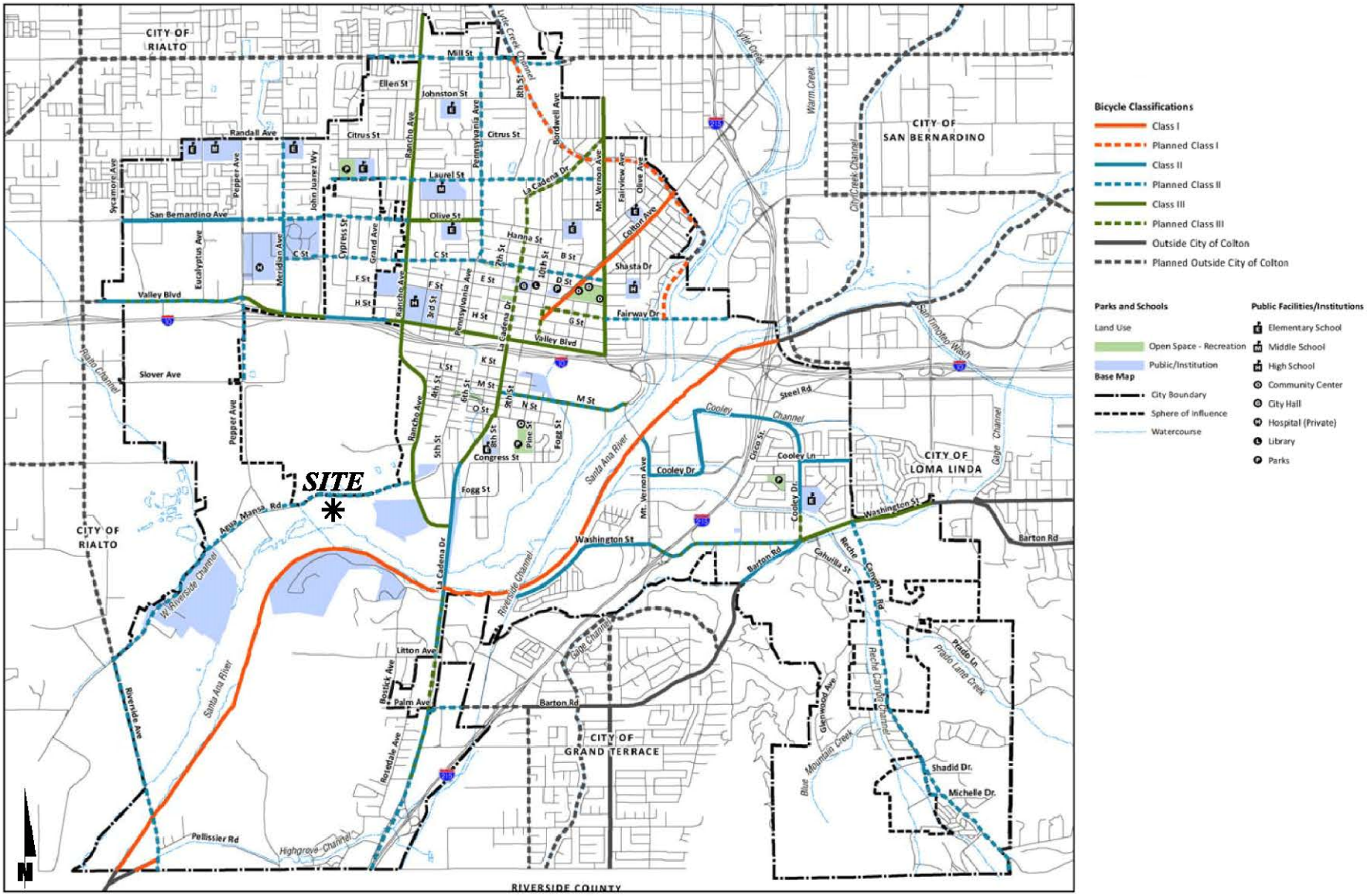
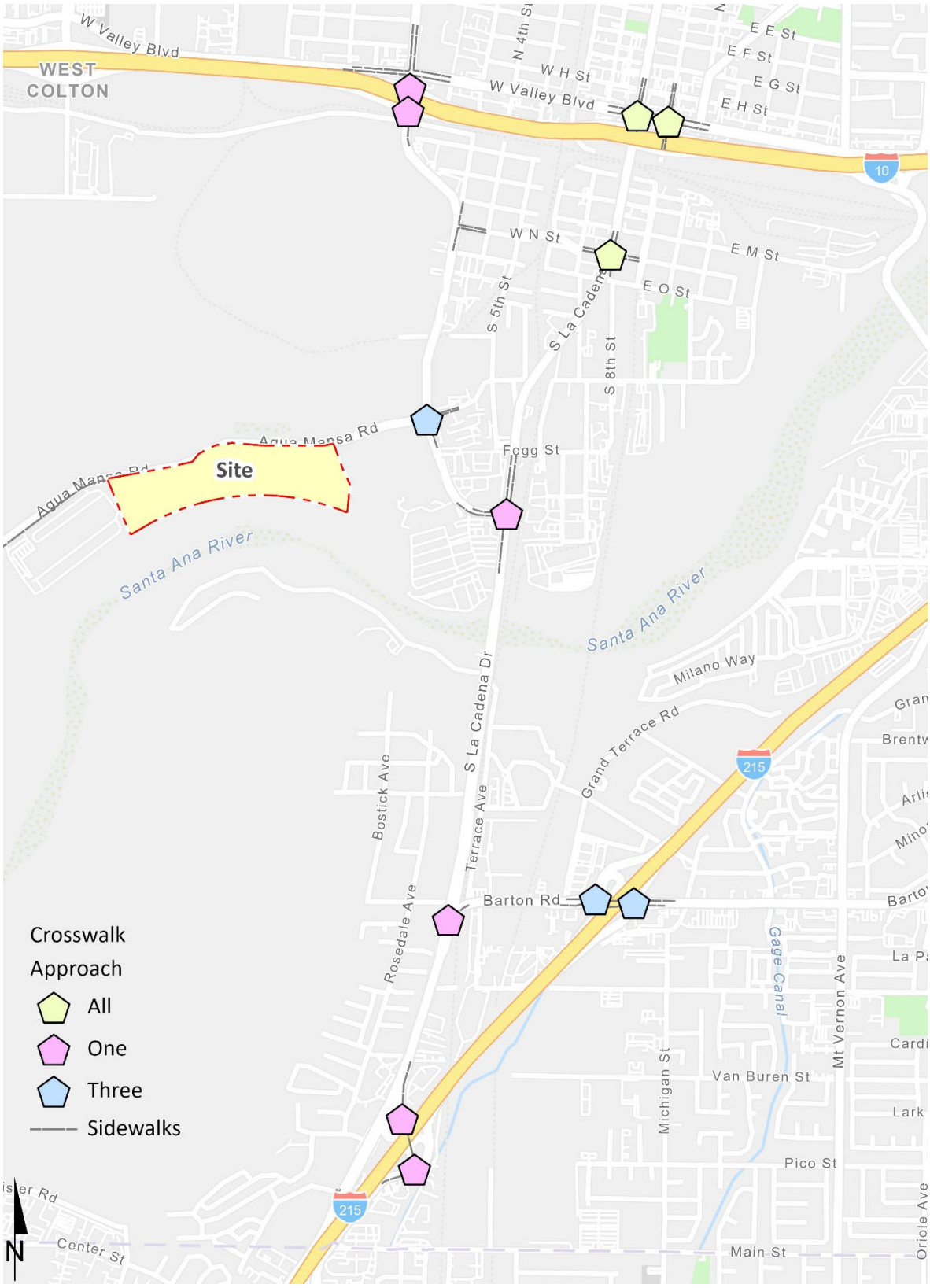


EXHIBIT 3-5: EXISTING PEDESTRIAN FACILITIES



3.4 TRANSIT SERVICE

The study area is currently served by Omnitrans, a public transit agency serving various jurisdictions within San Bernardino County. There are currently no transit routes in the vicinity of the Project site, as shown on Exhibit 3-6. Transit service is reviewed and updated by Omnitrans periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.5 EXISTING (2021) TRAFFIC COUNTS

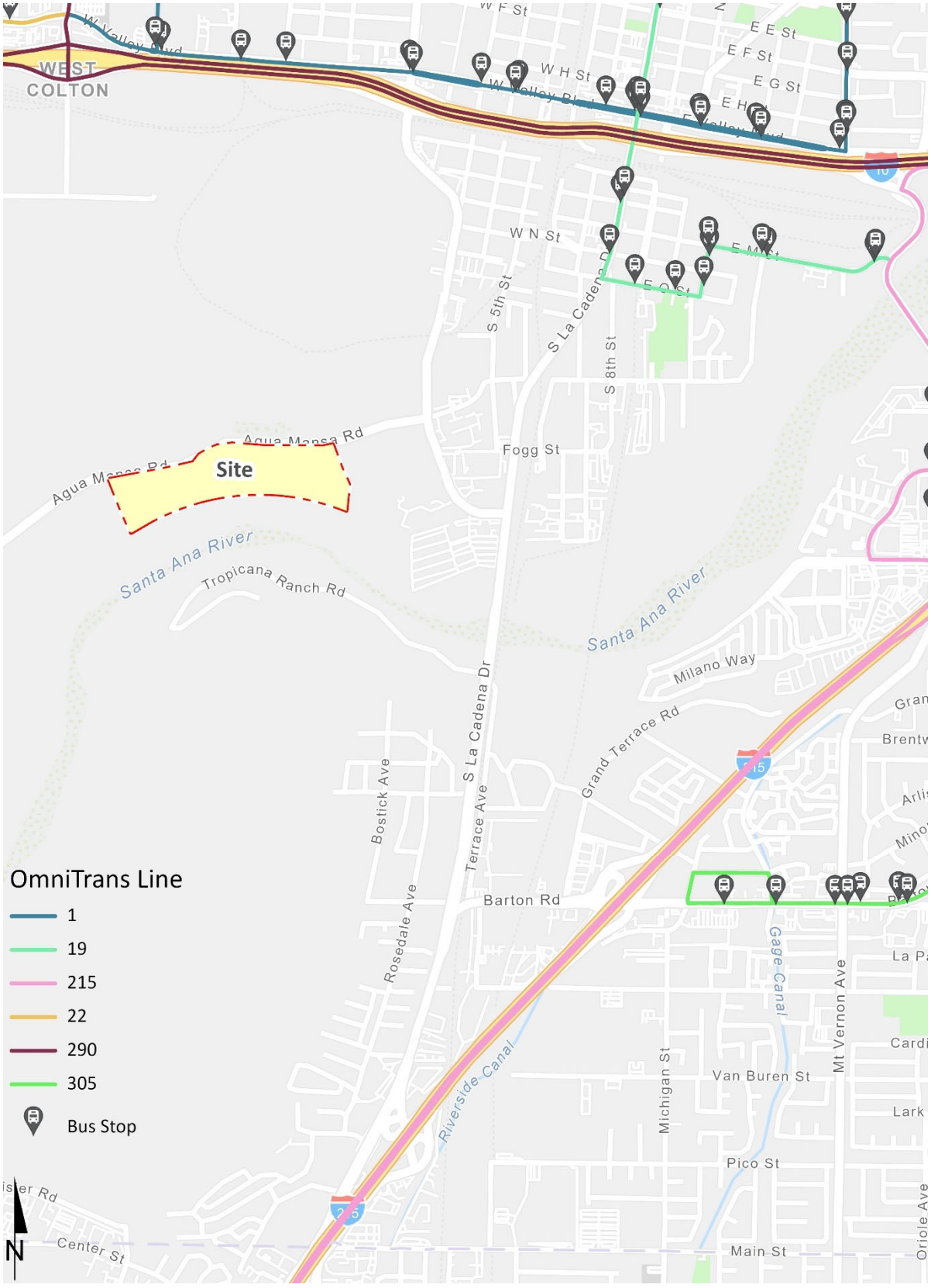
The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in February 2016, April 2018, May 2019, December 2019, and January 2021. The following peak hours were selected for analysis:

- 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)

Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, historic (2016, 2018, and 2019) traffic counts were utilized in conjunction with a 2% growth rate per year, compounded annually, to reflect 2021 conditions. The historic traffic count data was readily available for all study area intersections. The 2016, 2018, 2019 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

The traffic counts include the following vehicle classifications: Passenger Cars, 2-Axle Trucks, 3-Axle Trucks, and 4 or More Axle Trucks. To represent the effects large trucks, buses and recreational vehicles have on traffic flow; all trucks were converted into passenger car equivalent (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 much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the CMP.

EXHIBIT 3-6: EXISTING TRANSIT ROUTES



Existing weekday ADT volumes are shown on Exhibit 3-7. 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 11.16 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.96 percent. As such, the above equation utilizing a factor of 11.16 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.96 percent (i.e., 1/0.08962 = 11.16) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes are shown on Exhibit 3-7. It should be noted the volumes shown on Exhibit 3-6 are in actual vehicles as opposed to PCE. The PCE traffic volumes utilized for the analysis are provided in Appendix 3.2.

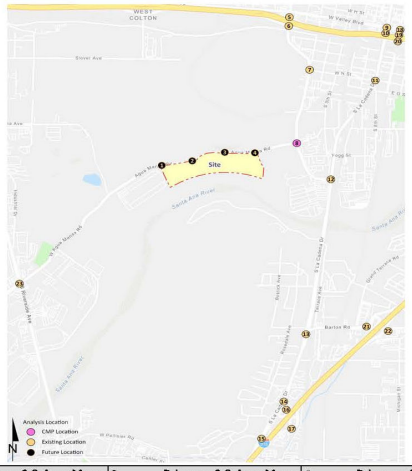
3.6 INTERSECTION OPERATIONS ANALYSIS

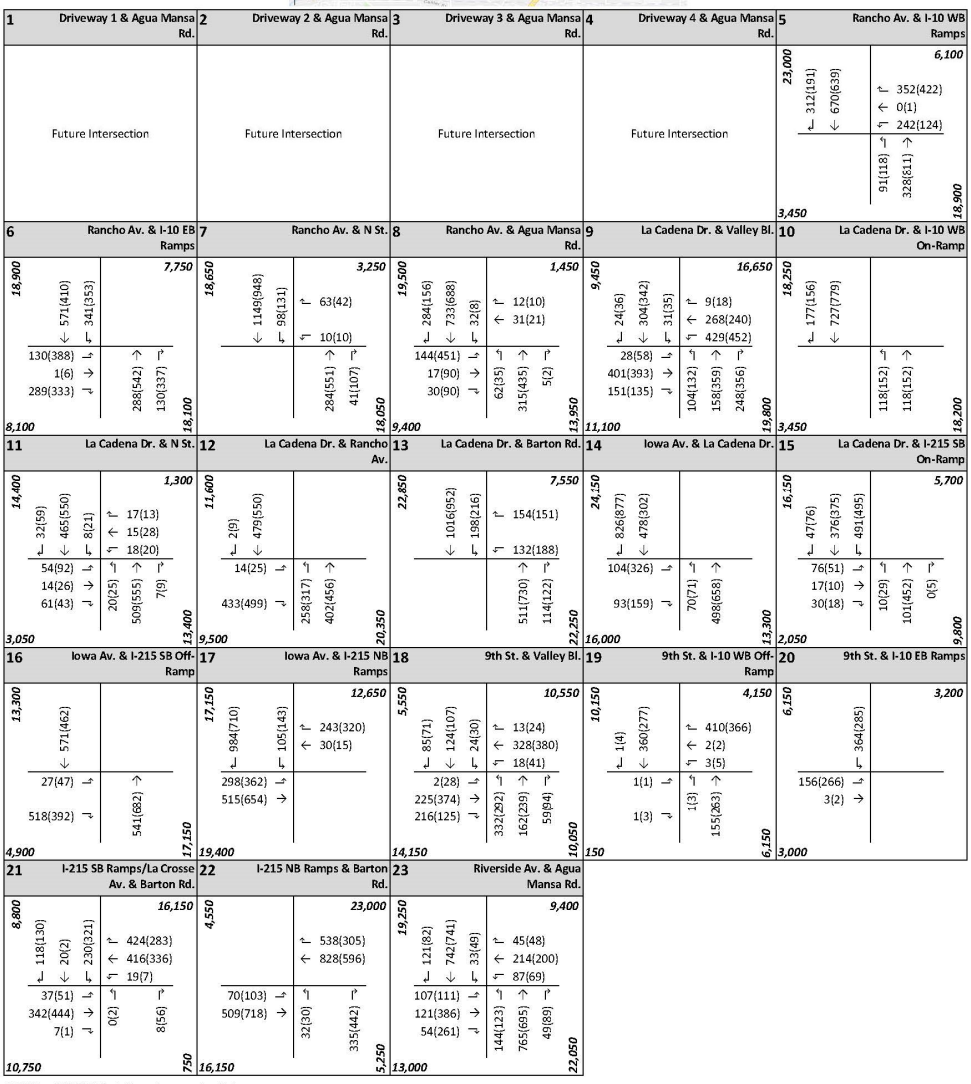
Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that the following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

- La Cadena Drive & I-215 Southbound On-Ramp (#15) – LOS E AM and PM peak hours
- Iowa Avenue & I-215 Northbound Ramps (#17) – LOS F AM peak hour; LOS E PM peak hour

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

EXHIBIT 3-7: EXISTING (2021) TRAFFIC VOLUMES





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

Average Daily Trips

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS

#	Intersection	Traffic Control[2]	Delay[1] (secs.) AM	Delay[1] (secs.) PM	Level of Service AM	Level of Service PM
1	Driveway 1 & Agua Mansa Rd.		Future Intersection			
2	Driveway 2 & Agua Mansa Rd.		Future Intersection			
3	Driveway 3 & Agua Mansa Rd.		Future Intersection			
4	Driveway 4 & Agua Mansa Rd.		Future Intersection			
5	Rancho Av. & I-10 WB Ramps	TS	29.3	21.9	C	C
6	Rancho Av. & I-10 EB Ramps	TS	26.2	36.4	C	D
7	Rancho Av. & N St.	CSS	30.1	25.7	D	D
8	Rancho Av. & Agua Mansa Rd.	TS	16.2	31.9	B	C
9	La Cadena Dr. & Valley Bl.	TS	18.8	22.1	B	C
10	La Cadena Dr. & I-10 WB On-Ramp	UC	11.5	11.6	B	B
11	La Cadena Dr. & N St.	TS	8.0	8.2	A	A
12	La Cadena Dr. & Rancho Av.	TS	15.4	18.5	B	B
13	La Cadena Dr. & Barton Rd.	TS	41.0	37.7	D	D
14	Iowa Av. & La Cadena Dr.	TS	12.9	15.6	B	B
15	La Cadena Dr. & I-215 SB On-Ramp	AWS	**39.5**	**45.1**	**E**	**E**
16	Iowa Av. & I-215 SB Off-Ramp	TS	41.2	17.8	D	B
17	Iowa Av. & I-215 NB Ramps	TS	**130.4**	**75.3**	**F**	**E**
18	9th St. & Valley Bl.	TS	19.9	18.1	B	B
19	9th St. & I-10 WB Off-Ramp	CSS	13.6	14.9	B	B
20	9th St. & I-10 EB Ramps	CSS	12.6	11.5	B	B
21	I-215 SB Ramps/La Crosse Av. & Barton Rd.	RA	6.3	6.0	A	A
22	I-215 NB Ramps & Barton Rd.	TS	9.9	9.9	A	A
23	Riverside Av. & Agua Mansa Rd.	TS	32.7	28.6	C	C

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

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

[2] TS = Traffic Signal; CSS = Cross-street Stop; AWS = All-way Stop; UC = Uncontrolled; RA = Roundabout

3.7 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 intersections currently warrant a traffic signal for Existing traffic conditions:

- La Cadena Drive & I-215 On-Ramp (#15)
- 9th Street & I-10 Westbound (#19)

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

3.8 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the study area intersections along the I-10 and I-215 Freeway 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-10 and I-215 Freeway mainline. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown 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 traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

TABLE 3-2: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR EXISTING (2021) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? [1]	
			AM Peak Hour	PM Peak Hour	AM	PM
Rancho Av. & I-10 WB Ramps (#5)	WBL/T	930	289	148	Yes	Yes
	WBR	150	77	303 [3]	Yes	Yes
Rancho Av. & I-10 EB Ramps (#6)	EBL/T	1,530	165	499 [2]	Yes	Yes
	EBR	160	148	167 [3]	Yes	Yes
I-215 SB Off-Ramp & Iowa Av. (#16)	EBL	1,420	47	56	Yes	Yes
	EBR	400	383 [2]	116 [2]	Yes	Yes
I-215 NB Ramps & Iowa Av. (#17)	WBT/R	1,155	253 [2]	124 [2]	Yes	Yes
9th St. & I-10 WB Off-Ramp (#19)	WBL/R	900	78	78	Yes	Yes
9th St. & I-10 EB Ramps (#20)	EBL/T	815	28	50	Yes	Yes
I-215 SB Ramps/La Crosse Av. & Barton Rd. (#21)	SBL/T	1,820	50	50	Yes	Yes
	SBR	1,100	25	25	Yes	Yes
I-215 NB Ramps & Barton Rd. (#22)	NBL	270	56	22	Yes	Yes
	NBT/R	1,400	0	60	Yes	Yes
	NBR	1,400	0	60	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

[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-10 or I-215 Freeway mainline.

3.9 RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the City of Colton deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, intersections were found to be deficient.

3.9.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the recommended improvement strategies to address Existing (2021) traffic deficiencies are presented in Table 3-3. Worksheets for Existing (2021) conditions, with improvements, HCM calculation worksheets are provided in Appendix 3.4.

TABLE 3-3: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS WITH IMPROVEMENTS

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
15	La Cadena Dr. & I-215 SB On-Ramp																	
	- Without Improvements	AWS	1	2	0	1	1	0	0	1	0	0	0	0	**39.5**	**45.1**	**E**	**E**
	- With Improvements	**TS**	1	2	0	1	1	0	0	1	0	0	0	0	15.9	17.6	B	B
17	I-215 NB Ramps & Iowa Av.																	
	- Without Improvements	TS	0	0	0	0	1	0	1	1	0	0	1	0	**130.4**	**75.3**	**F**	**E**
	- With Improvements	TS	0	0	0	0	1	**1**	1	1	0	0	1	0	28.7	21.9	C	C

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

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

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

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

3.9.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 3-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Existing (2021) traffic conditions. As such, no improvements have been identified.

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The proposed Project is to consist of 930,021 square feet of High-Cube Cold Storage Warehouse and High-Cube Fulfillment Center Warehouse use. Building 1 is proposed for 474,021 square feet of High-Cube Cold Storage Warehouse use and Building 2 is proposed for 114,000 square feet of High-Cube Cold Storage Warehouse use (25% of total building square footage) and 342,000 square feet of High-Cube Fulfillment Center Warehouse use (75% of total building square footage). It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2024.

Access to the Project site will be provided via the following driveways.:

- Driveway 1 & Agua Mansa Road – full access for trucks only for Building 1
- Driveway 2 & Agua Mansa Road – full access for passenger cars only for Building 1
- Driveway 3 & Agua Mansa Road – full access for trucks for Building 1 and both passenger cars and trucks for Building 2
- Driveway 4 & Agua Mansa Road – full access for both passenger cars and trucks for Building 2

Regional access to the Project site will be provided by the I-10 Freeway via Rancho Avenue and La Cadena Drive, and I-215 Freeway via Iowa Avenue and Barton Road.

4.1 PROJECT TRIP GENERATION

4.1.1 PROPOSED 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. The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual (10th Edition, 2017) and the High Cube Warehouse Trip Generation Study (WSP, January 2019) were used to estimate the trip generation. (3) (4)

The following land uses, and vehicle mixes have been utilized:

- ITE land use code 157 (High-Cube With Cold Storage Warehouse) has been used to derive site specific trip generation estimates for the proposed Project (100% of Building 1 and 25% of Building 2). The truck percentage was obtained from the ITE's High Cube Warehouse Vehicle Trip Generation Analysis (October 2016). The vehicle mix varies by peak hour and overall daily: 69.2% passenger cars in the AM peak hour, 78.3% passenger cars in the PM peak hour, and 67.8% passenger cars weekday daily. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the percentage of trucks, by axle type, were obtained from the SCAQMD Warehouse Truck Trip Study Data Results and Usage (2014) recommended truck mix. The SCAQMD has recently performed surveys of existing facilities and compiled the data to provide interim guidance on the mix of heavy trucks for these types of high-cube warehousing/distribution facilities. Based on this interim guidance from the SCAQMD, the following truck fleet mix was utilized for the purposes of estimating the truck trip generation for

the site (with cold storage): 34.7% of the total trucks as 2-axle trucks, 11.0% of the total trucks as 3-axle trucks, and 54.3% of the total trucks as 4+-axle trucks.

- High-Cube Fulfillment Center has been used to derive site specific trip generation estimates for the proposed Project (remaining 75% of Building 2). The ITE Trip Generation Manual Supplement (February 2020) 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 Manual recommends the use of local data sources where available. 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 ITE Land Use Code 154 have been utilized.

Trip generation rates used to estimate Project traffic are shown in Table 4-1. The resulting trip generation for the proposed Project is shown in Table 4-1 in actual vehicles and in Table 4-2 for PCE. As shown in Table 4-1, the proposed Project is anticipated to generate 1,986 two-way trips per day, with 119 AM peak hour trips and 137 PM peak hour trips (actual vehicles). For the purposes of the operations analysis, the PCE trip generation shown in Table 4-2 has been utilized.

4.1.2 CURRENTLY ADOPTED TRIP GENERATION

Trip generation has been calculated for the adopted land use in order to compare the trip generation estimates from the proposed Project to the currently adopted land use. The existing zoning designation for the Project site is Heavy Industrial (M-2). In order to evaluate the most conservative land use assumption, trip generation rates used to estimate the currently adopted trip generation are based on the ITE Trip Generation Manual (10^{th} Edition, 2017) for Warehousing land use. Table 4-3 shows the trip generation for the adopted land use, assuming the maximum allowable building square footages for the Project site. As shown in Table 4-3, the currently adopted land use would generate 2,244 two-way trip-ends per day, with 225 AM peak hour trips and 250 PM peak hour trips (actual vehicles).

4.1.3 TRIP GENERATION COMPARISON

Trip generation of the proposed Project has been compared to the trip generation of the currently adopted land use in order to determine the net difference in trips associated with the proposed Project. As shown in Table 4-3, the proposed Project is anticipated to generate 222 fewer two-way trip-ends per day, with 108 fewer AM peak hour trips and 103 fewer PM peak hour trips (actual vehicles).

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)

Land Use[1]	ITE LU Code	Units[2]	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
Project Trip Generation Rates:									
High-Cube Cold Storage Warehouse[3]	157	TSF	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
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

Project	Quantity	Units[2]	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
Project Trip Generation:									
Building 1 (High-Cube Cold Storage)	474.021	TSF							
Passenger Cars:			37	2	39	10	34	44	650
2-axle:			2	4	6	3	3	6	124
3-axle:			1	2	3	1	1	2	40
4+-axle:			3	6	9	4	4	8	194
Truck Trips (Actual Vehicles):			6	12	18	8	8	16	358
Building 1 Total Trips (Actual Vehicles)			**43**	**14**	**57**	**18**	**42**	**60**	**1,008**
Building 2 (High-Cube Cold Storage, 25%)	114.000	TSF							
Passenger Cars:			9	1	10	3	9	12	158
2-axle:			1	1	2	1	1	2	30
3-axle:			1	1	2	1	1	2	10
4+-axle:			1	2	3	1	1	2	48
Truck Trips (Actual Vehicles):			3	4	7	3	3	6	88
Building 2 (High-Cube Fulfillment, 75%)	342.000	TSF							
Passenger Cars:			28	9	37	14	36	50	600
2-4 axle:			3	1	4	2	3	5	56
5+-axle:			3	1	4	1	3	4	76
Truck Trips (Actual Vehicles):			6	2	8	3	6	9	132
Building 2 Total Trips (Actual Vehicles)			**46**	**16**	**62**	**23**	**54**	**77**	**978**
Total Passenger Cars (Building 1 + Building 2)			74	12	86	27	79	106	1,408
Total Trucks (Building 1 + Building 2)			15	18	33	14	17	31	578
Total Project Trips (Actual Vehicles)			**89**	**30**	**119**	**41**	**96**	**137**	**1,986**

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

[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 % - 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.

TABLE 4-2: PROJECT TRIP GENERATION SUMMARY (PASSENGER CAR EQUIVALENT)

Land Use[1]	ITE LU Code	Units[2]	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
Project Trip Generation Rates:									
High-Cube Cold Storage Warehouse[3]	157	TSF	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+-Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	1.222
High-Cube Fulfillment Center Warehouse[4]	--	TSF	0.089	0.033	0.122	0.050	0.115	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4-Axle Trucks (PCE = 2.0)			0.012	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

Project	Quantity	Units[2]	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
Project Trip Generation:[5]									
Building 1 (High-Cube Cold Storage)	474.021	TSF							
Passenger Cars:			37	2	39	10	34	44	650
2-axle:			3	6	9	4	4	8	186
3-axle:			1	3	4	2	2	4	80
4+-axle:			8	17	25	12	12	24	580
Truck Trips (PCE):			12	26	38	18	18	36	846
Building 1 Total Trips (PCE)			**49**	**28**	**77**	**28**	**52**	**80**	**1,496**
Building 2 (High-Cube Cold Storage, 25%)	114.000	TSF							
Passenger Cars:			9	1	10	3	9	12	158
2-axle:			1	2	3	1	1	2	46
3-axle:			1	1	2	1	1	2	20
4+-axle:			2	4	6	3	3	6	140
Truck Trips (PCE):			4	7	11	5	5	10	206
Building 2 (High-Cube Fulfillment, 75%)	342.000	TSF							
Passenger Cars:			28	9	37	14	36	50	600
2-4 axle:			5	2	7	3	6	9	112
5+-axle:			9	3	12	3	8	11	224
Truck Trips (PCE):			14	5	19	6	14	20	336
Building 2 Total Trips (PCE)			**55**	**22**	**77**	**28**	**64**	**92**	**1,300**
Total Passenger Cars (Building 1 + Building 2)			74	12	86	27	79	106	1,408
Total Trucks (Building 1 + Building 2)			30	38	68	29	37	66	1,388
Total Project Trips (PCE)			**104**	**50**	**154**	**56**	**116**	**172**	**2,796**

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

[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 % - 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 are per San Bernardino County Transportation Authority (SBCTA) Congestion Management Program (CMP) Guidelines.

TABLE 4-3: CURRENTLY ADOPTED LAND USE SUMMARY

Land Use[1]	ITE LU Code	Units[2]	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
Project Trip Generation Rates:									
Warehousing[3]	150	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks			0.007	0.006	0.013	0.010	0.009	0.019	0.376

Project	Quantity	Units[2]	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
Currently Adopted Land Use (Actual Vehicles):									
Building 1	762.343	TSF							
Passenger Cars:			92	23	115	27	89	116	848
2-axle:			2	2	4	3	2	5	77
3-axle:			2	2	4	3	3	6	96
4+-axle:			6	5	11	8	7	15	288
Truck Trips (Actual Vehicles):			10	9	19	14	12	26	461
Building 1 Total Trips (Actual Vehicles)			**102**	**32**	**134**	**41**	**101**	**142**	**1,309**
Building 2	522.678	TSF							
Passenger Cars:			63	16	79	18	61	79	582
2-axle:			2	1	3	2	2	4	53
3-axle:			2	2	4	2	2	4	66
4+-axle:			4	3	7	6	5	11	198
Truck Trips (Actual Vehicles):			8	6	14	10	9	19	317
Building 2 Total Trips (Actual Vehicles)			**71**	**22**	**93**	**28**	**70**	**98**	**899**
Total Passenger Cars (Building 1 + Building 2)			155	39	194	45	150	195	1,430
Total Trucks (Building 1 + Building 2)			18	15	33	24	21	45	778
Total Project Trips (Actual Vehicles)			**173**	**54**	**227**	**69**	**171**	**240**	**2,208**
Net Difference (Proposed Project - Currently Adoped) Passenger Cars			-81	-27	-108	-18	-71	-89	-22
Net Difference (Proposed Project - Currently Adoped) Truck (Actual Vehicles)			-3	3	0	-10	-4	-14	-200
Net Difference (Proposed Project - Currently Adoped) Total			**-84**	**-24**	**-108**	**-28**	**-75**	**-103**	**-222**

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

[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 % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

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. Trip distribution patterns are based on existing and planned land uses in the area along with the planned circulation system. Exhibit 4-1 illustrates the passenger car trip distribution patterns for the Project and Exhibit 4-2 illustrates the truck trip distribution patterns. The Project trip distribution patterns were reviewed and approved by the City of Colton as part of the TA scoping process (see Appendix 1.1).

4.3 MODAL SPLIT

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

4.4 PROJECT TRIP ASSIGNMENT

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

4.5 BACKGROUND TRAFFIC

4.5.1 OPENING YEAR CUMULATIVE CONDITIONS

Future year traffic forecasts have been based upon background (ambient) growth at 2.0% per year, compounded annually for 3 years. The total ambient growth is 6.12% for 2024 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. Opening Year Cumulative (2024) traffic volumes are provided in Section 5 of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine Opening Year Cumulative "With Project" forecasts for each applicable phase.

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

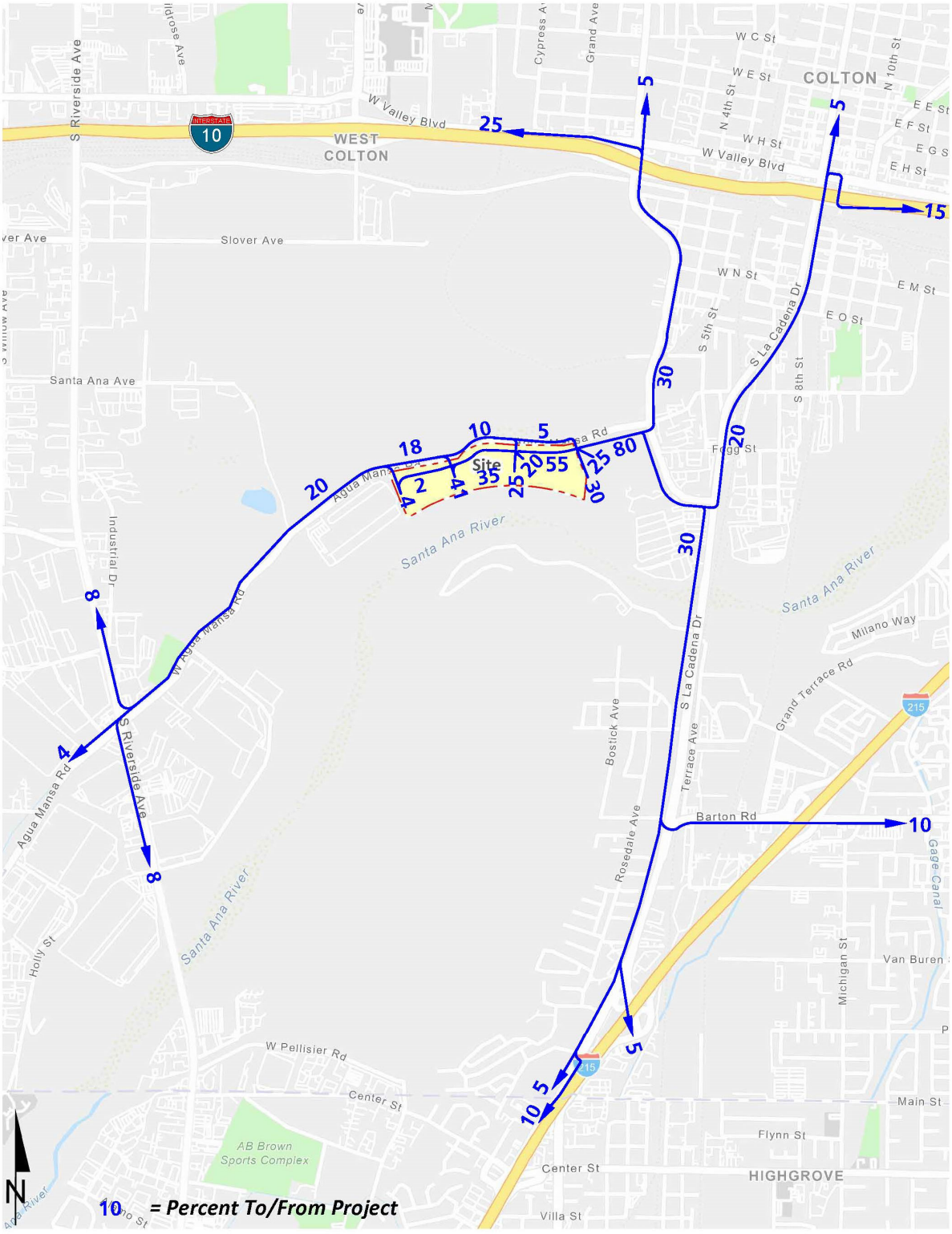


EXHIBIT 4-2: PROJECT (TRUCK) TRIP DISTRIBUTION

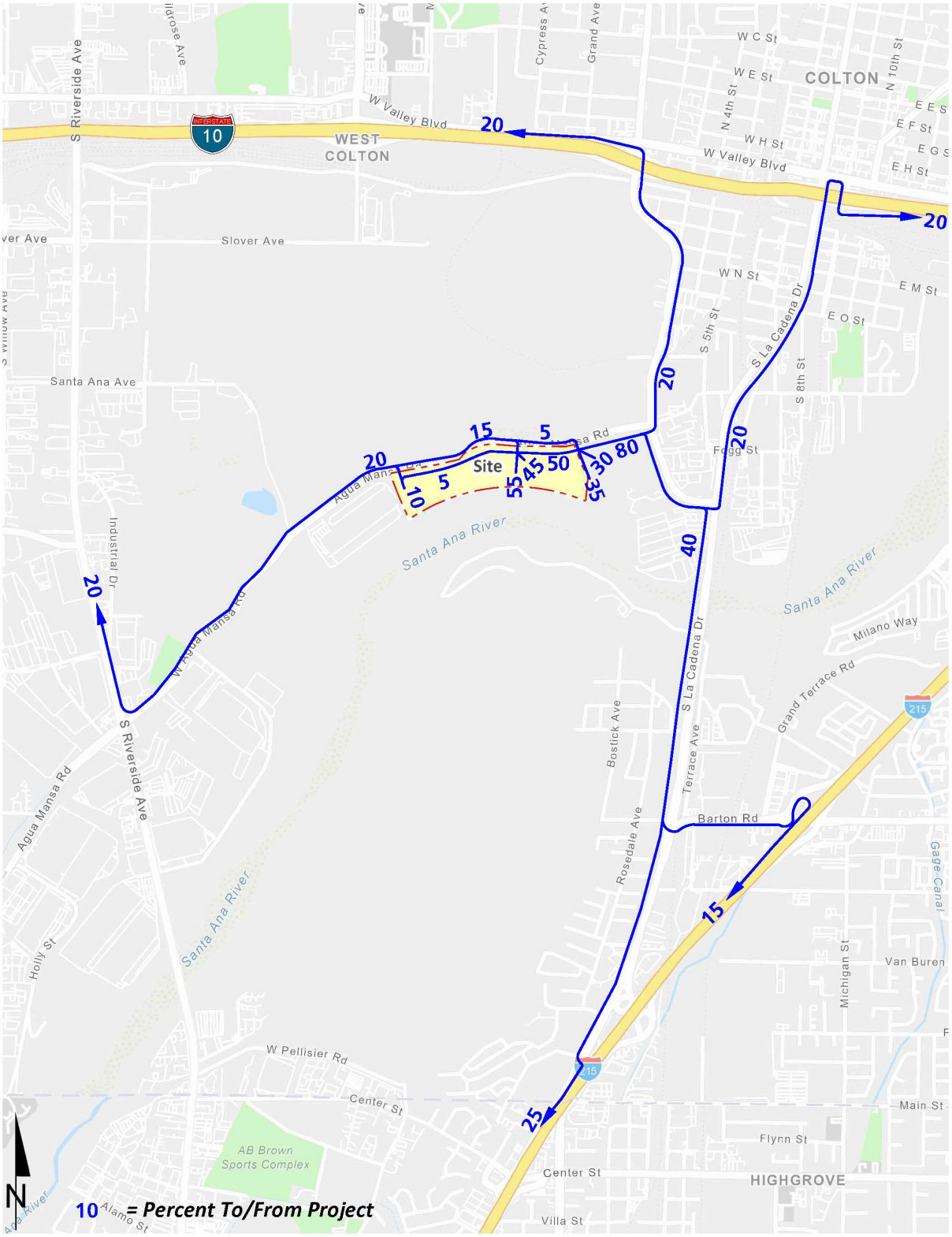
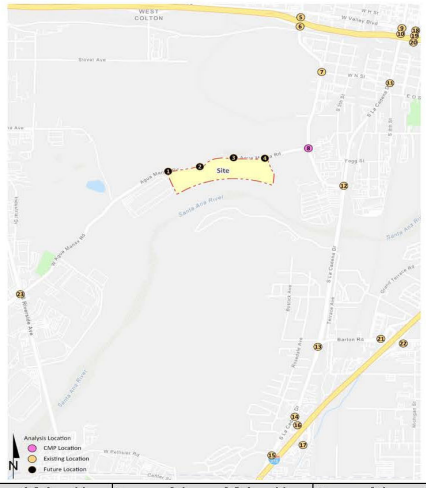
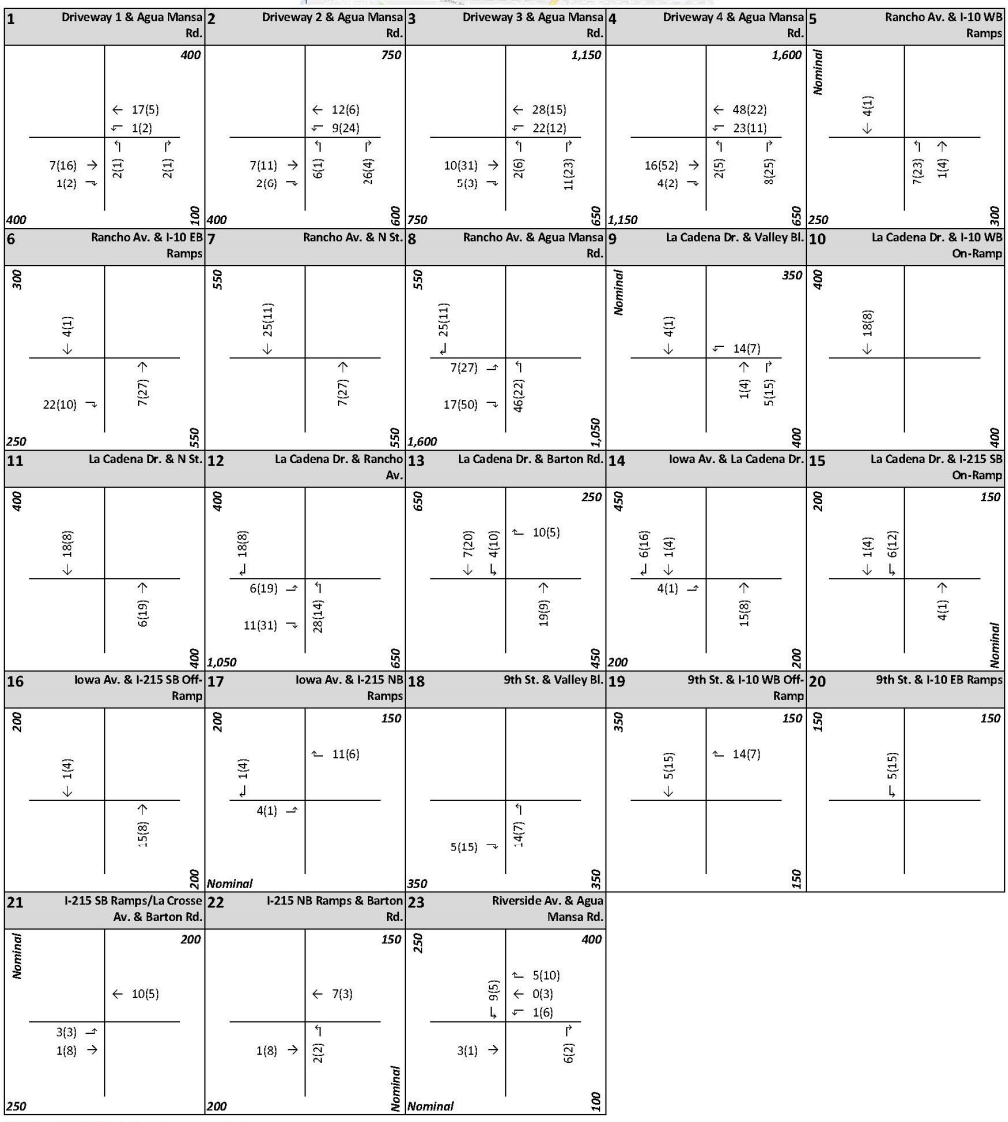


EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES





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

Average Daily Trips

4.5.2 HORIZON YEAR (2040) CONDITIONS

The adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (adopted September 2020) growth forecasts for the City of Colton identifies projected growth in population of 53,700 in 2016 to 70,700 in 2045, or a 31.66% increase over the 29-year period. (7) The change in population equates to roughly a 0.95% growth rate, compounded annually. Similarly, growth over the same 29-year period in households is projected to increase by 44.67%, or a 1.3% annual growth rate. Finally, growth in employment over the same 29-year period is projected to increase by 48.72%, or a 1.4% annual growth rate.

Based on a comparison of Existing (2021) traffic volumes to the Horizon Year (2040) forecasts, the average growth rate is estimated at approximately 1.93%, compounded annually between Existing (2021) and 2040 traffic conditions. The annual growth rate at each individual intersection is not lower than 1.20% compounded annually to as high as 2.78% compounded annually over the same time period. Therefore, the annual growth rate utilized for the purposes of this analysis would appear to conservatively approximate the anticipated regional growth in traffic volumes in the City of Colton for Opening Year Cumulative and Horizon Year (2040) traffic conditions, especially when considered along with the addition of project-related and cumulative project traffic, which would tend to overstate as opposed to understate the potential effects to traffic and circulation.

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 City of Colton. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. Cumulative projects from the neighboring jurisdictions of Fontana, Rialto, Grand Terrace, Riverside, and County of San Bernardino have also been included.

Exhibit 4-4 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-4. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-4 are reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5.1 *Background Traffic: Opening Year Cumulative Conditions*. Cumulative ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-5, in actual vehicles, for near-term traffic conditions.

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

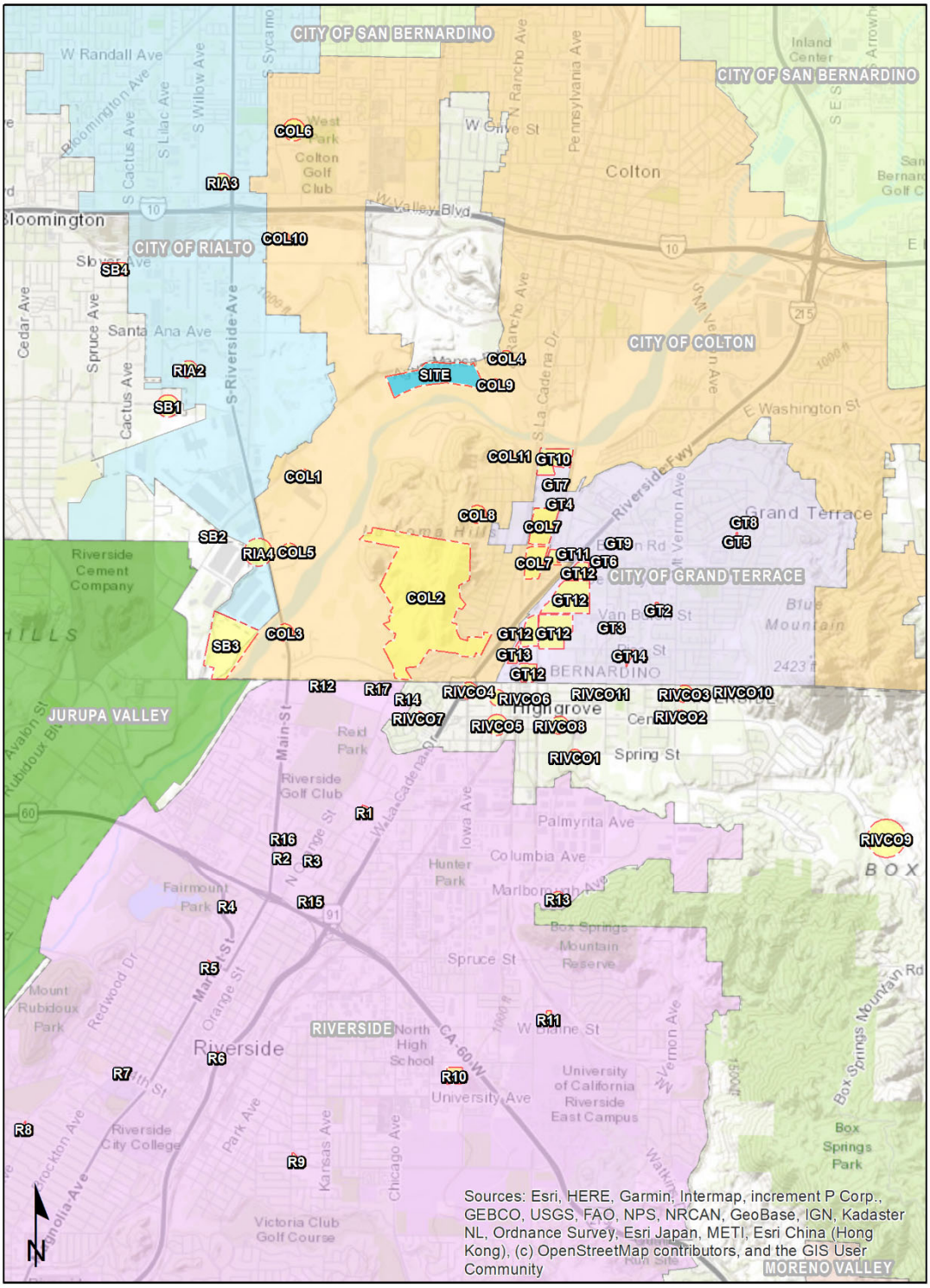
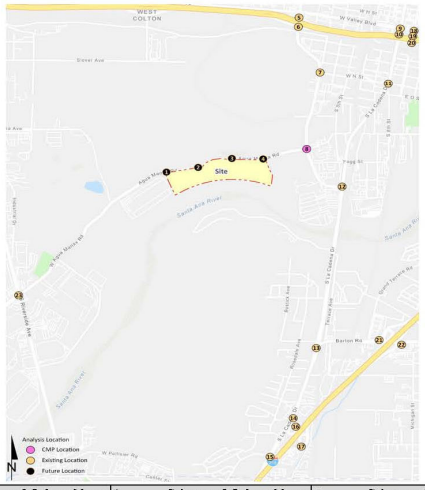


EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES



1 Driveway 1 & Agua Mansa Rd.
Future Intersection

2 Driveway 2 & Agua Mansa Rd.
Future Intersection

3 Driveway 3 & Agua Mansa Rd.
Future Intersection

4 Driveway 4 & Agua Mansa Rd.
Future Intersection

5 Rancho Av. & I-10 WB Ramps
1,600
32(58)
:(3)
58(45)
Nominal 1,650

6 Rancho Av. & I-10 EB Ramps
1,650
32(58)
2(1)
59(48)
Nominal 1,650

7 Rancho Av. & N St.
1,650
34(59)
59(48)
1,650

8 Rancho Av. & Agua Mansa Rd.
1,650
20(12)
35(59)
12(23)
43(89)
89(63)
59(48)
2,250 2,950

9 La Cadena Dr. & Valley Bl.
1,400
37(79)
1,400
37(79)
60(47)
60(47)
2,800

10 La Cadena Dr. & I-10 WB On-Ramp
2,800
74(157)
29(20)
29(20)
300 3,100

11 La Cadena Dr. & N St.
3,100
74(157)
148(114)
3,100

12 La Cadena Dr. & Rancho Av.
3,100
3(2)
71(155)
1(3)
77(143)
144(108)
148(111)
2,950 5,950

13 La Cadena Dr. & Barton Rd.
8,750
81(159)
254(193)
9,500
149(270)
91(208)
132(117)
171(136)
6,550

14 Iowa Av. & La Cadena Dr.
6,700
102(286)
71(81)
253(226)
88(57)
124(188)
79(98)
6,750 4,500

15 La Cadena Dr. & I-215 SB On-Ramp
6,750
226(474)
341(283)
6,750

16 Iowa Av. & I-215 SB Off-Ramp
3,700
101(85)
100
84(101)
104(179)
141(186)
2,500 4,100

17 Iowa Av. & I-215 NB Ramps
4,200
142(184)
64(36)
3,300
42(86)
50(53)
99(100)
149(117)
4,550

18 9th St. & Valley Bl.
60(47)
37(79)
1,400 1,400

19 9th St. & I-10 WB Off-Ramp
1,400
60(47)
700
19(39)

20 9th St. & I-10 EB Ramps
60(47)
19(39)
700 700

21 I-215 SB Ramps/La Crosse Av. & Barton Rd.
4,950
84(127)
2(1)
54(79)
9,400
31(57)
179(329)
19(42)
139(108)
362(299)
3(6)
1(2)
1(4)
11,000 550

22 I-215 NB Ramps & Barton Rd.
2,900
7,600
41(86)
137(297)
187(150)
230(232)
92(131)
57(86)
9,400 2,550

23 Riverside Av. & Agua Mansa Rd.
6,100
150(109)
27(27)
45(22)
2,350
18(45)
44(55)
2(1)
95(173)
47(56)
19(35)
27(25)
26(31)
1(2)
6,050 1,700

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

TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

Page 1 of 2

ID	Project Name	Land Use[1]	Quantity	Units[2]
City of Colton				
COL1	2036 Miguel Bustamante Pkwy.	Warehouse	124.588	TSF
	2053 Miguel Bustamante Pkwy.	Warehouse	174.996	TSF
COL2	Roquet Ranch	SFDR	754	DU
		Condo/Townhomes	244	DU
		Active Adult - Attached	52	DU
		Shopping Center	6.500	TSF
		Coffee Shop with Drive Thru	1.500	TSF
		Fast Food with Drive Thru	4.000	TSF
		Active Park[2, 4]	11.1	AC
		Passive Park[4]	8.4	AC
COL3	2163 Riverside Av.	High-Cube Warehouse	447.330	TSF
COL4	Southwest Regional Operations Center	Office	--[3]	--
		Gasoline Service Station	--[3]	--
		Truck Wash, Service Facility, Parking Lot	--[3]	--
COL5	Agua Mansa Commerce Center	Warehouse	--[3]	--
COL6	Wildrose Village	SFDR	--[3]	--
COL7	Barton Road Logistics	High-Cube Warehouse	480.020	TSF
		High-Cube Cold Storage Warehouse	480.020	TSF
COL8	300 W. Litton Av. - Litton Housing	Single Family Detached Residential	89	DU
COL9	CalPortland (1500 Agua Mansa Rd.)	Cement Production Facility	66.0	AC
COL10	California High Speed Rail Facility	Intermodal Rail Facility	--[5]	--[5]
COL11	Tropica Commerce Center	Warehouse	266.030	TSF
City of Grand Terrace				
GT1	Grand Terrace Town Square	Supermarket	--[4]	--
		Shopping Center	--[4]	--
		Fast-Food Restaurant with Drive-Thru	--[4]	--
GT2	22394 and 22040 Van Buren St.	Single Family Detached Residential	--[4]	--
GT3	12569 Michigan St.	Single Family Detached Residential	--[4]	--
GT4	11832 and 11834 Burns Av.	Single Family Detached Residential	--[4]	--
GT5	22805 Barton Rd.	Medical Office	--[4]	--
		Coffee Shop without Drive-Thru	--[4]	--
GT6	22085 Commerce Wy.	Animal Clinic, Commercial Units	--[4]	--
GT7	11838 Burns Av.	Single Family Detached Residential	--[4]	--
GT8	22881 Barton Rd.	Coffee Shop with Drive-Thru	--[4]	--
GT9	NEC of Vivienda Av. & Barton Rd.	Fast-Food Restaurant with Drive-Thru	2.080	TSF
GT10	North of Vivienda Av. and east of La Cadena Av.	Trailer Storage Facility	22.0	AC
GT11	21801 Barton Rd.	Recycling Center	80.898	TSF
GT12	Gateway Specific Plan	Multifamily Housing	748	DU
		Business Park	12.196	TSF
		Shopping Center	356.296	TSF
		Public Facilities	3.7	AC
GT13	21496 Main St.	Warehouse	8.820	TSF
GT14	22247 Pico St.	Single Family Detached Residential	12	DU

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ID	Project Name	Land Use[1]	Quantity	Units[2]
County of San Bernardino				
SB1				
SB2	West of Agua Mansa Rd. and North of El Rivino Rd.	High-Cube Warehouse	476.000	TSF
		Warehouse	30.000	TSF
SB3	Holly Street Truck Terminal	Truck Terminal	450.000	TSF
SB4	Bloomington Commerce Center	High-Cube Warehouse	800.000	TSF
		High-Cube Fulfillment Center	451.640	TSF
City of Rialto				
RIA1	Panattoni I-10 (Cactus Av. & El Rivino Rd.)	Warehouse	2,475.745	TSF
RIA2	CapRock III	Warehouse	582.000	TSF
RIA3	Newmark Merrill Companies	Discount Super Store	198.000	TSF
		Tire Store	9.861	TSF
		Retail	25.436	TSF
		Fast Food w/ Drive-Thru	5.484	TSF
RIA4	Kore Infrastructure	Biosolids Facility	288	TPD
County of Riverside				
RIVCO1	TR28957	Single-Family Residential	36	DU
RIVCO2	TR32989	Single-Family Residential	29	DU
RIVCO3	TR32291	SFDR	69	DU
RIVCO4	CUP03718	Light Industrial	19.988	TSF
		Retail	2.400	TSF
RIVCO5	PP24798	Offices	3.405	TSF
		Laundromat	2.961	TSF
RIVCO6	PP25482	General Office	2.632	TSF
RIVCO7	Truck Sales Facility (PP25505)	Office	1.952	TSF
		Storage	6.000	TSF
RIVCO8	TR36668 (Bixby Highgrove)	Single-Family Residential	201	DU
		Single-Family Residential	1,518	DU
RIVCO9	Spring Mountain Ranch (SP 323) (PM36448; TR29597; TR29598; TR29600; TR29741; TR30908; TR30909)	Elementary School	750	STU
		Day Care Center	4.000	TSF
		Commercial Retail	104.000	TSF
RIVCO10	TTM37743	Single-Family Residential	58	DU
RIVCO11	PP24778	Multifamily Housing	89	DU
City of Riverside				
R1	P06-0782 (Tract Map 34908) (1006 & 1008 Clark St.)	SFDR	15	DU
R2	P05-0269 & P08-0416 (Tract Map 33550) (3719 Strong St.)	SFDR	9	DU
R3	P06-1031 (Tract Map 31825) (1562 Orange St.)	SFDR	7	DU
R4	P13-0087 P13-0262 (2450 Market St.)	Senior Housing	67	DU
R5	P14-0183 (Centerpointe Apartments) (3105 Market St.)	Apartments	146	DU
R6	P09-0835 P10-0002 (3372 University Av.)	General Office	132.136	TSF
R7	P06-1237 (Jacobs Medical Office) (14th and Brockton Av.)	Medical Office	65.281	TSF
R8	P12-0799 & P12-0800 (Tract Map 36516)	SFDR	7	DU
R9	P09-0808 & P08-0809 (2340 14th St.)	Senior Housing	134	Beds
R10	P08-0980 & P09-0095 (3549 Iowa Av.)	Student Housing	114	Beds
R11	P09-0717 & P09-0718 (807 Blaine St.)	Apartments	55	DU
R12	3667 Placentia Ln.	Warehouse	308.000	TSF
R13	750 Marlborough Av.	Warehouse	346.330	TSF
R14	3444 Center St.	Mobile Home Park	104	DU
R15	The Exchange	Multifamily Housing	482	DU
		Shopping Center	44.500	TSF
		Gasoline Service Station with Convenience Market	16	VFP
		Hotel	229	RM
R16	3723 Strong St.	Senior Housing - Attached	58	DU
R17	3630 Center St.	Warehouse	8.156	TSF

[1] SFDR = Single Family Detached Residential

[2] DU = Dwelling Units; TSF = Thousand Square Feet; STU = Students; AC = Acres; TPD = Tons Per Day; VFP = Vehicle Fueling Positions; RM = Rooms

[3] Quantity unknown. City of Colton provided estimated trips (AM/PM/Daily).

[4] Quantity unknown. City of Grand Terrace provided estimated trips (AM/PM/Daily).

[5] Per the California High Speed Rail Authority, the size of the facility is currently unknown.

4.7 HORIZON YEAR (2040) VOLUME DEVELOPMENT

Traffic projections for Horizon Year (2040) without Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM) using accepted procedures for model forecast refinement and smoothing for study area intersections located within the County of San Bernardino. The current version of the SBTAM (Version 2.20, March 2019) reflects the local input in the adopted 2016 SCAG RTP within the County of San Bernardino. The post processing volume worksheets are provided in Appendix 4.1 of this TA.

The traffic forecasts reflect the area-wide growth anticipated between Existing (2021) 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 (2040) 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 April 2018, May 2019, and January 2021. The SBTAM has a base (validation) year of 2012 and a horizon (future forecast) year of 2040. The difference in model volumes (2040-2012) defines the growth in traffic over the 28-year period.

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

The SBTAM uses an AM peak period-to-peak hour factor of 0.35 and a PM peak period-to-peak hour factor of 0.27. These factors represent the relationship of the highest single AM peak hour to the modeled 3-hour AM peak period (an even distribution would result in a factor of 0.33) and the highest single PM peak hour to the modeled 4-hour PM peak period (an even distribution would result in a factor of 0.25).

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 or Opening Year Cumulative 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 (2040) forecasts. Horizon Year (2040) turning volumes were compared to Opening Year Cumulative (2024) volumes in order to ensure a minimum growth as a part of the refinement process. The minimum growth includes any additional growth between Opening Year Cumulative (2024) 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 (2021) and Opening Year Cumulative (2024) 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.

5 OPENING YEAR CUMULATIVE (2024) TRAFFIC CONDITIONS

This section discusses the methods used to develop Opening Year Cumulative (2024) Without and With Project traffic forecasts, and the resulting intersection operations, traffic signal warrant, and off-ramp queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2024) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative 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 Opening Year Cumulative conditions only.

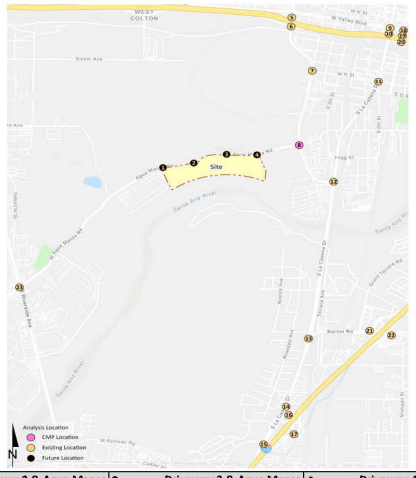
5.2 OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.12% plus traffic from pending and approved but not yet constructed known development projects in the area. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2024) Without Project traffic conditions are shown on Exhibit 5-1 in actual vehicles. The PCE volumes utilized for the analysis are provided in Appendix 5.1.

5.3 OPENING YEAR CUMULATIVE (2024) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Opening Year Cumulative (2024) Without Project traffic in conjunction with the addition of Project traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2024) With Project traffic conditions are shown on Exhibit 5-2 in actual vehicles. The PCE volumes utilized for the analysis are provided in Appendix 5.2.

EXHIBIT 5-1: OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT TRAFFIC VOLUMES

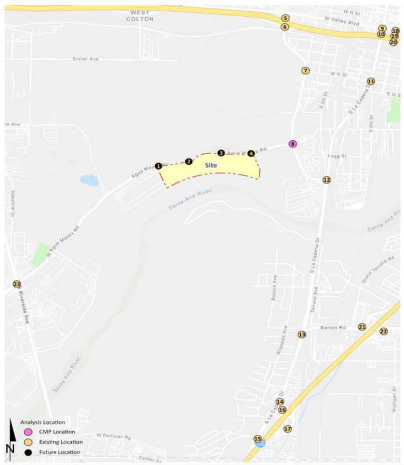


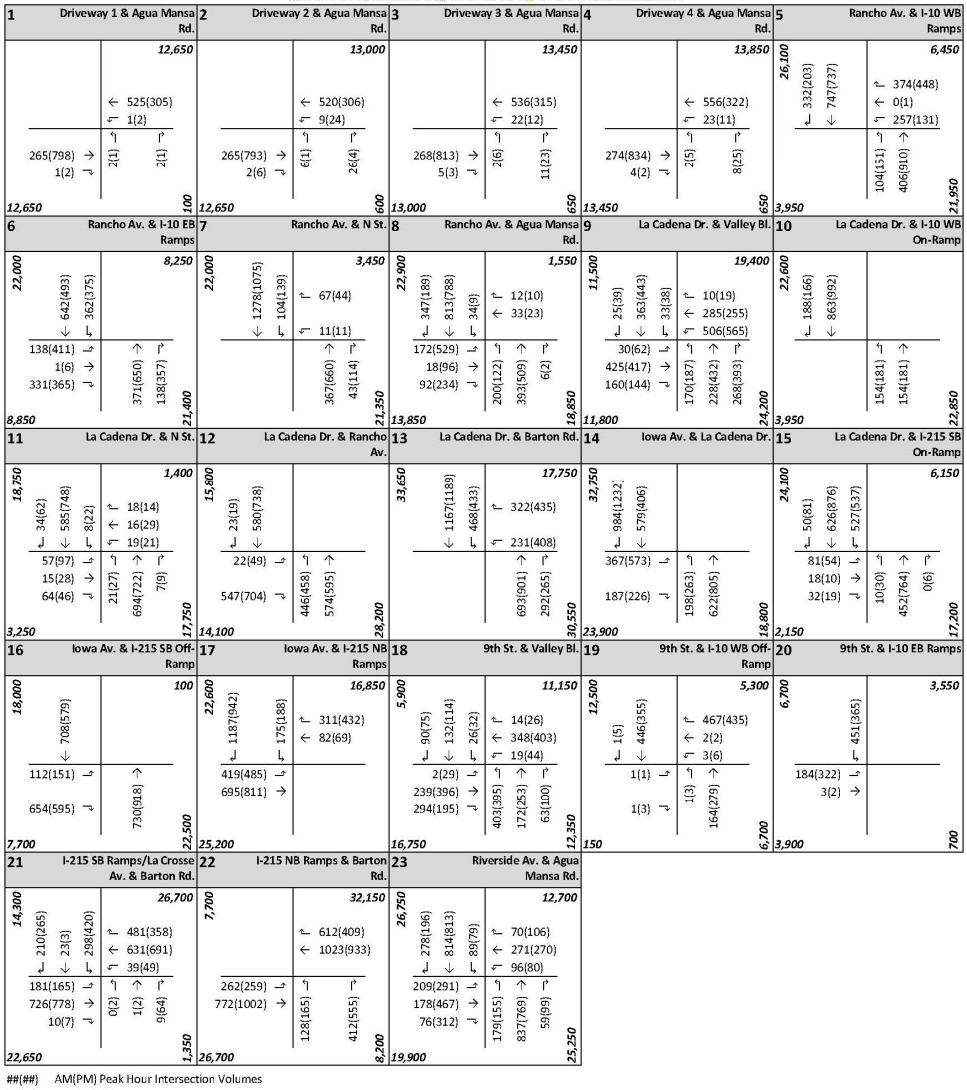
1 Driveway 1 & Agua Mansa Rd.	**2** Driveway 2 & Agua Mansa Rd.	**3** Driveway 3 & Agua Mansa Rd.	**4** Driveway 4 & Agua Mansa Rd.	**5** Rancho Av. & I-10 WB Ramps
Future Intersection	Future Intersection	Future Intersection	Future Intersection	26,050 / 332(203) ← 743(736) → / 3,700 6,450 / 374(448) ← 0(1) ← 257(131) ← / 97(128) → 405(506) → / 21,650
6 Rancho Av. & I-10 EB Ramps	**7** Rancho Av. & N St.	**8** Rancho Av. & Agua Mansa Rd.	**9** La Cadena Dr. & Valley Bl.	**10** La Cadena Dr. & I-10 WB On-Ramp
21,650 / 638(492) ← 362(375) → / 8,650 8,250 / 364(623) → 138(357) → / 20,850	21,450 / 1253(1064) ← 104(139) → / 12,250 3,450 / 67(44) → 11(11) → / 360(633) → 43(114) → / 20,800	22,350 / 322(178) → 813(788) ← 34(9) → / 12,250 1,550 / 12(10) → 33(23) ← / 154(100) → 393(509) → 6(2) → / 17,800	11,450 / 25(39) → 359(442) ← 33(38) → / 11,800 19,100 / 10(19) → 285(255) ← 492(558) ← / 30(62) → 425(417) → 160(144) → / 170(187) → 227(428) → 263(378) → / 23,800	22,200 / 188(166) → 845(984) ← / 3,950 154(181) → 154(181) → / 22,450
11 La Cadena Dr. & N St.	**12** La Cadena Dr. & Rancho Av.	**13** La Cadena Dr. & Barton Rd.	**14** Iowa Av. & La Cadena Dr.	**15** La Cadena Dr. & I-215 SB On-Ramp
18,400 / 34(62) → 567(740) ← 8(22) → / 3,250 1,400 / 18(14) → 16(29) ← 19(21) → / 57(97) → 15(28) → 64(46) → / 21(27) → 688(703) → 7(9) → / 17,350	15,400 / 5(11) → 580(738) ← / 13,050 16(30) → 536(673) → / 418(444) → 574(595) → / 27,550	33,000 / 1160(1169) ← 464(423) → / 30,150 17,550 / 312(430) → 231(408) ← / 674(892) → 292(265) → / 30,150	32,300 / 978(1216) → 578(402) ← / 23,700 363(572) → / 187(226) → / 198(263) → 607(797) → / 18,600	23,900 / 50(81) → 625(872) ← 521(525) → / 2,150 6,050 / 81(54) → 18(10) → 32(19) → / 10(30) → 448(763) → 0(6) → / 17,150
16 Iowa Av. & I-215 SB Off-Ramp	**17** Iowa Av. & I-215 NB Ramps	**18** 9th St. & Valley Bl.	**19** 9th St. & I-10 WB Off-Ramp	**20** 9th St. & I-10 EB Ramps
17,800 / 707(575) ← / 7,700 100 / 112(151) → 654(595) → / 715(910) → / 22,250	22,350 / 1186(938) → 175(188) → / 25,150 16,700 / 300(426) → 82(69) ← / 415(484) → 695(811) → /	5,900 / 90(75) → 132(114) ← 26(32) → / 16,400 11,150 / 14(26) → 348(403) ← 19(44) → / 2(29) → 239(396) → 289(180) → / 389(388) → 172(253) → 63(100) → / 12,050	12,200 / 1(5) → 441(340) ← / 150 5,100 / 453(428) → 2(2) ← 3(6) → / 1(1) → 1(3) → / -(3) → 164(279) → / 6,550	6,550 / 446(350) → / 3,900 3,400 / 184(322) → 3(2) → / 700
21 I-215 SB Ramps/La Crosse Av. & Barton Rd.	**22** I-215 NB Ramps & Barton Rd.	**23** Riverside Av. & Agua Mansa Rd.		
14,250 / 210(265) → 23(3) ← 298(420) → / 22,400 26,550 / 481(358) → 621(686) ← 39(49) ← / 178(162) → 725(770) → 10(7) → / 0(2) → 1(2) → 9(64) → / 1,350	7,700 / 262(259) → 771(994) → / 26,550 32,000 / 612(409) → 1016(930) ← / 126(163) → 412(555) → / 8,150	26,550 / 278(196) → 814(813) ← 80(74) → / 19,850 12,300 / 65(96) → 271(267) ← 95(74) → / 209(291) → 175(466) → 76(312) → / 179(155) → 837(769) → 53(97) → / 25,100		

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

Average Daily Trips

EXHIBIT 5-2: OPENING YEAR CUMULATIVE (2024) WITH PROJECT TRAFFIC VOLUMES





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

5.4 INTERSECTION OPERATIONS ANALYSIS

5.4.1 OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year Cumulative (2024) Without Project conditions with roadway and intersection geometrics consistent with Section 5.1 *Roadway Improvements*. As shown in Table 5-1, the following study area intersections are anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2024) Without Project traffic conditions:

- Rancho Avenue & N Street (#7) – LOS E AM peak hour only
- Rancho Avenue & Agua Mansa Road (#8) – LOS E PM peak hour
- La Cadena Drive & I-215 Southbound On-Ramp (#15) – LOS F AM and PM peak hours
- Iowa Avenue & I-215 Southbound Off-Ramp (#16) – LOS F AM peak hour; LOS E PM peak hour
- Iowa Avenue & I-215 Northbound Ramps (#17) – LOS F AM and PM peak hours
- Riverside Avenue & Agua Mansa Road (#23) – LOS E AM and PM peak hours

The intersection operations analysis worksheets for Opening Year Cumulative (2024) Without Project traffic conditions are included in Appendix 5.1 of this TA.

5.4.2 OPENING YEAR CUMULATIVE (2024) WITH PROJECT TRAFFIC CONDITIONS

As shown in Table 5-1, there are no additional study area intersections that are anticipated to operate at a deficient LOS during one or both peak hours for Opening Year Cumulative (2024) With Project traffic conditions, in addition to the locations identified above for Opening Year Cumulative (2024) Without Project traffic conditions. It should be noted, Driveway 3 along Agua Mansa Road has been evaluated as both a cross-street stop controlled and signalized intersection for informational purposes only, however the Project will construct a traffic signal as part of the Project design features, as discussed in Section 1.6 *Recommendations*. Although the intersection is not anticipated to meet peak hour or daily volume-based traffic signal warrants, a traffic signal is desired by the Project Applicant since it is the main Project access and will be utilized by trucks from both buildings. The intersection operations analysis worksheets for Opening Year Cumulative (2024) With Project traffic conditions are included in Appendix 5.2 of this TA.

TABLE 5-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS

#	Intersection	Traffic Control[2]	2024 Without Project Delay[1] (secs.) AM	PM	Level of Service AM	PM	2024 With Project Delay[1] (secs.) AM	PM	Level of Service AM	PM
1	Driveway 1 & Agua Mansa Rd.	**CSS**	Future Intersection				12.0	16.3	B	C
2	Driveway 2 & Agua Mansa Rd.	**CSS**	Future Intersection				11.0	16.9	B	C
3	Driveway 3 & Agua Mansa Rd.									
	-Without Traffic Signal	**CSS**	Future Intersection				12.0	20.3	B	C
	-With Traffic Signal	**TS**	Future Intersection				14.1	14.5	B	B
4	Driveway 4 & Agua Mansa Rd.	**CSS**	Future Intersection				11.3	18.1	B	C
5	Rancho Av. & I-10 WB Ramps	TS	30.3	21.9	C	C	30.8	23.7	C	C
6	Rancho Av. & I-10 EB Ramps	TS	26.8	36.9	C	D	27.9	39.9	C	D
7	Rancho Av. & N St.	CSS	**35.8**	28.7	**E**	D	**37.1**	31.5	**E**	D
8	Rancho Av. & Agua Mansa Rd.	TS	31.7	**77.4**	C	**E**	**57.6**	**130.8**	**E**	**F**
9	La Cadena Dr. & Valley Bl.	TS	33.9	41.0	C	D	37.5	51.6	D	D
10	La Cadena Dr. & I-10 WB On-Ramp	UC	13.4	13.7	B	B	13.7	14.5	B	B
11	La Cadena Dr. & N St.	TS	8.2	8.3	A	A	8.2	12.6	A	B
12	La Cadena Dr. & Rancho Av.	TS	22.5	38.8	C	D	27.4	49.3	C	D
13	La Cadena Dr. & Barton Rd.	TS	48.0	38.4	D	D	48.9	41.5	D	D
14	Iowa Av. & La Cadena Dr.	TS	31.5	45.2	C	D	32.0	53.2	C	D
15	La Cadena Dr. & I-215 SB On-Ramp	AWS	**>100.0**	**>100.0**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**
16	Iowa Av. & I-215 SB Off-Ramp	TS	**112.7**	**72.7**	**F**	**E**	**112.7**	**85.3**	**F**	**E**
17	Iowa Av. & I-215 NB Ramps	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**
18	9th St. & Valley Bl.	TS	22.5	20.5	C	C	23.3	21.7	C	C
19	9th St. & I-10 WB Off-Ramp	CSS	15.0	16.6	B	C	15.5	18.3	C	C
20	9th St. & I-10 EB Ramps	CSS	16.6	13.4	C	B	17.1	14.5	C	B
21	I-215 SB Ramps/La Crosse Av. & Barton Rd.	RA	10.7	11.9	B	B	10.9	12.1	B	B
22	I-215 NB Ramps & Barton Rd.	TS	19.4	37.2	B	D	19.5	39.0	B	D
23	Riverside Av. & Agua Mansa Rd.	TS	**71.8**	**60.0**	**E**	**E**	**71.8**	**61.6**	**E**	**E**

* **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; TS = Traffic Signal; AWS = All-way Stop; UC = Uncontrolled; RA = Roundabout; **CSS** = Improvement

5.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

There are no unsignalized study area intersections anticipated to meet a peak hour volume-based or planning level (ADT) traffic signal warrant under Opening Year Cumulative (2024) Without traffic conditions (see Appendix 5.3). The unsignalized study area intersection of 9th Street & I-10 Westbound Ramps is anticipated to meet a peak hour volume-based traffic signal warrant under Opening Year Cumulative (2024) With Project traffic conditions (see Appendix 5.4).

5.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Opening Year Cumulative (2024) Without and With Project traffic conditions are shown in Table 5-2. 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 under Opening Year Cumulative (2024) Without Project and With Project traffic conditions. Worksheets for Opening Year Cumulative (2024) Without and With Project traffic conditions off-ramp queuing analysis are provided in Appendices 5.5 and 5.6, respectively.

TABLE 5-2: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS

			2024 Without Project				2024 With Project			
		Available Stacking Distance	95th Percentile Queue (Feet)		Acceptable?[1]		95th Percentile Queue (Feet)		Acceptable?[1]	
Intersection	Movement	(Feet)	AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
Rancho Av. & I-10 WB Ramps (#5)	WBL/T	930	307	157	Yes	Yes	307	157	Yes	Yes
	WBR	150	100	401 [2,3]	Yes	Yes	100	404 [3]	Yes	Yes
Rancho Av. & I-10 EB Ramps (#6)	EBL/T	1,530	164	543 [2]	Yes	Yes	164	543 [2]	Yes	Yes
	EBR	160	116	192 [3]	Yes	Yes	234 [3]	199 [3]	Yes	Yes
I-215 SB Off-Ramp & Iowa Av. (#16)	EBL	1,420	193 [2]	196 [2]	Yes	Yes	194 [2]	197 [2]	Yes	Yes
	EBR	400	769 [2,3]	414 [2,3]	Yes	Yes	769 [2,3]	417 [2,3]	Yes	Yes
I-215 NB Ramps & Iowa Av. (#17)	WBT/R	1,155	660 [2]	639 [2]	Yes	Yes	679 [2]	649 [2]	Yes	Yes
9th St. & I-10 WB Off-Ramp (#19)	WBL/R	900	98	113	Yes	Yes	108	120	Yes	Yes
9th St. & I-10 EB Ramps (#20)	EBL/T	815	38	75	Yes	Yes	38	78	Yes	Yes
I-215 SB Ramps/La Crosse Av. & Barton Rd. (#21)	SBL/T	1,820	75	150	Yes	Yes	75	150	Yes	Yes
	SBR	1,100	25	50	Yes	Yes	25	50	Yes	Yes
I-215 NB Ramps & Barton Rd. (#22)	NBL	270	178	139	Yes	Yes	184	142	Yes	Yes
	NBT/R	1,400	83	215	Yes	Yes	83	215	Yes	Yes
	NBR	1,400	82	214	Yes	Yes	82	214	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-10 or I-215 Freeway mainline.

5.7 RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the City of Colton deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, intersections were found to be deficient.

5.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2024) traffic deficiencies are presented in Table 5-3. If not constructed by the Project, the Project Applicant shall contribute to these improvements through payment of City DIF fees or fair share contribution as identified in Table 1-3. Worksheets for Opening Year Cumulative (2024) Without and With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 5.7 and Appendix 5.8.

TABLE 5-3: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS WITH IMPROVEMENTS

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
7	Rancho Av. & N St.																	
	- Without Project	**TS**	0	2	0	1	1	0	0	0	0	1	0	1	29.7	10.2	C	B
	- With Project	**TS**	0	2	0	1	1	0	0	0	0	1	0	1	33.6	10.3	C	B
8	Rancho Av. & Agua Mansa Rd.																	
	- Without Project	TS	1	2	0	1	2	0	**1**	1	0	0	1	0	21.2	31.5	C	C
	- With Project	TS	1	2	0	1	2	0	**1**	1	0	0	1	0	27.1	40.2	C	D
15	La Cadena Dr. & I-215 SB On-Ramp																	
	- Without Project	**TS**	1	2	0	1	1	0	0	1	0	0	0	0	18.3	21.3	B	C
	- With Project	**TS**	1	2	0	1	1	0	0	1	0	0	0	0	18.6	22.5	B	C
16	I-215 SB Ramps & Iowa Av.																	
	- Without Project	TS	0	**2**	0	0	**2**	0	1	0	1	0	0	0	17.2	14.7	B	B
	- With Project	TS	0	**2**	0	0	**2**	0	1	0	1	0	0	0	17.5	14.8	B	B
17	I-215 NB Ramps & Iowa Av.																	
	- Without Project	TS	0	0	0	**1**	**0**	**2**	1	1	0	0	1	0	45.4	47.2	D	D
	- With Project	TS	0	0	0	**1**	**0**	**2**	1	1	0	0	1	0	48.5	49.5	D	D
23	Riverside Av. & Agua Mansa Rd.																	
	- Without Project	TS	1	2	0	1	2	**1**	1	1	1	1	1	1	50.6	43.1	D	D
	- With Project	TS	1	2	0	1	2	**1**	1	1	1	1	1	1	51.3	43.8	D	D

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

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

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

[3] TS = Traffic Signal; **TS** = Improvement

5.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Opening Year Cumulative (2024) traffic conditions. As such, no improvements have been identified.

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6 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, and off-ramp queuing analyses.

6.1 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 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 conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).
- Other parallel facilities, that although not evaluated for the purposes of this analysis, are anticipated to be in place for Horizon Year traffic conditions and would affect the travel patterns within the study area.

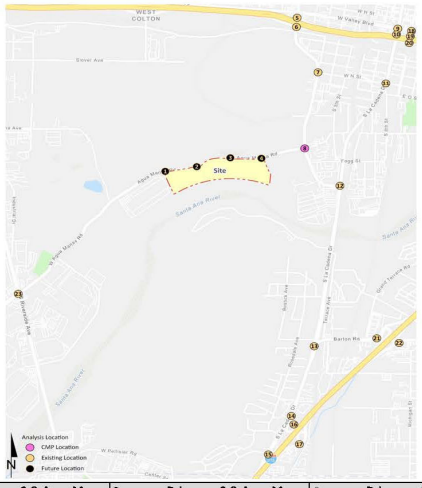
6.2 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the SBTAM (see Section 4.7 *Horizon Year (2040) Volume Development* of this TA for a detailed discussion on the post-processing methodology). 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 6-1 in actual vehicles. The PCE volumes utilized for the analysis are provided in Appendix 6.1.

6.3 HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the SBTAM, plus the traffic generated by the proposed Project. 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 6-2 in actual vehicles. The PCE volumes utilized for the analysis are provided in Appendix 6.2.

EXHIBIT 6-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES



1 Driveway 1 & Agua Mansa Rd.

Future Intersection

2 Driveway 2 & Agua Mansa Rd.

Future Intersection

3 Driveway 3 & Agua Mansa Rd.

Future Intersection

4 Driveway 4 & Agua Mansa Rd.

Future Intersection

5 Rancho Av. & I-10 WB Ramps

30,150 / 7,650
397(247) ↓ 877(853) ↑
↱ 444(527)
↑ 0(1)
↰ 326(181)
125(158) ↰ 466(1069) ↗
4,450 / 24,850

6 Rancho Av. & I-10 EB Ramps

24,850 / 9,650
772(591) ↓ 431(443) ↳
168(505) ↳
1(7) →
376(422) ↲
424(723) → 207(429) ↱
10,650 / 23,450

7 Rancho Av. & N St.

26,600 / 3,950
1390(1128) ↓ 110(147) ↳
↱ 78(47)
↰ 20(14)
383(678) → 49(156) ↱
13,000 / 25,100

8 Rancho Av. & Agua Mansa Rd.

26,000 / 1,850
776(222) ↳ 987(941) ↓ 40(16) ↳
↱ 15(12)
← 39(32)
↰ 5(5)
230(571) ↳
22(114) →
74(163) ↲
124(89) ↰ 475(607) → 7(3) ↱
13,000 / 19,350

9 La Cadena Dr. & Valley Bl.

12,000 / 18,600
28(43) ↳ 382(470) ↓ 35(40) ↳
↱ 11(20)
← 301(290)
↰ 522(593)
35(71) ↳
455(460) →
200(169) ↲
182(200) ↰ 243(454) → 278(399) ↱
11,450 / 23,300

10 La Cadena Dr. & I-10 WB On-Ramp

25,150
221(194) ↳ 961(1119) ↓
176(209) ↰ 176(209) →
4,600 / 25,400

11 La Cadena Dr. & N St.

18,000 / 17,700
36(70) ↳ 603(790) ↓ 9(27) ↳
↱ 19(16)
← 17(31)
↰ 20(22)
61(103) ↳
16(30) →
68(48) ↲
22(28) ↰ 734(749) → 7(10) ↱
7,400 / 21,650

12 La Cadena Dr. & Rancho Av.

17,150
23(5) ↳ 704(852) ↓
13(16) ↳
660(771) ↲
466(505) ↰ 669(697) →
13,750 / 30,650

13 La Cadena Dr. & Barton Rd.

36,850 / 19,100
1392(1364) ↓ 568(493) ↳
↱ 365(509)
↰ 323(514)
771(1044) → 397(322) ↱
26,450 / 36,800

14 Iowa Av. & La Cadena Dr.

36,100
1189(1411) ↳ 716(481) ↓
394(640) ↳
217(264) ↲
233(292) ↰ 803(963) →
20,650 / 2,100

15 La Cadena Dr. & I-215 SB On-Ramp

23,500 / 5,850
52(86) ↳ 670(942) ↓ 551(555) ↳
86(57) ↳
19(11) →
33(20) ↲
11(32) ↰ 488(819) → 0(6) ↱
2,100 / 16,950

16 Iowa Av. & I-215 SB Off-Ramp

19,950
933(744) ↓
123(162) ↳
805(711) ↲
913(1093) →
8,950 / 25,150

17 Iowa Av. & I-215 NB Ramps

25,150 / 18,850
1472(1140) ↳ 266(315) ↓
↱ 393(511)
← 97(75)
520(583) ↳
877(1003) →
28,650 / 11,950

18 9th St. & Valley Bl.

5,750 / 10,850
95(80) ↳ 139(120) ↓ 27(33) ↳
↱ 15(27)
← 388(437)
↰ 22(46)
2(32) ↳
261(456) →
308(192) ↲
413(414) ↰ 182(268) → 67(106) ↱
17,700 / 11,950

19 9th St. & I-10 WB Off-Ramp

11,950 / 5,000
1(5) ↳ 469(362) ↓
↱ 480(454)
← 2(2)
↰ 4(6)
1(1) ↳
1(4) ↲
1(4) ↰ 194(338) →
150 / 7,650

20 9th St. & I-10 EB Ramps

7,650 / 3,300
474(372) ↳
195(342) ↳
4(2) →
4,700 / 700

21 I-215 SB Ramps/La Crosse Av. & Barton Rd.

15,450 / 28,900
253(348) ↳ 28(3) ↓ 362(487) ↳
↱ 587(422)
← 694(751)
↰ 40(52)
203(157) ↳
837(853) →
13(7) ↲
0(3) ↰ ↱ 14(76)
23,450 / 6,800

22 I-215 NB Ramps & Barton Rd.

9,450 / 36,150
↱ 726(479)
← 1196(1064)
292(267) ↳
919(1150) →
125(160) ↰ ↱ 484(644)
28,900 / 8,850

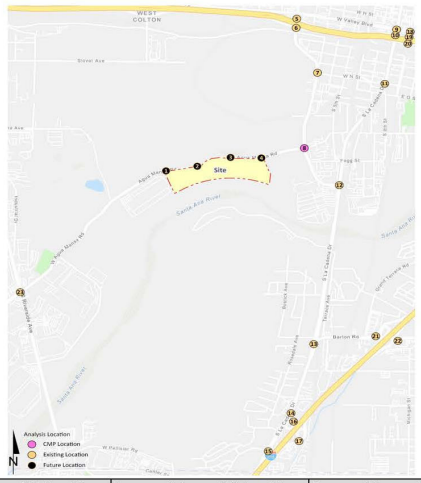
23 Riverside Av. & Agua Mansa Rd.

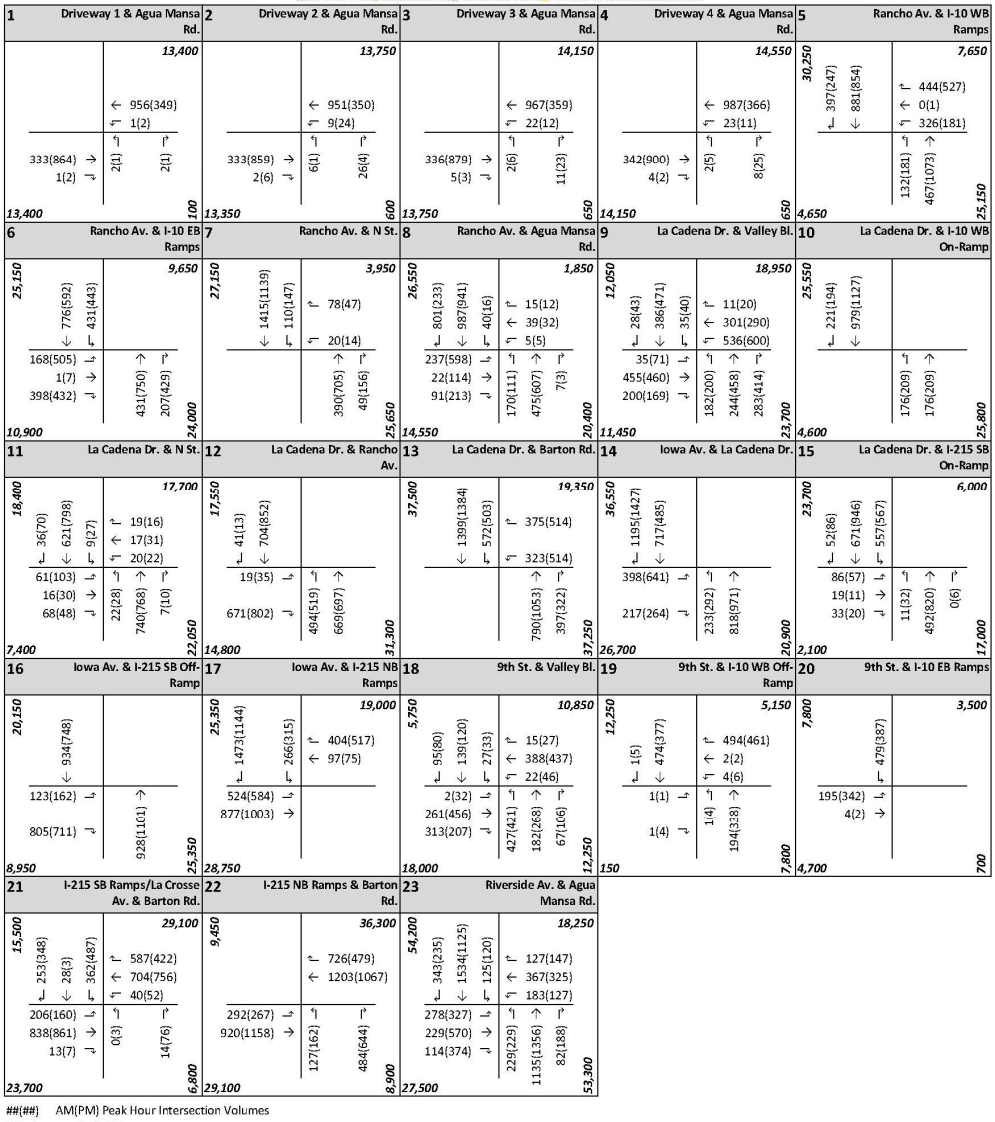
54,000 / 17,850
343(235) ↳ 1534(1125) ↓ 116(115) ↳
↱ 122(137)
← 367(322)
↰ 182(121)
278(327) ↳
226(569) →
114(374) ↲
229(229) ↰ 1135(1356) → 76(186) ↱
27,450 / 53,200

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

Average Daily Trips

EXHIBIT 6-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES





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

Average Daily Trips

6.4 INTERSECTION OPERATIONS ANALYSIS

6.4.1 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2040) Without Project 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 under Horizon Year (2040) Without Project traffic conditions:

- Rancho Avenue & N Street (#7) – LOS E AM peak hour only
- Rancho Avenue & Agua Mansa Road (#8) – LOS E AM peak hour; LOS F PM peak hour
- La Cadena Drive & Rancho Avenue (#12) – LOS E PM peak hour only
- La Cadena Drive & Barton Road (#13) – LOS E AM peak hour only
- Iowa Avenue & La Cadena Drive (#14) – LOS E PM peak hour only
- La Cadena Drive & I-215 SB On-Ramp (#15) – LOS F AM and PM peak hours
- Iowa Avenue & I-215 SB Off-Ramp (#16) – LOS F AM and PM peak hours
- Iowa Avenue & I-215 Northbound Ramps (#17) – LOS F AM and PM peak hours
- Riverside Avenue & Agua Mansa Road (#23) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for Horizon Year (2040) Without Project traffic conditions are included in Appendix 6.1 of this TA.

6.4.2 HORIZON YEAR (2040) WITH PROJECT TRAFFIC CONDITIONS

As shown in Table 6-1, there are no additional study area intersections anticipated to operate at a deficient LOS during one or both peak hours for Horizon Year (2040) With Project traffic conditions, in addition to the locations identified above for Horizon Year (2040) Without Project traffic conditions. The intersection operations analysis worksheets for Horizon Year (2040) With Project traffic conditions are included in Appendix 6.2 of this TA.

TABLE 6-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS

#	Intersection	Traffic Control[2]	2040 Without Project Delay[1] (secs.) AM	PM	Level of Service AM	PM	2040 With Project Delay[1] (secs.) AM	PM	Level of Service AM	PM
1	Driveway 1 & Agua Mansa Rd.	**CSS**	Future Intersection				14.3	16.6	B	C
2	Driveway 2 & Agua Mansa Rd.	**CSS**	Future Intersection				12.0	17.4	B	C
3	Driveway 3 & Agua Mansa Rd.									
	-Without Traffic Signal	**CSS**	Future Intersection				14.1	21.0	B	C
	-With Traffic Signal	**TS**	Future Intersection				12.6	14.1	B	B
4	Driveway 4 & Agua Mansa Rd.	**CSS**	Future Intersection				12.2	18.7	B	C
5	Rancho Av. & I-10 WB Ramps	TS	33.5	27.5	C	C	34.0	28.1	C	C
6	Rancho Av. & I-10 EB Ramps	TS	27.8	51.6	C	D	28.9	53.4	C	D
7	Rancho Av. & N St.	CSS	**38.5**	34.5	**E**	D	**39.8**	**35.8**	**E**	**E**
8	Rancho Av. & Agua Mansa Rd.	TS	**59.4**	**85.7**	**E**	**F**	**85.1**	**123.9**	**F**	**F**
9	La Cadena Dr. & Valley Bl.	TS	34.6	46.4	C	D	42.0	47.3	D	D
10	La Cadena Dr. & I-10 WB On-Ramp	UC	15.0	18.0	B	C	15.3	18.2	C	C
11	La Cadena Dr. & N St.	TS	8.1	14.6	A	B	8.1	15.3	A	B
12	La Cadena Dr. & Rancho Av.	TS	31.4	**57.2**	C	**E**	39.1	**71.1**	D	**E**
13	La Cadena Dr. & Barton Rd.	TS	**58.7**	50.9	**E**	D	**59.7**	53.7	**E**	D
14	Iowa Av. & La Cadena Dr.	TS	36.5	**79.5**	D	**E**	36.9	**81.4**	D	**F**
15	La Cadena Dr. & I-215 SB On-Ramp	AWS	**>100.0**	**>100.0**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**
16	Iowa Av. & I-215 SB Off-Ramp	TS	**>200.0**	**122.0**	**F**	**F**	**>200.0**	**123.2**	**F**	**F**
17	Iowa Av. & I-215 NB Ramps	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**
18	9th St. & Valley Bl.	TS	22.7	21.7	C	C	23.4	22.2	C	C
19	9th St. & I-10 WB Off-Ramp	CSS	16.6	22.8	C	C	17.3	23.8	C	C
20	9th St. & I-10 EB Ramps	CSS	15.1	14.5	C	B	15.5	15.0	C	B
21	I-215 SB Ramps/La Crosse Av. & Barton Rd.	RA	12.9	15.2	B	C	13.2	15.5	B	C
22	I-215 NB Ramps & Barton Rd.	TS	25.4	38.7	C	D	25.5	40.4	C	D
23	Riverside Av. & Agua Mansa Rd.	TS	**166.2**	**115.7**	**F**	**F**	**166.9**	**177.6**	**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; TS = Traffic Signal; AWS = All-way Stop; UC = Uncontrolled; RA = Roundabout; **CSS** = Improvement

6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

There are no additional unsignalized study area intersections anticipated to meet a peak hour volume-based or planning level (ADT) traffic signal warrant under Horizon Year (2040) Without Project traffic conditions (see Appendices 6.3 and 6.4).

6.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Horizon Year (2040) Without and With Project traffic conditions are shown in Table 6-2. 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 under Horizon Year (2040) Without Project and With Project. Worksheets for Horizon Year (2040) Without and With Project traffic conditions off-ramp queuing analysis are provided in Appendices 6.5 and 6.6, respectively.

TABLE 6-2: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR HORIZON YEAR (2040) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project 95th Percentile Queue (Feet) AM Peak	2040 Without Project 95th Percentile Queue (Feet) PM Peak	2040 Without Project Acceptable? [1] AM	2040 Without Project Acceptable? [1] PM	2040 With Project 95th Percentile Queue (Feet) AM Peak	2040 With Project 95th Percentile Queue (Feet) PM Peak	2040 With Project Acceptable? [1] AM	2040 With Project Acceptable? [1] PM
Rancho Av. & I-10 WB Ramps (#5)	WBL/T	930	354	184	Yes	Yes	354 [2]	184	Yes	Yes
	WBR	150	157 [3]	595 [2,3]	Yes	Yes	168 [3]	597 [2,3]	Yes	Yes
Rancho Av. & I-10 EB Ramps (#6)	EBL/T	1,530	186	705 [2]	Yes	Yes	186	705 [2]	Yes	Yes
	EBR	160	266 [3]	271 [3]	Yes	Yes	303 [3]	271 [3]	Yes	Yes
I-215 SB Off-Ramp & Iowa Av. (#16)	EBL	1,420	224 [2]	252 [2]	Yes	Yes	224 [2]	253 [2]	Yes	Yes
	EBR	400	1,068 [2,3]	664 [2,3]	Yes	Yes	1,068 [2,3]	668 [2,3]	Yes	Yes
I-215 NB Ramps & Iowa Av. (#17)	WBT/R	1,155	724 [2]	724 [2]	Yes	Yes	750 [2]	735 [2]	Yes	Yes
9th St. & I-10 WB Off-Ramp (#19)	WBL/R	900	115	155	Yes	Yes	125	165	Yes	Yes
9th St. & I-10 EB Ramps (#20)	EBL/T	815	35	80	Yes	Yes	35	83	Yes	Yes
I-215 SB Ramps/La Crosse Av. & Barton Rd. (#21)	SBL/T	1,820	125	225	Yes	Yes	125	225	Yes	Yes
	SBR	1,100	50	75	Yes	Yes	50	75	Yes	Yes
I-215 NB Ramps & Barton Rd. (#22)	NBL	270	159	135	Yes	Yes	164	138	Yes	Yes
	NBT/R	1,400	153	290	Yes	Yes	153	290	Yes	Yes
	NBR	1,400	153	290	Yes	Yes	153	290	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-10 or I-215 Freeway mainline.

6.7 HORIZON YEAR (2040) DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the City of Colton deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, intersections were found to be deficient.

6.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the recommended improvement strategies to address Horizon Year (2040) traffic deficiencies are presented in Table 6-3. If not constructed by the Project, the Project Applicant shall contribute to these improvements through payment of City DIF fees or fair share contribution as identified in Table 1-3. Worksheets for Horizon Year (2040) Without and With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 6.7 and Appendix 6.8.

TABLE 6-3: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS WITH IMPROVEMENTS

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
7	Rancho Av. & N St.																	
	- Without Project	**TS**	0	2	0	1	1	0	0	0	0	1	0	1	22.4	9.9	C	A
	- With Project	**TS**	0	2	0	1	1	0	0	0	0	1	0	1	25.2	10.0	C	B
8	Rancho Av. & Agua Mansa Rd.																	
	- Without Project	TS	1	2	0	1	2	**1**	**1**	1	0	0	1	0	17.2	32.8	B	C
	- With Project	TS	1	2	0	1	2	**1**	**1**	1	0	0	1	0	21.8	39.8	C	D
12	La Cadena Dr. & Rancho Av.																	
	- Without Project	TS	1	2	0	0	2	0	0	1	**1>**	0	0	0	17.9	27.1	B	C
	- With Project	TS	1	2	0	0	2	0	0	1	**1>**	0	0	0	20.7	29.5	C	C
13	La Cadena Dr. & Barton Rd.																	
	- Without Project	TS	0	2	1	1	2	0	0	0	0	**2**	0	1	46.4	42.1	D	D
	- With Project	TS	0	2	1	1	2	0	0	0	0	**2**	0	1	48.6	43.9	D	D
14	La Cadena Dr. & Iowa Av.																	
	- Without Project	TS	1	**2**	0	0	**2**	2>>	1	0	1>	0	0	0	18.0	26.1	B	C
	- With Project	TS	1	**2**	0	0	**2**	2>>	1	0	1>	0	0	0	18.1	26.3	B	C
15	La Cadena Dr. & I-215 SB On-Ramp																	
	- Without Project	**TS**	1	2	0	1	1	0	0	1	0	0	0	0	18.8	26.5	B	C
	- With Project	**TS**	1	2	0	1	1	0	0	1	0	0	0	0	19.0	27.6	B	C
16	I-215 SB Ramps & Iowa Av.																	
	- Without Project	TS	0	**2**	0	0	**2**	0	1	0	1	0	0	0	25.8	20.7	C	C
	- With Project	TS	0	**2**	0	0	**2**	0	1	0	1	0	0	0	25.9	20.9	C	C
17	I-215 NB Ramps & Iowa Av.																	
	- Without Project	TS	0	0	0	**1**	**0**	**2>**	**2**	1	0	0	1	0	31.7	31.8	C	C
	- With Project	TS	0	0	0	**1**	**0**	**2>**	**2**	1	0	0	1	0	32.2	32.4	C	C

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

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

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

[3] TS = Traffic Signal; **TS** = Improvement

6.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously 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 for Horizon Year (2040) traffic conditions. As such, no improvements have been identified.

7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Colton are funded through a combination of project improvements, DIF programs or fair share contributions, such as the City of Colton DIF program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

7.1 CITY OF COLTON DEVELOPMENT IMPACT FEE PROGRAM

The City of Colton has created its own local DIF program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The City's DIF includes regional improvements to comply with Measure "I". The fee schedule was recently updated in February 2020 and reviewed/adjusted annually based upon changes in the construction cost index (CCI). Under the City's DIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of implementing the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance thresholds.

The Project applicant will be subject to the City's DIF fee program and will pay the requisite City DIF fees at the rates then in effect pursuant to the City's ordinance. The Project applicant's payment of the requisite DIF fees at the rates then in effect, pursuant to the DIF Program, will mitigate its impacts to DIF-funded facilities.

7.2 MEASURE "I" FUNDS

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure "I", a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure "I" extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by the SBCTA and concluded that each jurisdiction should include a regional fee component in their local programs in order to meet the Measure "I" requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in November 2011. Revenues collected through these programs are used in tandem with Measure "I" funds to deliver projects identified in the Nexus Study. While Measure

"I" is a self-executing sales tax administered by SBCTA, it bears discussion here because the funds raised through Measure "I" have funded in the past and will continue to fund new transportation facilities in San Bernardino County.

7.3 FAIR SHARE CONTRIBUTION

The conditions of approval may include participating in established programs through payment of applicable fees, 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, has been provided in Table 7-1 for the applicable deficient study area intersections.

TABLE 7-1: PROJECT FAIR SHARE CALCULATIONS FOR INTERSECTIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1] Northbound L	T	R	Southbound L	T	R	Eastbound L	T	R	Westbound L	T	R	Delay[2] (secs.) AM	PM	Level of Service AM	PM
7	Rancho Av. & N St.																	
	- Without Project	**TS**	0	2	0	1	1	0	0	0	0	1	0	1	22.4	9.9	C	A
	- With Project	**TS**	0	2	0	1	1	0	0	0	0	1	0	1	25.1	10.0	C	B
8	Rancho Av. & Agua Mansa Rd.																	
	- Without Project	TS	1	2	0	1	2	**1**	**1**	1	0	0	1	0	17.2	32.8	B	C
	- With Project	TS	1	2	0	1	2	**1**	**1**	1	0	0	1	0	21.8	39.8	C	D
12	La Cadena Dr. & Rancho Av.																	
	- Without Project	TS	1	2	0	0	2	0	0	1	**1>**	0	0	0	17.9	27.1	B	C
	- With Project	TS	1	2	0	0	2	0	0	1	**1>**	0	0	0	20.5	29.5	C	C
13	La Cadena Dr. & Barton Rd.																	
	- Without Project	TS	0	2	1	1	2	0	0	0	0	**2**	0	1	46.4	42.1	D	D
	- With Project	TS	0	2	1	1	2	0	0	0	0	**2**	0	1	48.7	43.9	D	D
14	La Cadena Dr. & Iowa Av.																	
	- Without Project	TS	1	**2**	0	0	**2**	2>>	1	0	1>	0	0	0	18.0	26.1	B	C
	- With Project	TS	1	**2**	0	0	**2**	2>>	1	0	1>	0	0	0	18.1	26.3	B	C
15	La Cadena Dr. & I-215 SB On-Ramp																	
	- Without Project	**TS**	1	2	0	1	1	0	0	1	0	0	0	0	18.8	26.5	B	C
	- With Project	**TS**	1	2	0	1	1	0	0	1	0	0	0	0	19.1	27.5	B	C
16	I-215 SB Ramps & Iowa Av.																	
	- Without Project	TS	0	**2**	0	0	**2**	0	1	0	1	0	0	0	25.8	20.7	C	C
	- With Project	TS	0	**2**	0	0	**2**	0	1	0	1	0	0	0	25.9	20.9	C	C
17	I-215 NB Ramps & Iowa Av.																	
	- Without Project	TS	0	0	0	**1**	**0**	**2>**	**2**	1	0	0	1	0	31.7	31.8	C	C
	- With Project	TS	0	0	0	**1**	**0**	**2>**	**2**	1	0	0	1	0	32.2	32.4	C	C
23	Riverside Av. & Agua Mansa Rd.																	
	- Without Project	TS	1	**3**	0	1	**3**	**1**	1	**2**	**0**	1	**2**	**0**	50.7	46.2	D	D
	- With Project	TS	1	**3**	0	1	**3**	**1**	1	**2**	**0**	1	**2**	**0**	50.7	46.2	D	D

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

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

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

[3] TS = Traffic Signal; **TS** = Improvement

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8 REFERENCES

1. **San Bernardino Associated Governments.** *Congestion Management Program for County of San Bernardino.* County of San Bernardino : s.n., Updated June 2016.
2. **County of San Bernardino.** *Transportation Impact Study Guidelines.* County of San Bernardino : s.n., July 9, 2019.
3. **Institute of Transportation Engineers (ITE).** *Trip Generation Manual.* 10th Edition. 2021.
4. **WSP.** *High Cube Warehouse Trip Generation Study.* January 29, 2019.
5. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
6. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014.
7. **Southern California Association of Governments.** *2020 Connect SoCal Regional Transportation Plan/Sustainable Communities Strategy.* Adopted September 2020.

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APPENDIX 1.1:

APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This form acknowledges the City of Colton Engineering Division requirements for traffic impact analysis of the following project. The analysis must comply with SBCTA CMP TIA Guidelines, as applicable.

Case No. _____

Related Cases: _____

_____

APN(S): _____

_____

Project Name: Agua Mansa Commerce Center

Project Address: 1500 W. Agua Mansa Road

Project Description: 913,743 SF of high-cube cold storage and fulfillment center uses

Project Size: 571,743 SF of high-cube cold storage and 342,000 SF of high-cube fulfillment

	Traffic Consultant	Developer
Name:	Urban Crossroads, Inc. - Charlene So	Charlie McPhee
Address:		840 Apollo Street, Suite 343, El Segundo, CA 90245
Telephone:	949-861-0177	
e-mail:	cso@urbanxroads.com	

A. Technical Methodology

Technical methodology to comply with SBCTA CMP guidelines. However, mitigation on nonstate facilities to maintain LOS D threshold.
Traffic count data must be current or within previous 12 months. Provide traffic count dates.

B. Trip Generation Source: ITE Trip Generation Manual, 10th Edition (2017) + WSP Rates

Current GP Land Use: Railroad/Utility Proposed Land Use: Light Industrial

Current Zoning: Railroad/Utility Proposed Zoning: Light Industrial

	Current Trip Generation			Proposed Trip Generation			Actual Vehicles
	In	Out	Total	In	Out	Total	
AM Trips:	0	0	0	87	31	118	
PM Trips:	0	0	0	40	97	137	

Internal Trip Allowance: N/A

Pass-By Trip Allowance: N/A

Traffic impact study to quantify change in project trip generation in comparison with pre-existing uses on project site when fully occupied.

C. Trip Geographic Distribution: To be submitted for approval by city staff. Cite source. Attach exhibit of detailed assignment.

D. Scenario Analysis

Project year of completion: 2022 (both buildings)

Phase Year(s) No Phasing

Annual Ambient Growth rate: 2.0% per year

City staff to provide cumulative background projects list.

Scenarios:

Existing Conditions
Year of project completion: 1) No Project; 2) With Project.
Twenty-year forecast: 1) No Project; 2) With Project.

E. Preliminary Study Intersections: (See SBCTA CMP guidelines or comments from other agencies.)

1. See attached list.
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

F. Preliminary Study Roadway Segments: (See SBCTA CMP guidelines or comments from other agencies.)

1. None
6. _____

2._____ 7._____

3. _____ 8. _____

4._____ 9. _____

5._____ 10. _____

G. Freeways - See SBCTA CMP guidelines. None

H. Other Jurisdictional Impacts

Is this project within a one-mile radius of City or County boundaries? ☒ Yes ☐ No

If so, name of City Jurisdiction: City of Rialto, County of San Bernardino

I. Site Plan (please attach reduced copy)

J. Specific issues to be addressed in the Study

Recommended by:		Approved Scoping Agreement:	
Charlene So	11/04/2020		
Consultant's Representative	Date	City of Colton Engineering Division	Date

Study Intersections:

#	Intersection
1	Driveway 1 & Agua Mansa Rd
2	Driveway 2 & Agua Mansa Rd
3	Driveway 3 & Agua Mansa Rd
4	Driveway 4 & Agua Mansa Rd
5	Rancho Av & I-10 WB Ramps
6	Rancho Av & I-10 EB Ramps
7	Rancho Av & N St
8	Rancho Av & Agua Mansa Rd
9	La Cadena Dr & Valley Bl
10	La Cadena Dr & I-10 WB On Ramp
11	La Cadena Dr & W N St
12	La Cadena Dr & Rancho Av
13	La Cadena Dr & Barton Rd
14	La Cadena Dr & Iowa Av
15	La Cadena Dr & I-215 SB On-Ramp
16	I-215 SB Ramp & Iowa Av
17	I-215 NB Ramp & Iowa Av
18	9th St & Valley Bl
19	9th St & I-10 WB Off Ramp
20	9th St & I-10 EB Ramps

November 3, 2020

Mr. Victor Ortiz
City of Colton Engineering Division
160 S. 10th Street
Colton, CA 92324

SUBJECT: AGUA MANSA COMMERCE CENTER TRAFFIC ANALYSIS – SCOPING AGREEMENT

Dear Mr. Victor Ortiz:

Urban Crossroads, Inc. is pleased to submit this scoping letter to City of Colton Engineering Division regarding the Traffic Analysis (TA) for the proposed Agua Mansa Commerce Center development (**Project**), which is located south of Agua Mansa Road and west of Rancho Avenue at 1500 W. Agua Mansa Road in the City Colton. It is our understanding that the Project is to consist of 913,743 square feet of High-Cube Cold Storage Warehouse and High-Cube Fulfillment Center Warehouse use. Building 1 is proposed for 457,743 square feet of High-Cube Cold Storage Warehouse use and Building 2 is proposed for 114,000 square feet of High-Cube Cold Storage Warehouse use (25% of total building square footage) and 342,000 square feet of High-Cube Fulfillment Center Warehouse use (75% of total building square footage). This letter describes the draft proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the proposed Project study area and analysis locations.

A preliminary site plan for the proposed Project is shown on Exhibit 1. Exhibit 2 depicts the location of the proposed Project in relation to the existing roadway network. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2022. As indicated on Exhibit 1, access to the Project site will be provided via the following driveways:

- Driveway 1 & Agua Mansa Road – full access for trucks only for Building 1
- Driveway 2 & Agua Mansa Road – full access for passenger cars only for Building 1
- Driveway 3 & Agua Mansa Road – full access for trucks for Building 1 and both passenger cars and trucks for Building 2
- Driveway 4 & Agua Mansa Road – full access for both passenger cars and trucks for Building 2

It should be noted that this scoping agreement has been prepared in accordance with the County of San Bernardino's Congestion Management Program, 2016 Update and the County of San Bernardino Transportation Impact Study Guidelines, July 2019.

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. The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual vehicles and Passenger Car Equivalent (PCE) are shown in Table 1 and Table 2, respectively.

The following land uses, and vehicle mixes have been utilized:

- ITE land use code 157 (High-Cube With Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 571,743 square feet of the proposed Project (100% of Building 1 and 25% of Building 2). The truck percentage was obtained from the ITE's High Cube Warehouse Vehicle Trip Generation Analysis (October 2016). The vehicle mix varies by peak hour and overall daily: 69.2% passenger cars in the AM peak hour, 78.3% passenger cars in the PM peak hour, and 67.8% passenger cars weekday daily. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the percentage of trucks, by axle type, were obtained from the SCAQMD Warehouse Truck Trip Study Data Results and Usage (2014) recommended truck mix. The SCAQMD has recently performed surveys of existing facilities and compiled the data to provide interim guidance on the mix of heavy trucks for these types of high-cube warehousing/distribution facilities. Based on this interim guidance from the SCAQMD, the following truck fleet mix was utilized for the purposes of estimating the truck trip generation for the site (with cold storage): 34.7% of the total trucks as 2-axle trucks, 11.0% of the total trucks as 3-axle trucks, and 54.3% of the total trucks as 4+-axle trucks.
- High-Cube Fulfillment Center has been used to derive site specific trip generation estimates for up to 342,000 square feet of the proposed Project (remaining 75% of Building 2). The ITE Trip Generation Manual Supplement (February 2020) 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 Manual recommends the use of local data sources where available. 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 ITE Land Use Code 154 have been utilized.

Finally, PCE factors were applied to the trip generation rates to convert trips made by heavy trucks (large 2-axle, 3-axle, and 4+-axle 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 (CMP) (2016 Update).

As shown in Table 1, the proposed Project is anticipated to generate 1,950 actual trip ends per day, with 118 AM peak hour trips and 137 PM peak hour trips. The PCE values shown in Table 2 will be utilized for the purposes of the operations analysis.

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 will be 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 will be based on existing and planned land uses in the area along with the planned circulation system. Exhibit 3 illustrates the truck trip distribution patterns for the Project and Exhibit 4 illustrates the passenger car trip distribution patterns.

ANALYSIS SCENARIOS

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

- Existing (2020) Conditions
- Opening Year Cumulative (2022) Without Project Conditions
- Opening Year Cumulative (2022) With Project Conditions
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

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

Each analysis scenario will evaluate the morning and evening peak hour on a typical weekday (Tuesday through Thursday).

STUDY AREA

The traffic impact analysis study area was defined in conformance with the requirements of the County's Traffic Impact Analysis (TIA) guidelines, which state that the requirement to prepare a TIA will be based upon, but not limited to, one or more of the following criteria:

- If a project generates 100 or more trips without consideration of pass-by trips during any peak hour.
- If a project is located within 300 feet of the intersection of two streets designated as Collector or higher in the County's General Plan or the Department's Master Plan or impacted intersection as determined by the Traffic Division.
- If this project creates safety or operational concerns.

Although there are fewer than 50 peak hour trips, the study area also includes locations added by City staff. Exhibit 2 identifies the proposed study area intersections based on the aforementioned criteria.

LEVEL OF SERVICE (LOS) CRITERIA

Per the County of San Bernardino traffic study guidelines and consistent with the City of Colton General Plan, the following LOS will be utilized for study area intersections located within the County: Require development to achieve a peak hour Level of Service (LOS) D or better at intersections. Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis.

THRESHOLDS OF SIGNIFICANCE

To determine whether the addition of project traffic at a study intersection results in a traffic impact, the following thresholds will be utilized:

- A traffic impact occurs at a study intersection if the addition of project-generated trips reduces the peak hour level of service of the study intersection to change from acceptable level of service (LOS "A", "B", "C" or "D") to an unacceptable level of service (LOS "E" or "F");
- A traffic impact occurs at a study intersection if the project-generated 50 or more peak hour trips worsen the pre-project level of service grade at a deficiently operating (LOS "E" or "F") intersection.

The proposed significance thresholds will be applied at study area intersections for the purposes of determining project-related impacts.

EXISTING COUNT DATA

Traffic counts for the study area intersections will be collected during the following time frames:

- Morning (7:00 a.m. to 9:00 a.m.)
- Afternoon/Evening (4:00 p.m. to 6:00 p.m.)

In light of the current conditions, Urban Crossroads recommends that we either use historic data that we obtain from older traffic studies or use count data provided by the City. Counts older than the current calendar year (2020) would be brought to current conditions through the application of a growth factor (2.0 percent per year, consistent with other studies in the City).

#	Intersection	Non-Class	Classified
5	Rancho Av & I-10 WB Ramps	11/7/2010	--
6	Rancho Av & I-10 EB Ramps	11/7/2010	--
7	Rancho Av & N St	--	--
8	Rancho Av & Agua Mansa Rd	--	2/14/2018
9	La Cadena Dr & Valley Bl	1/29/2019	10/29/2013
10	La Cadena Dr & I-10 WB On Ramp	10/16/2018	11/18/2010
11	La Cadena Dr & W N St	2/4/2016	--
12	La Cadena Dr & Rancho Av	1/29/2015	--
13	La Cadena Dr & Barton Rd	--	5/23/2019
14	La Cadena Dr & Iowa Av	--	12/12/2018
15	La Cadena Dr & I-215 SB On-Ramp	2/4/2016	--
16	I-215 SB Ramp & Iowa Av	--	12/12/2018
17	I-215 NB Ramp & Iowa Av	--	12/12/2018
18	9th St & Valley Bl	10/16/2018	--
19	9th St & I-10 WB Off Ramp	10/16/2018	--
20	9th St & I-10 EB Ramps	10/16/2018	--

SPECIAL ISSUES

The following special issue will also be addressed as part of the TIA:

- *Truck Turns:* Truck turning templates will be used to address how Project truck traffic (e.g., large trucks such as a WB-67) would enter and exit the Project site to determine radii at curb returns, radii of streets per Highway Design Manual, and widths/radii required for on-site maneuvering for two-way truck traffic at the Project driveways.
- *Site Access Evaluation:* The turn pocket lengths will be determined through peak hour traffic simulations developed using Synchro and SimTraffic software in an effort to identify the required

storage capacity for turn lanes at the Project driveways. The queuing analysis will also assess the feasibility of accommodating full access at all Project driveways.

- *Sight Distance:* Due to the curvature of Agua Mansa Road, sight distance at each Project driveway will be evaluated.
- Vehicle Miles Traveled (VMT): The VMT analysis will be prepared under separate cover in accordance with SB743 and consistent with the methodology and thresholds outlined in the City of Colton's June 2020 VMT methodology guidelines.

CUMULATIVE DEVELOPMENT PROJECTS

A list of cumulative projects is provided on Table 3 and shown on Exhibit 5 for neighboring agencies. However, we request that City staff provide a list of cumulative development projects within the City's jurisdiction for inclusion in the traffic study, and associated mitigation measures where appropriate for recently approved, but not yet constructed development.

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

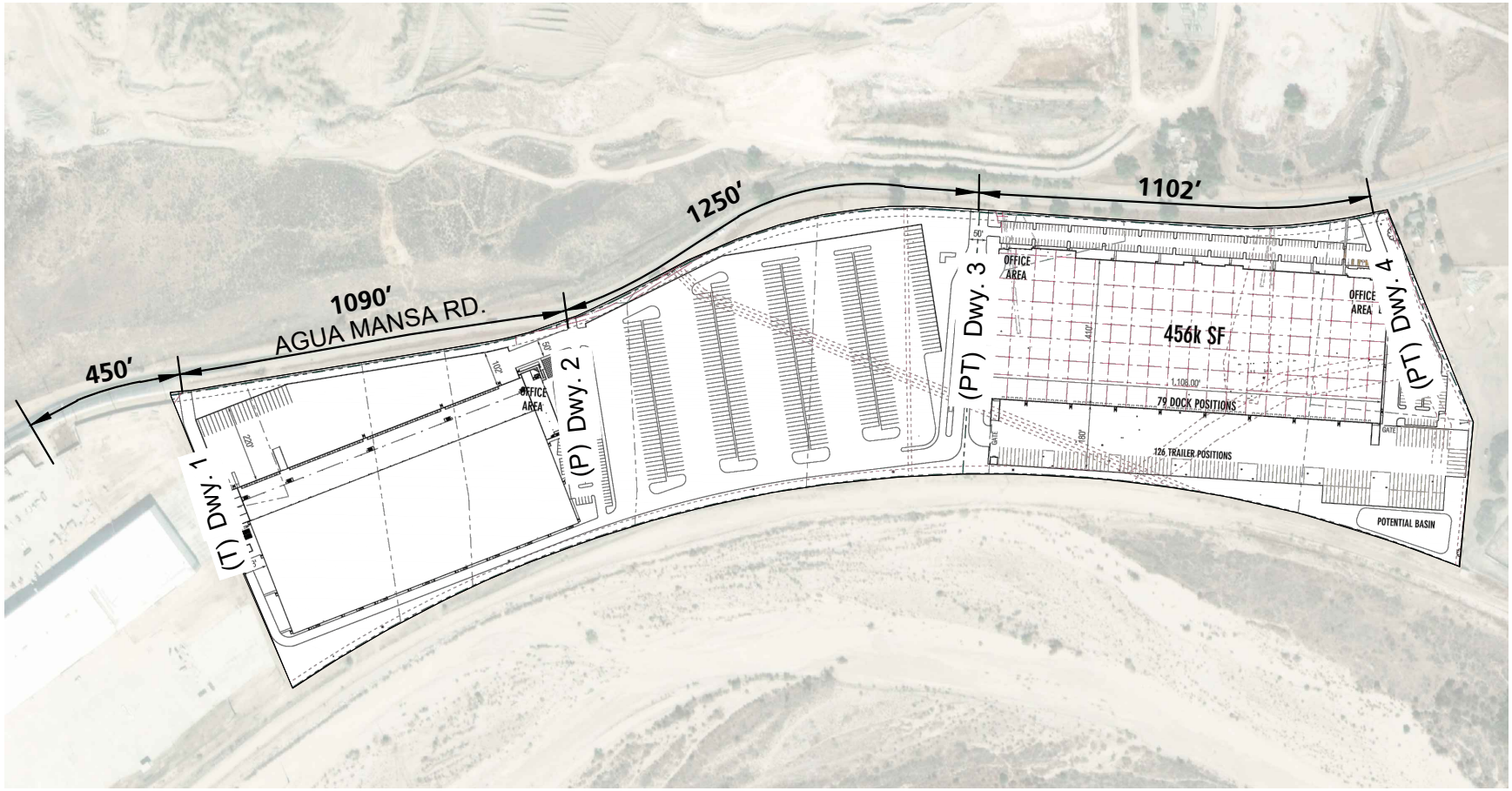
Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So

Charlene So, PE
Associate Principal

EXHIBIT 1: PRELIMINARY SITE PLAN



LEGEND:

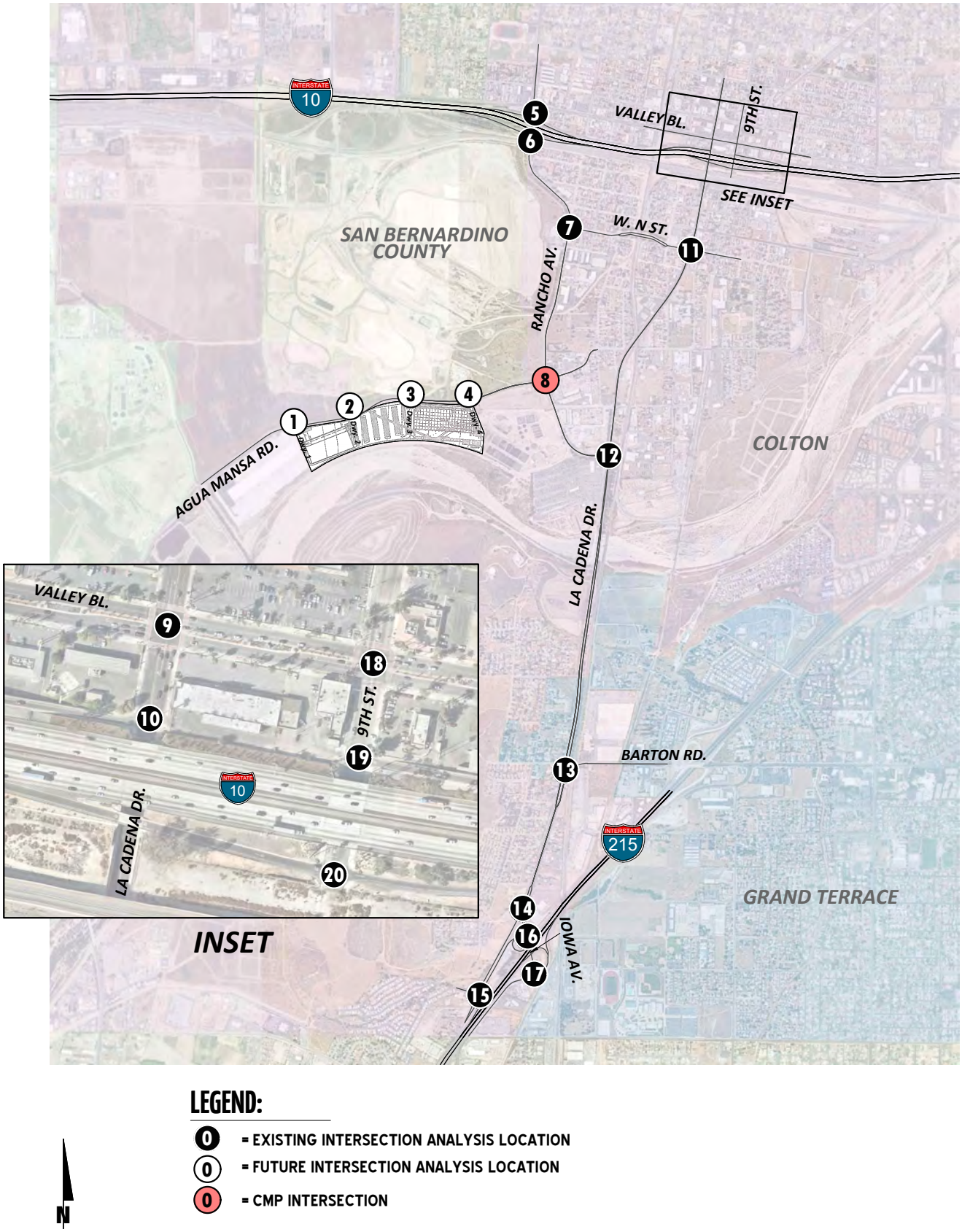
P	= PASSENGER CARS ONLY
T	= TRUCKS ONLY
PT	= PASSENGER CARS AND TRUCKS

NOTE: ALL DRIVEWAYS ARE ASSUMED TO BE FULL ACCESS.

N

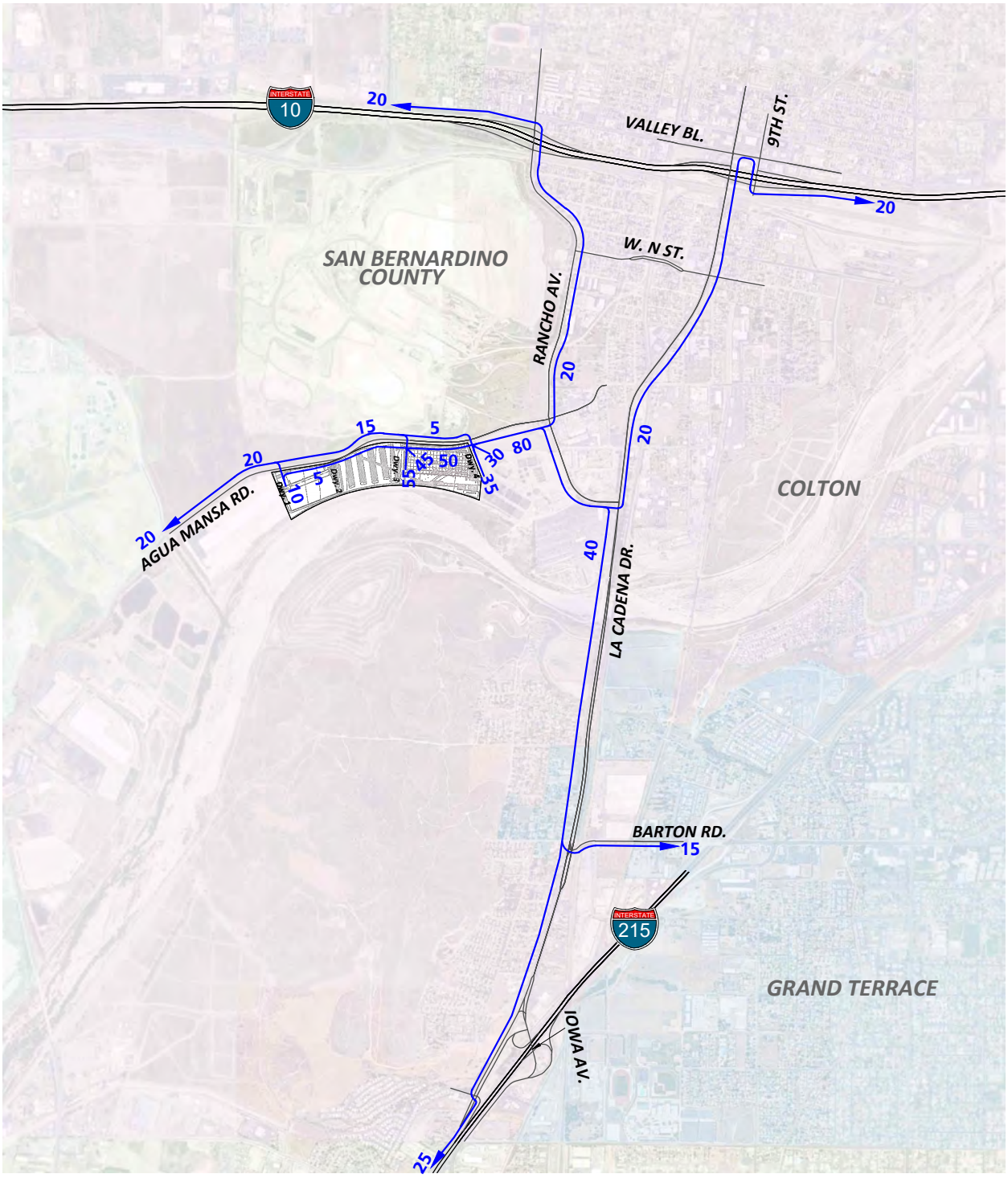
13223 - siteplan-a.dwg

EXHIBIT 2: LOCATION MAP



13223 - locmap-b.dwg

EXHIBIT 3: PROJECT (TRUCK) TRIP DISTRIBUTION



LEGEND:

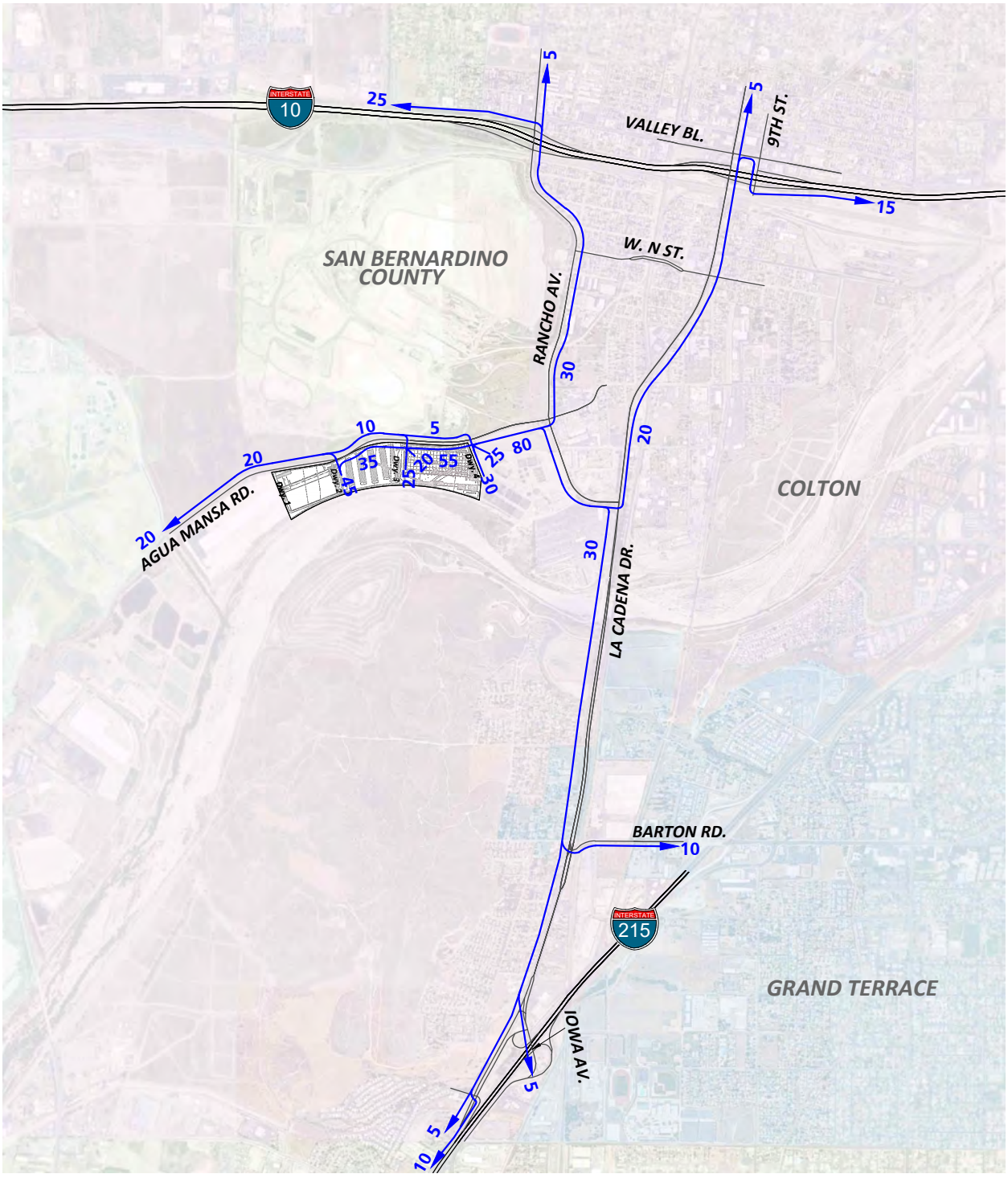
10 = *PERCENT TO/FROM PROJECT*

N

13223 - trip-b.dwg

URBAN CROSSROADS

EXHIBIT 4: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION



LEGEND:

10 = *PERCENT TO/FROM PROJECT*

N

EXHIBIT 5: CUMULATIVE DEVELOPMENT LOCATION MAP

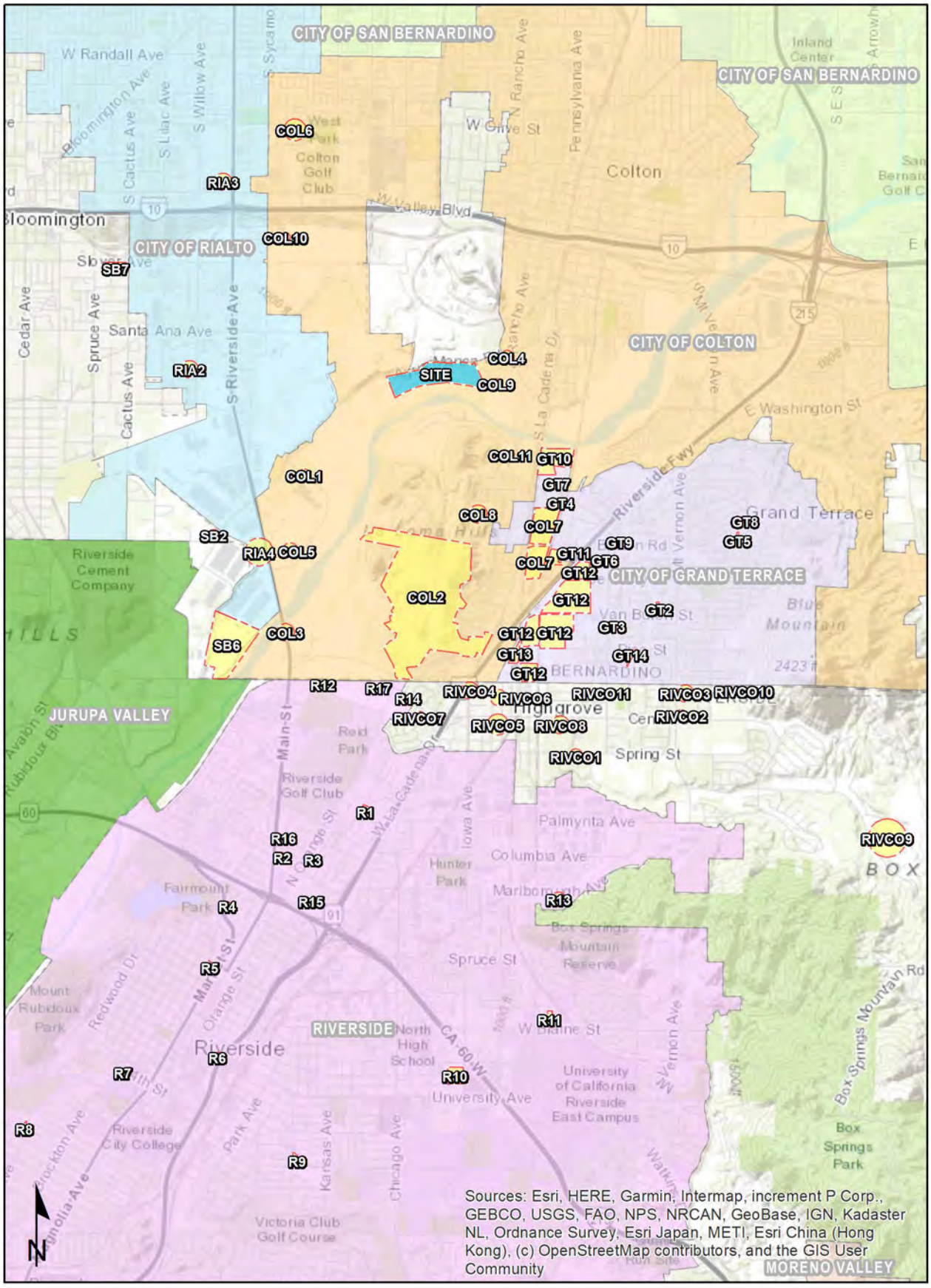


Table 1

Project Trip Generation Summary (Actual Vehicles)

Project Trip Generation Rates									
Land Use[1]	ITE LU Code	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Cold Storage Warehouse[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 (AM-84.4%; PM-87.3%; Daily-82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM-6.56%; PM-6.67%; Daily-7.61%)			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks (AM-9.02%; PM-6.06%; Daily-10.01%)			0.008	0.003	0.011	0.003	0.007	0.010	0.217

Project Trip Generation									
Project	Quantity	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building 1 (High-Cube Cold Storage)	457.743	TSF							
Passenger Cars:			29	9	38	12	31	43	632
Truck Trips:									
2-axle:			4	2	6	2	4	6	118
3-axle:			2	1	3	1	2	3	38
4+-axle:			6	2	8	2	6	8	186
- Truck Trips (Actual Vehicles)			12	5	17	5	12	17	342
BUILDING 1 TOTAL TRIPS (Actual Vehicles)			***41***	***14***	***55***	***17***	***43***	***60***	***974***
Building 2 (High-Cube Cold Storage, 25%)	114.000	TSF							
Passenger Cars:			8	3	11	3	8	11	158
Truck Trips:									
2-axle:			1	1	2	1	1	2	30
3-axle:			1	1	2	1	1	2	10
4+-axle:			2	1	3	1	2	3	46
- Truck Trips (Actual Vehicles)			4	3	7	3	4	7	86
Building 2 (High-Cube Fulfillment, 75%)	342.000	TSF							
Passenger Cars:			28	9	37	14	36	50	600
Truck Trips:									
2-4 axle:			3	1	4	2	3	5	56
5+-axle:			3	1	4	1	3	4	76
- Truck Trips (Actual Vehicles)			6	2	8	3	6	9	132
BUILDING 2 TOTAL TRIPS (Actual Vehicles)			***46***	***17***	***63***	***23***	***54***	***77***	***976***
Total Passenger Cars (Building 1 + Building 2)			65	21	86	29	75	104	1,390
Total Trucks (Building 1 + Building 2)			22	10	32	11	22	33	560
TOTAL PROJECT TRIPS (ACTUAL VEHICLES)			**87**	**31**	**118**	**40**	**97**	**137**	**1,950**

[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 % - 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.

Table 2

Project Trip Generation Summary (Passenger Car Equivalent)

Project Trip Generation Rates									
Land Use[1]	ITE LU Code	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Cold Storage Warehouse[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%) (PCE = 1.5)[5]			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (AM-2.97%; PM-2.53%; Daily-3.85%) (PCE = 2.0)[5]			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4-Axle+ Trucks (AM-14.66%; PM-12.49%; Daily-19.01%) (PCE = 3.0)[5]			0.037	0.011	0.048	0.012	0.033	0.045	1.209
High-Cube Fulfillment Center Warehouse[4]	TSF	--	0.117	0.035	0.152	0.055	0.141	0.196	2.725
Passenger Cars (AM-84.4%; PM-87.3%; Daily-82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM-6.56%; PM-6.67%; Daily-7.61%) (PCE = 2.0)[5]			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (AM-9.02%; PM-6.06%; Daily-10.01%) (PCE = 3.0)[5]			0.025	0.008	0.033	0.008	0.022	0.030	0.651

Project Trip Generation									
Project	Quantity	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building 1 (High-Cube Cold Storage)	457.743	TSF							
Passenger Cars:			29	9	38	12	31	43	632
Truck Trips:									
2-axle:			6	2	8	2	5	7	177
3-axle:			3	1	4	1	3	4	75
4+-axle:			18	6	24	6	16	22	554
- Truck Trips (PCE)			27	9	36	9	24	33	806
BUILDING 1 TOTAL TRIPS (PCE)			***56***	***18***	***74***	***21***	***55***	***76***	***1,438***
Building 2 (High-Cube Cold Storage, 25%)	114.000	TSF							
Passenger Cars:			8	3	11	3	8	11	158
Truck Trips:									
2-axle:			2	1	3	1	2	3	45
3-axle:			1	1	2	1	1	2	19
4+-axle:			5	2	7	2	4	6	138
- Truck Trips (PCE)			8	4	12	4	7	11	202
Building 2 (High-Cube Fulfillment, 75%)	342.000	TSF							
Passenger Cars:			28	9	37	14	36	50	600
Truck Trips:									
2-4 axle:			5	2	7	3	6	9	111
5+-axle:			9	3	12	3	8	11	224
- Truck Trips (PCE)			14	5	19	6	14	20	335
BUILDING 2 TOTAL TRIPS (PCE)			***58***	***21***	***79***	***27***	***65***	***92***	***1,295***
Total Passenger Cars (Building 1 + Building 2)			65	21	86	29	75	104	1,390
Total Trucks (Building 1 + Building 2)			49	18	67	19	45	64	1,343
TOTAL PROJECT TRIPS (PCE)			**114**	**39**	**153**	**48**	**120**	**168**	**2,733**

[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 % - 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 are per San Bernardino County Transportation Authority (SBCTA) Congestion Management Program (CMP) Guidelines.

Table 3

Cumulative Development Land Use Summary

ID	Project Name	Land Use[1]	Quantity	Units[2]
City of Colton				
COL1	2036 Miguel Bustamante Pkwy.	Warehouse	124.588	TSF
	2053 Miguel Bustamante Pkwy.	Warehouse	174.996	TSF
COL2	Roquet Ranch	SFDR	754	DU
		Condo/Townhomes	244	DU
		Active Adult - Attached	52	DU
		Shopping Center	6.500	TSF
		Coffee Shop with Drive Thru	1.500	TSF
		Fast Food with Drive Thru	4.000	TSF
		Active Park[2, 4]	11.1	AC
		Passive Park[4]	8.4	AC
COL3	2163 Riverside Av.	High-Cube Warehouse	447.330	TSF
COL4	Southwest Regional Operations Center	Office	--[3]	--
		Gasoline Service Station	--[3]	--
		Truck Wash, Service Facility, Parking Lot	--[3]	--
COL5	Agua Mansa Commerce Center	Warehouse	--[3]	--
COL6	Wildrose Village	SFDR	--[3]	--
COL7	Barton Road Logistics	High-Cube Warehouse	480.020	TSF
		High-Cube Cold Storage Warehouse	480.020	TSF
COL8	300 W. Litton Av. - Litton Housing	Single Family Detached Residential	89	DU
COL9	CalPortland (1500 Agua Mansa Rd.)	Cement Production Facility	66.0	AC
COL10	California High Speed Rail Facility	Intermodal Rail Facility	--[5]	--[5]
COL11	Tropica Commerce Center	Warehouse	266.030	TSF
City of Grand Terrace				
GT1	Grand Terrace Town Square	Supermarket	--[4]	--
		Shopping Center	--[4]	--
		Fast-Food Restaurant with Drive-Thru	--[4]	--
GT2	22394 and 22040 Van Buren St.	Single Family Detached Residential	--[4]	--
GT3	12569 Michigan St.	Single Family Detached Residential	--[4]	--
GT4	11832 and 11834 Burns Av.	Single Family Detached Residential	--[4]	--
GT5	22805 Barton Rd.	Medical Office	--[4]	--
		Coffee Shop without Drive-Thru	--[4]	--
GT6	22085 Commerce Wy.	Animal Clinic, Commercial Units	--[4]	--
GT7	11838 Burns Av.	Single Family Detached Residential	--[4]	--
GT8	22881 Barton Rd.	Coffee Shop with Drive-Thru	--[4]	--
GT9	NEC of Vivienda Av. & Barton Rd.	Fast-Food Restaurant with Drive-Thru	2.080	TSF
GT10	North of Vivienda Av. and east of La Cadena Av.	Trailer Storage Facility	22.0	AC
GT11	21801 Barton Rd.	Recycling Center	80.898	TSF
GT12	Gateway Specific Plan	Multifamily Housing	748	DU
		Business Park	12.196	TSF
		Shopping Center	356.296	TSF
		Public Facilities	3.7	AC
GT13	21496 Main St.	Warehouse	8.820	TSF
GT14	22247 Pico St.	Single Family Detached Residential	12	DU

Cumulative Development Land Use Summary

ID	Project Name	Land Use[1]	Quantity	Units[2]
County of San Bernardino				
SB1	Slover Av. between Locust Av. and Laurel Av.	High-Cube Warehouse	344	TSF
SB2	West of Agua Mansa Rd. and North of El Rivino Rd.	High-Cube Warehouse	476.000	TSF
		Warehouse	30.000	TSF
SB3	NWC of Cedar Av. and Jurupa Av.	High-Cube Warehouse	677.000	TSF
SB4	Locust Av. and 7th St.	SFDR	198	DU
SB5	NEC and NWC of Cedar Av. and Orange St.	Warehouse	395.000	TSF
SB6	Holly Street Truck Terminal	Truck Terminal	450.000	TSF
SB7	Bloomington Commerce Center	High-Cube Warehouse	800.000	TSF
		High-Cube Fulfillment Center	451.640	TSF
SB8	Slover and Cactus Warehouse	Warehouse	257.855	TSF
City of Rialto				
RIA1	Panattoni I-10 (Cactus Av. & El Rivino Rd.)	Warehouse	2,475.745	TSF
RIA2	CapRock III	Warehouse	582.000	TSF
RIA3	Newmark Merrill Companies	Discount Super Store	198.000	TSF
		Tire Store	9.861	TSF
		Retail	25.436	TSF
		Fast Food w/ Drive-Thru	5.484	TSF
RIA4	Kore Infrastructure	Biosolids Facility	288	TPD
County of Riverside				
RIVCO1	TR28957	Single-Family Residential	36	DU
RIVCO2	TR32989	Single-Family Residential	29	DU
RIVCO3	TR32291	SFDR	69	DU
RIVCO4	CUP03718	Light Industrial	19.988	TSF
RIVCO5	PP24798	Retail	2.400	TSF
		Offices	3.405	TSF
		Laundromat	2.961	TSF
RIVCO6	PP25482	General Office	2.632	TSF
RIVCO7	Truck Sales Facility (PP25505)	Office	1.952	TSF
		Storage	6.000	TSF
RIVCO8	TR36668 (Bixby Highgrove)	Single-Family Residential	201	DU
RIVCO9	Spring Mountain Ranch (SP 323) (PM36448; TR29597; TR29598; TR29600; TR29741; TR30908; TR30909)	Single-Family Residential	1,518	DU
		Elementary School	750	STU
		Day Care Center	4.000	TSF
		Commercial Retail	104.000	TSF
RIVCO10	TTM37743	Single-Family Residential	58	DU
RIVCO11	PP24778	Multifamily Housing	89	DU
City of Riverside				
R1	P06-0782 (Tract Map 34908) (1006 & 1008 Clark St.)	SFDR	15	DU
R2	P05-0269 & P08-0416 (Tract Map 33550) (3719 Strong St.)	SFDR	9	DU
R3	P06-1031 (Tract Map 31825) (1562 Orange St.)	SFDR	7	DU
R4	P13-0087 P13-0262 (2450 Market St.)	Senior Housing	67	DU
R5	P14-0183 (Centerpointe Apartments) (3105 Market St.)	Apartments	146	DU
R6	P09-0835 P10-0002 (3372 University Av.)	General Office	132.136	TSF
R7	P06-1237 (Jacobs Medical Office) (14th and Brockton Av.)	Medical Office	65.281	TSF
R8	P12-0799 & P12-0800 (Tract Map 36516)	SFDR	7	DU
R9	P09-0808 & P08-0809 (2340 14th St.)	Senior Housing	134	Beds
R10	P08-0980 & P09-0095 (3549 Iowa Av.)	Student Housing	114	Beds
R11	P09-0717 & P09-0718 (807 Blaine St.)	Apartments	55	DU

Cumulative Development Land Use Summary

ID	Project Name	Land Use[1]	Quantity	Units[2]
R12	3667 Placentia Ln.	Warehouse	308.000	TSF
R13	750 Marlborough Av.	Warehouse	346.330	TSF
R14	3444 Center St.	Mobile Home Park	104	DU
R15	The Exchange	Multifamily Housing	482	DU
		Shopping Center	44.500	TSF
		Gasoline Service Station with Convenience Market	16	VFP
		Hotel	229	RM
R16	3723 Strong St.	Senior Housing - Attached	58	DU
R17	3630 Center St.	Warehouse	8.156	TSF

[1] SFDR = Single Family Detached Residential

[2] DU = Dwelling Units; TSF = Thousand Square Feet; STU = Students; AC = Acres; TPD = Tons Per Day; VFP = Vehicle Fueling Positions; RM = Rooms

[3] Quantity unknown. City of Colton provided estimated trips (AM/PM/Daily).

[4] Quantity unknown. City of Grand Terrace provided estimated trips (AM/PM/Daily).

[5] Per the California High Speed Rail Authority, the size of the facility is currently unknown.

APPENDIX 1.2:

SITE ADJACENT QUEUES

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Intersection: 1: Driveway 1 & Agua Mansa Rd.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	11	29
Average Queue (ft)	1	2
95th Queue (ft)	7	15
Link Distance (ft)		554
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Driveway 2 & Agua Mansa Rd.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	29	35
Average Queue (ft)	5	9
95th Queue (ft)	21	31
Link Distance (ft)		558
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Driveway 3 & Agua Mansa Rd.

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	204	61	244	38
Average Queue (ft)	90	26	143	9
95th Queue (ft)	171	56	220	31
Link Distance (ft)	1076		1395	481
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)			11	
Queuing Penalty (veh)			4	

Intersection: 4: Driveway 4 & Agua Mansa Rd.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	29	35
Average Queue (ft)	6	11
95th Queue (ft)	25	34
Link Distance (ft)		481
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 4

Intersection: 1: Driveway 1 & Agua Mansa Rd.

Movement	NB
Directions Served	LR
Maximum Queue (ft)	23
Average Queue (ft)	8
95th Queue (ft)	29
Link Distance (ft)	554
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Driveway 2 & Agua Mansa Rd.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	22	31
Average Queue (ft)	5	14
95th Queue (ft)	23	38
Link Distance (ft)		558
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Driveway 3 & Agua Mansa Rd.

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	230	22	94	34
Average Queue (ft)	157	9	62	17
95th Queue (ft)	246	28	107	45
Link Distance (ft)	1076		1395	481
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 4: Driveway 4 & Agua Mansa Rd.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	22	60
Average Queue (ft)	7	27
95th Queue (ft)	26	69
Link Distance (ft)		481
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – 2016, 2018 & 2019

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INTERSECTION TURNING MOVEMENT COUNTS

T816

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

DATE: Wed, Dec 12, 18

LOCATION: Colton
NORTH & SOUTH: Iowa
EAST & WEST: La Cadena

PROJECT #: SC
LOCATION #: 5
CONTROL: SIGNAL

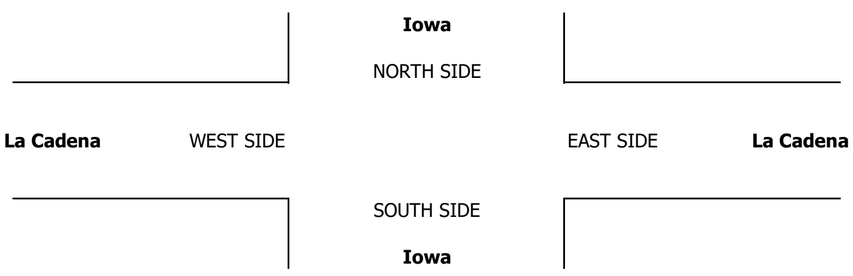
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

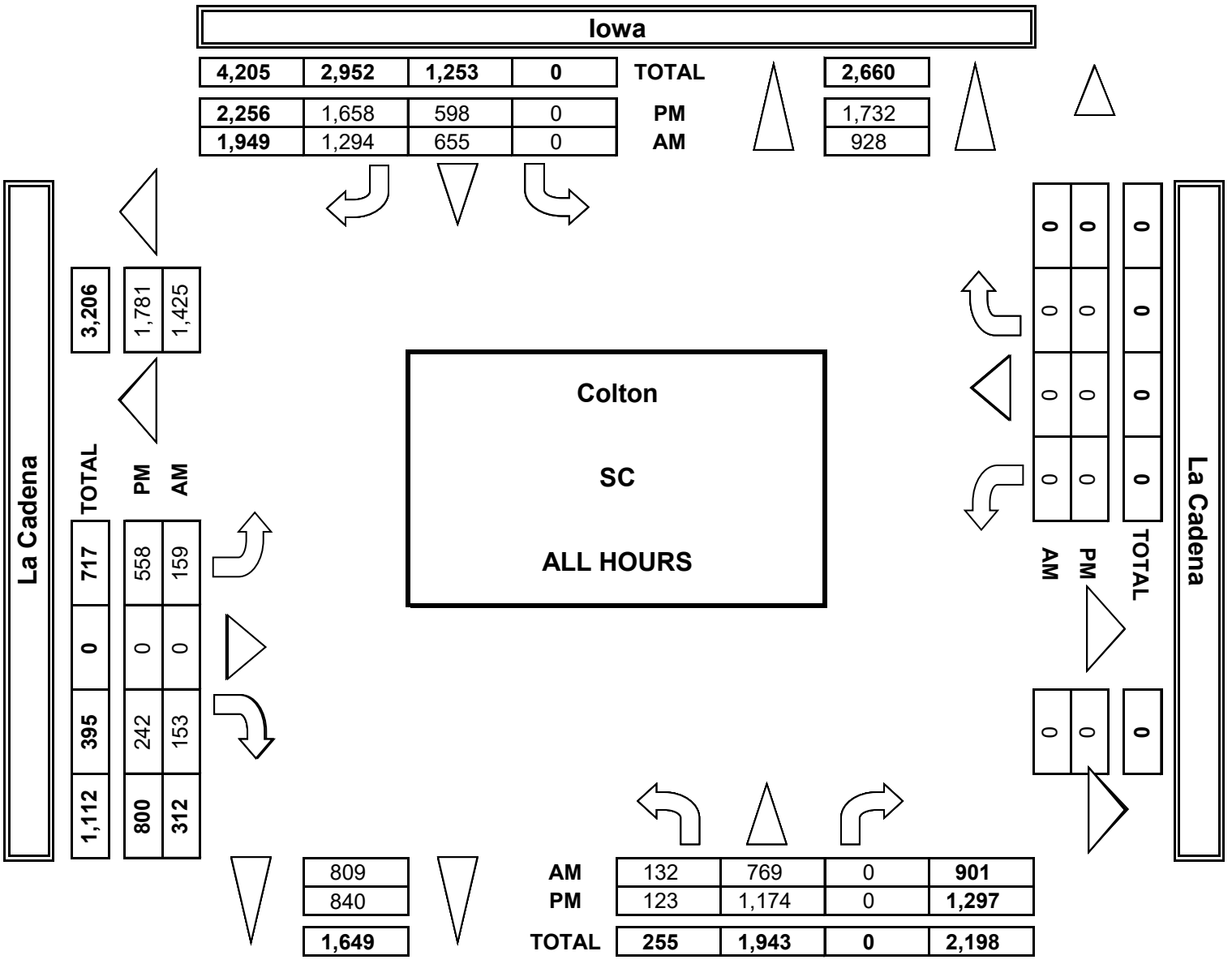
		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	14	134	0	0	127	171	27	0	31	0	0	0	504	0	0	0	0	0
	7:15 AM	18	142	0	0	102	187	19	0	20	0	0	0	488	0	0	0	0	0
	7:30 AM	22	92	0	0	116	223	20	0	22	0	0	0	495	0	0	0	0	0
	7:45 AM	12	101	0	0	105	197	32	0	15	0	0	0	462	0	0	0	0	0
	8:00 AM	16	85	0	0	75	164	14	0	13	0	0	0	367	0	0	0	0	0
	8:15 AM	26	82	0	0	48	124	14	0	10	0	0	0	304	0	0	0	0	0
	8:30 AM	7	63	0	0	37	115	15	0	21	0	0	0	258	0	0	0	0	0
	8:45 AM	17	70	0	0	45	113	18	0	21	0	0	0	284	1	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
	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	132	769	0	0	655	1,294	159	0	153	0	0	0	3,162	1	0	0	0	1
	APPROACH %	15%	85%	0%	0%	34%	66%	51%	0%	49%	0%	0%	0%						
	APP/DEPART	901	/	928	1,949	/	809	312	/	0	0	/	1,425	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	66	469	0	0	450	778	98	0	88	0	0	0	1,949					
	APPROACH %	12%	88%	0%	0%	37%	63%	53%	0%	47%	0%	0%	0%						
	PEAK HR FACTOR		0.836			0.906			0.802			0.000		0.967					
	APP/DEPART	535	/	567	1,228	/	538	186	/	0	0	/	844	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	10	175	0	0	85	241	63	0	29	0	0	0	603	0	0	0	0	0
	4:15 PM	20	130	0	0	68	197	46	0	26	0	0	0	487	0	0	0	0	0
	4:30 PM	18	156	0	0	65	197	69	0	42	0	0	0	547	0	0	0	0	0
	4:45 PM	19	149	0	0	70	198	73	0	37	0	0	0	546	0	0	0	0	0
	5:00 PM	19	140	0	0	66	229	80	0	45	0	0	0	579	0	0	0	0	0
	5:15 PM	11	147	0	0	84	202	85	0	26	0	0	0	555	0	0	0	0	0
	5:30 PM	10	147	0	0	77	168	77	0	21	0	0	0	500	0	0	0	0	0
	5:45 PM	16	130	0	0	83	226	65	0	16	0	0	0	536	0	0	0	0	0
	VOLUMES	123	1,174	0	0	598	1,658	558	0	242	0	0	0	4,353	0	0	0	0	0
	APPROACH %	9%	91%	0%	0%	27%	73%	70%	0%	30%	0%	0%	0%						
	APP/DEPART	1,297	/	1,732	2,256	/	840	800	/	0	0	/	1,781	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	67	592	0	0	285	826	307	0	150	0	0	0	2,227					
	APPROACH %	10%	90%	0%	0%	26%	74%	67%	0%	33%	0%	0%	0%						
	PEAK HR FACTOR		0.947			0.942			0.914			0.000		0.962					
	APP/DEPART	659	/	899	1,111	/	435	457	/	0	0	/	893	0					

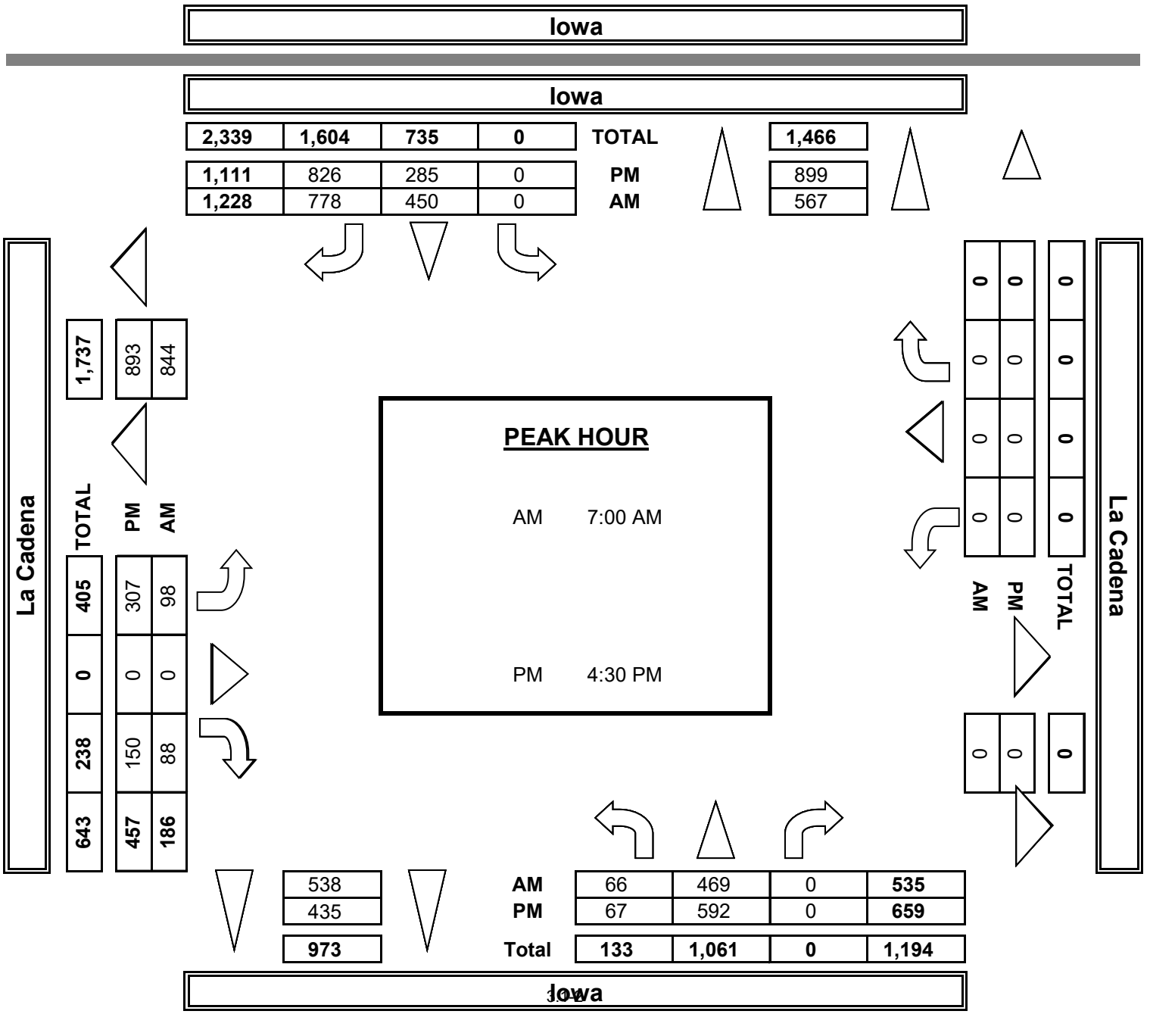


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0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

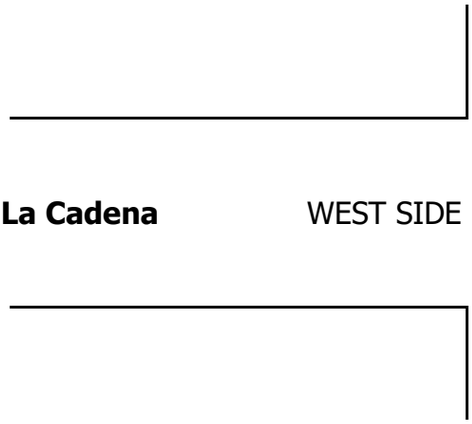
PREPARED BY: AimTD LI

DATE:	LOCATION:	Colton
12/12/18	NORTH & SOUTH:	Iowa
WEDNESDAY	EAST & WEST:	La Cadena

	NOTES:				
PCE Adjusted	Class	1	2	3	4
	Factor	1	1.5	2	3

		NORTHBOUND Iowa			SOUTHBOUNI Iowa	
	LANES:	NL 1	NT 1	NR X	SL X	ST 1
AM	7:00 AM	16	146	0	0	133
	7:15 AM	20	161	0	0	110
	7:30 AM	27	101	0	0	122
	7:45 AM	15	109	0	0	110
	8:00 AM	20	100	0	0	90
	8:15 AM	30	96	0	0	52
	8:30 AM	11	82	0	0	43
	8:45 AM	20	95	0	0	55
	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	157	888	0	0	714
	APPROACH %	15%	85%	0%	0%	34%
	APP/DEPART	1,045	/	1,070	2,111	/
	BEGIN PEAK HR		7:00 AM			
	VOLUMES	77	516	0	0	474
	APPROACH %	13%	87%	0%	0%	36%
	PEAK HR FACTOR		0.824			0.923
	APP/DEPART	593	/	623	1,309	/
	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	13	187	0	0	91
	4:15 PM	22	138	0	0	72

PM	4:30 PM	20	170	0	0	72
	4:45 PM	22	153	0	0	74
	5:00 PM	20	147	0	0	70
	5:15 PM	13	158	0	0	88
	5:30 PM	11	155	0	0	81
	5:45 PM	18	141	0	0	92
	VOLUMES	137	1,246	0	0	639
	APPROACH %	10%	90%	0%	0%	27%
	APP/DEPART	1,383	/	1,821	2,368	/
	BEGIN PEAK HR		4:30 PM			
	VOLUMES	74	627	0	0	304
	APPROACH %	11%	89%	0%	0%	26%
	PEAK HR FACTOR		0.927			0.947
	APP/DEPART	701	/	945	1,170	/



RNING MOVEMENT COUNTS

LC. tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC
LOCATION #: 5
CONTROL: SIGNAL

				AM		▲	
5	6			PM		N	
2	2			MD	◄ W		E ►
				OTHER		S	
				OTHER		▼	

D	EASTBOUND La Cadena			WESTBOUND La Cadena			
SR	EL	ET	ER	WL	WT	WR	TOTAL
2	1	X	1	X	X	X	
189	32	0	37	0	0	0	552
202	20	0	25	0	0	0	536
233	23	0	24	0	0	0	529
211	34	0	16	0	0	0	494
182	18	0	14	0	0	0	424
132	16	0	12	0	0	0	336
126	21	0	25	0	0	0	307
123	20	0	23	0	0	0	336
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,397	182	0	175	0	0	0	3,512
66%	51%	0%	49%	0%	0%	0%	
888	357	/	0	0	/	1,554	0
835	107	0	101	0	0	0	2,110
64%	51%	0%	49%	0%	0%	0%	
		0.765			0.000		0.956
575	208	/	0	0	/	912	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
249	65	0	30	0	0	0	633
211	47	0	28	0	0	0	517

210	72	0	45	0	0	0	588
206	75	0	38	0	0	0	567
239	82	0	48	0	0	0	605
213	90	0	28	0	0	0	589
171	79	0	22	0	0	0	517
233	67	0	17	0	0	0	566
1,729	575	0	254	0	0	0	4,579
73%	69%	0%	31%	0%	0%	0%	
893	829	/	0	0	/	1,866	0
867	318	0	159	0	0	0	2,347
74%	67%	0%	33%	0%	0%	0%	
		0.923			0.000		0.971
462	477	/	0	0	/	941	0

Iowa

NORTH SIDE

EAST SIDE **La Cadena**

SOUTH SIDE

Iowa

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

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

CLASS 1:	NOTES:
PASSENGER VEHICLES	

AM / PM / MD / OTHER / OTHER

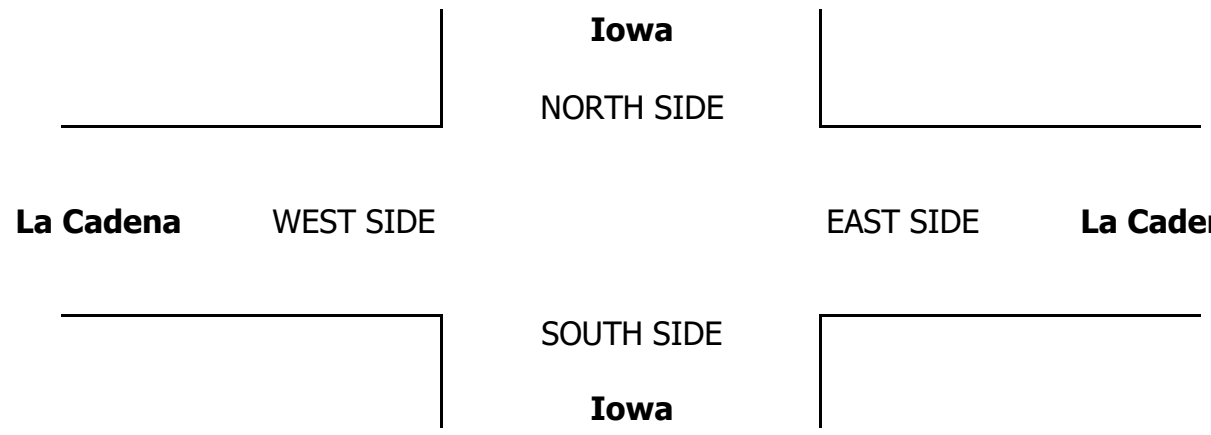
▲ N

◄ W E ►

S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	11	123	0	0	121	156	22	0	26	0	0	0	459	0	0	0	0	0
7:15 AM	15	126	0	0	94	169	18	0	14	0	0	0	436	0	0	0	0	0
7:30 AM	17	83	0	0	108	209	17	0	18	0	0	0	452	0	0	0	0	0
7:45 AM	7	88	0	0	98	183	30	0	13	0	0	0	419	0	0	0	0	0
8:00 AM	12	70	0	0	63	149	10	0	11	0	0	0	315	0	0	0	0	0
8:15 AM	19	70	0	0	42	113	11	0	7	0	0	0	262	0	0	0	0	0
8:30 AM	4	47	0	0	31	100	10	0	16	0	0	0	208	0	0	0	0	0
8:45 AM	12	48	0	0	36	101	15	0	18	0	0	0	230	1	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
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	97	655	0	0	593	1,180	133	0	123	0	0	0	2,781	1	0	0	0	1
APPROACH %	13%	87%	0%	0%	33%	67%	52%	0%	48%	0%	0%	0%						
APP/DEPART	752	/	788	1,773	/	717	256	/	0	0	/	1,276	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	50	420	0	0	421	717	87	0	71	0	0	0	1,766					
APPROACH %	11%	89%	0%	0%	37%	63%	55%	0%	45%	0%	0%	0%						
PEAK HR FACTOR		0.833			0.897			0.823			0.000		0.962					
APP/DEPART	470	/	507	1,138	/	492	158	/	0	0	/	767	0					
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	6	157	0	0	77	230	59	0	28	0	0	0	557	0	0	0	0	0
4:15 PM	17	120	0	0	63	184	45	0	23	0	0	0	452	0	0	0	0	0
4:30 PM	15	140	0	0	56	180	64	0	39	0	0	0	494	0	0	0	0	0
4:45 PM	14	141	0	0	64	187	70	0	35	0	0	0	511	0	0	0	0	0
5:00 PM	17	131	0	0	61	214	78	0	43	0	0	0	544	0	0	0	0	0
5:15 PM	8	136	0	0	79	190	78	0	23	0	0	0	514	0	0	0	0	0
5:30 PM	8	136	0	0	73	163	73	0	20	0	0	0	473	0	0	0	0	0
5:45 PM	13	119	0	0	74	218	62	0	15	0	0	0	501	0	0	0	0	0
VOLUMES	98	1,080	0	0	547	1,566	529	0	226	0	0	0	4,046	0	0	0	0	0
APPROACH %	8%	92%	0%	0%	26%	74%	70%	0%	30%	0%	0%	0%						
APP/DEPART	1,178	/	1,609	2,113	/	773	755	/	0	0	/	1,664	0					
BEGIN PEAK HR		4:30 PM																
VOLUMES	54	548	0	0	260	771	290	0	140	0	0	0	2,063					
APPROACH %	9%	91%	0%	0%	25%	75%	67%	0%	33%	0%	0%	0%						
PEAK HR FACTOR		0.971			0.937			0.888			0.000		0.948					
APP/DEPART	602	/	838	1,031	/	400	430	/	0	0	/	825	0					

AM / PM



INTERSECTION TURNING MOVEMENT COUNTS

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

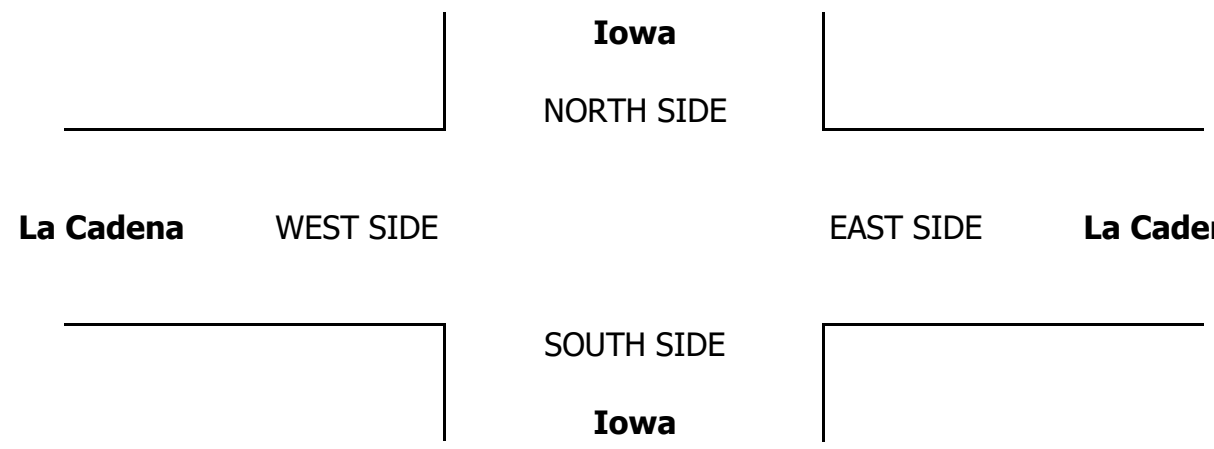
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

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

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	2	6	0	0	4	7	1	0	3	0	0	0	23	0	0	0	0	0
7:15 AM	3	9	0	0	5	14	1	0	5	0	0	0	37	0	0	0	0	0
7:30 AM	2	6	0	0	7	12	1	0	4	0	0	0	32	0	0	0	0	0
7:45 AM	5	11	0	0	6	8	1	0	2	0	0	0	33	0	0	0	0	0
8:00 AM	2	9	0	0	6	6	2	0	2	0	0	0	27	0	0	0	0	0
8:15 AM	7	7	0	0	4	9	2	0	3	0	0	0	32	0	0	0	0	0
8:30 AM	1	8	0	0	3	12	2	0	4	0	0	0	30	0	0	0	0	0
8:45 AM	5	10	0	0	4	8	2	0	2	0	0	0	31	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	27	66	0	0	39	76	12	0	25	0	0	0	245	0	0	0	0	0
APPROACH %	29%	71%	0%	0%	34%	66%	32%	0%	68%	0%	0%	0%						
APP/DEPART	93	/	78	115	/	64	37	/	0	0	/	103	0					
BEGIN PEAK HR	7:15 AM																	
VOLUMES	12	35	0	0	24	40	5	0	13	0	0	0	129					
APPROACH %	26%	74%	0%	0%	38%	63%	28%	0%	72%	0%	0%	0%						
PEAK HR FACTOR	0.734			0.842			0.750			0.000			0.872					
APP/DEPART	47	/	40	64	/	37	18	/	0	0	/	52	0					
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	3	13	0	0	5	9	4	0	1	0	0	0	35	0	0	0	0	0
4:15 PM	3	8	0	0	4	7	1	0	2	0	0	0	25	0	0	0	0	0
4:30 PM	3	11	0	0	6	11	4	0	2	0	0	0	37	0	0	0	0	0
4:45 PM	4	8	0	0	5	9	3	0	2	0	0	0	31	0	0	0	0	0
5:00 PM	2	7	0	0	4	12	1	0	1	0	0	0	27	0	0	0	0	0
5:15 PM	3	7	0	0	4	7	4	0	2	0	0	0	27	0	0	0	0	0
5:30 PM	2	9	0	0	3	5	4	0	1	0	0	0	24	0	0	0	0	0
5:45 PM	3	7	0	0	6	6	3	0	1	0	0	0	26	0	0	0	0	0
VOLUMES	23	70	0	0	37	66	24	0	12	0	0	0	232	0	0	0	0	0
APPROACH %	25%	75%	0%	0%	36%	64%	67%	0%	33%	0%	0%	0%						
APP/DEPART	93	/	94	103	/	49	36	/	0	0	/	89	0					
BEGIN PEAK HR	4:00 PM																	
VOLUMES	13	40	0	0	20	36	12	0	7	0	0	0	128					
APPROACH %	25%	75%	0%	0%	36%	64%	63%	0%	37%	0%	0%	0%						
PEAK HR FACTOR	0.828			0.824			0.792			0.000			0.865					
APP/DEPART	53	/	52	56	/	27	19	/	0	0	/	49	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

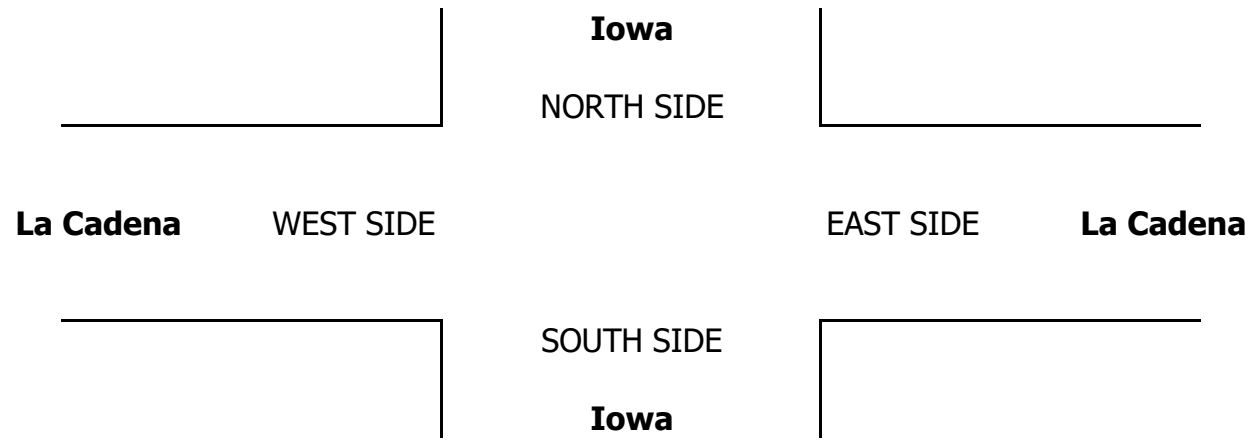
CLASS 3:
3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	1	0	0	0	0	1	1	0	0	0	0	0	3	0	0	0	0	0
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	7:30 AM	2	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0
	7:45 AM	0	2	0	0	0	1	1	0	0	0	0	0	4	0	0	0	0	0
	8:00 AM	1	2	0	0	0	3	0	0	0	0	0	0	6	0	0	0	0	0
	8:15 AM	0	0	0	0	2	1	1	0	0	0	0	0	4	0	0	0	0	0
	8:30 AM	1	0	0	0	2	1	1	0	0	0	0	0	5	0	0	0	0	0
	8:45 AM	0	4	0	0	2	2	1	0	1	0	0	0	10	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	5	8	0	0	7	9	6	0	1	0	0	0	36	0	0	0	0	0
	APPROACH %	38%	62%	0%	0%	44%	56%	86%	0%	14%	0%	0%	0%						
	APP/DEPART	13	/	14	16	/	8	7	/	0	0	/	14	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	2	6	0	0	6	7	3	0	1	0	0	0	25					
	APPROACH %	25%	75%	0%	0%	46%	54%	75%	0%	25%	0%	0%	0%						
	PEAK HR FACTOR		0.500			0.813			0.500			0.000		0.625					
	APP/DEPART	8	/	9	13	/	7	4	/	0	0	/	9	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	1	4	0	0	3	1	0	0	0	0	0	0	9	0	0	0	0	0
	4:15 PM	0	0	0	0	0	2	0	0	1	0	0	0	3	0	0	0	0	0
	4:30 PM	0	1	0	0	2	5	1	0	0	0	0	0	9	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	5:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0
	5:15 PM	0	1	0	0	0	3	3	0	1	0	0	0	8	0	0	0	0	0
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	1	8	0	0	5	13	5	0	2	0	0	0	34	0	0	0	0	0
	APPROACH %	11%	89%	0%	0%	28%	72%	71%	0%	29%	0%	0%	0%						
	APP/DEPART	9	/	13	18	/	7	7	/	0	0	/	14	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	1	5	0	0	5	9	1	0	1	0	0	0	22					
	APPROACH %	17%	83%	0%	0%	36%	64%	50%	0%	50%	0%	0%	0%						
	PEAK HR FACTOR		0.300			0.500			0.500			0.000		0.611					
	APP/DEPART	6	/	6	14	/	6	2	/	0	0	/	10	0					



INTERSECTION TURNING MOVEMENT COUNTS

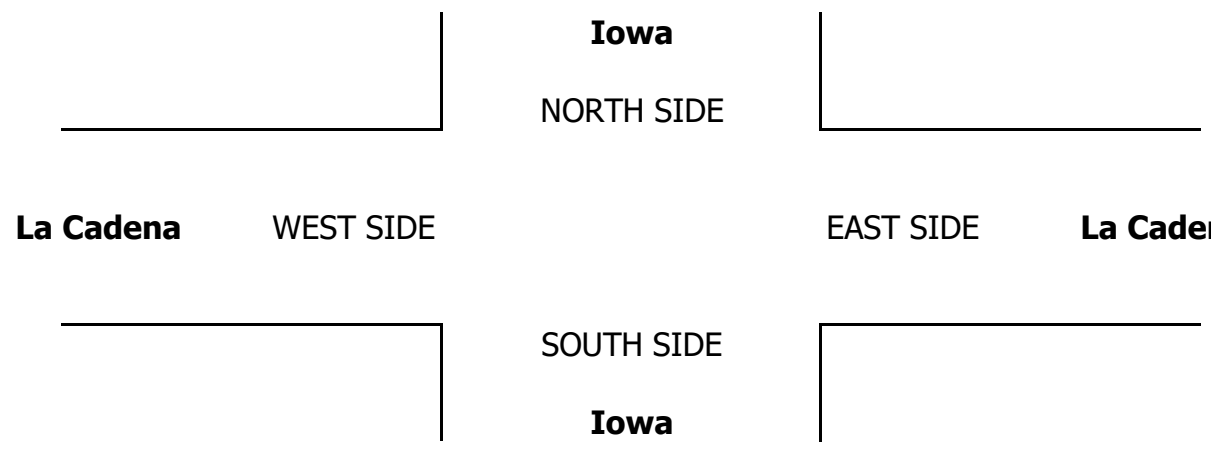
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

CLASS 4:	NOTES:
4 OR MORE AXLE TRUCKS	

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

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	4	0	0	2	6	0	0	2	0	0	0	14	0	0	0	0	0
	7:15 AM	0	7	0	0	2	4	0	0	1	0	0	0	14	0	0	0	0	0
	7:30 AM	1	3	0	0	1	2	0	0	0	0	0	0	7	0	0	0	0	0
	7:45 AM	0	0	0	0	1	4	0	0	0	0	0	0	5	0	0	0	0	0
	8:00 AM	1	4	0	0	6	6	1	0	0	0	0	0	18	0	0	0	0	0
	8:15 AM	0	5	0	0	0	1	0	0	0	0	0	0	6	0	0	0	0	0
	8:30 AM	1	7	0	0	1	2	2	0	1	0	0	0	14	0	0	0	0	0
	8:45 AM	0	8	0	0	3	2	0	0	0	0	0	0	13	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	3	38	0	0	16	27	3	0	4	0	0	0	91	0	0	0	0	0
	APPROACH %	7%	93%	0%	0%	37%	63%	43%	0%	57%	0%	0%	0%						
	APP/DEPART	41	/	41	43	/	20	7	/	0	0	/	30	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	2	24	0	0	10	11	3	0	1	0	0	0	51					
	APPROACH %	8%	92%	0%	0%	48%	52%	75%	0%	25%	0%	0%	0%						
	PEAK HR FACTOR		0.813			0.438			0.333			0.000		0.708					
	APP/DEPART	26	/	27	21	/	11	4	/	0	0	/	13	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	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	4:15 PM	0	2	0	0	1	4	0	0	0	0	0	0	7	0	0	0	0	0
	4:30 PM	0	3	0	0	1	1	0	0	1	0	0	0	6	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	5:00 PM	0	1	0	0	1	1	0	0	1	0	0	0	4	0	0	0	0	0
	5:15 PM	0	3	0	0	1	2	0	0	0	0	0	0	6	0	0	0	0	0
	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
	5:45 PM	0	3	0	0	3	2	0	0	0	0	0	0	8	0	0	0	0	0
	VOLUMES	0	13	0	0	8	12	0	0	2	0	0	0	35	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	40%	60%	0%	0%	100%	0%	0%	0%						
	APP/DEPART	13	/	13	20	/	10	2	/	0	0	/	12	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	8	0	0	6	5	0	0	1	0	0	0	20					
	APPROACH %	0%	100%	0%	0%	55%	45%	0%	0%	100%	0%	0%	0%						
	PEAK HR FACTOR		0.667			0.550			0.250			0.000		0.625					
	APP/DEPART	8	/	8	11	/	7	1	/	0	0	/	5	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	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
	7:30 AM	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
	8:00 AM	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
	8:30 AM	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
	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	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					
	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
	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	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
	4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
	5:00 PM	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
	5:30 PM	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
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		3:45 PM																
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1					
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250					
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					

Iowa

NORTH SIDE

La Cadena WEST SIDE EAST SIDE **La Cadena**

SOUTH SIDE

Iowa

INTERSECTION TURNING MOVEMENT COUNTS

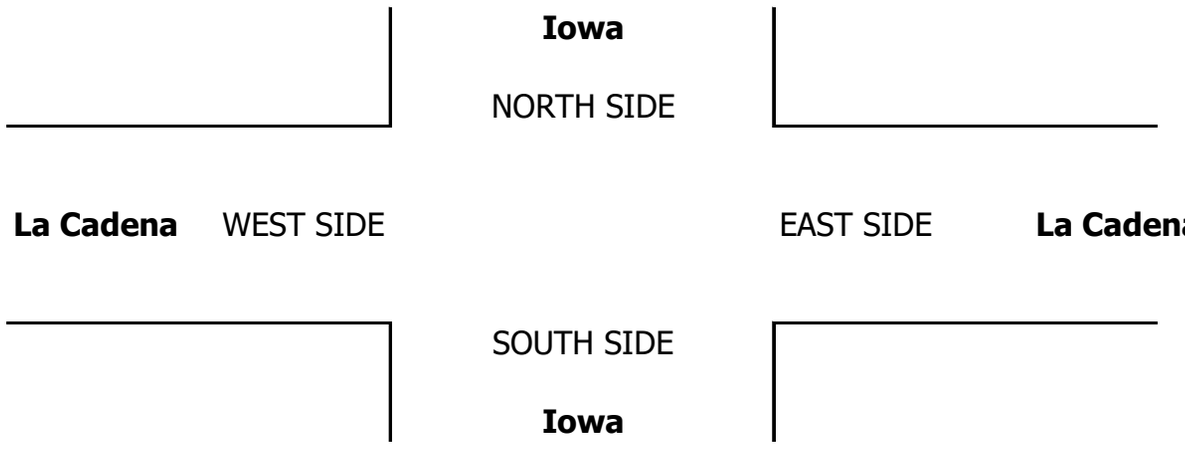
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

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

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1	1	X	X	1	2	1	X	1	X	X	X						
7:00 AM	0	1	0	0	0	1	3	0	0	0	0	0	5	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
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	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	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
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	0	2	0	0	0	2	5	0	0	0	0	0	9	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
APP/DEPART	2	/	7	2	/	0	5	/	0	0	/	2	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	0	1	0	0	0	2	4	0	0	0	0	0	7					
APPROACH %	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.250			0.500			0.333			0.000		0.350					
APP/DEPART	1	/	5	2	/	0	4	/	0	0	/	2	0					
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	0	1	0	0	0	0	0	0	0	0	0	0	1	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
4:30 PM	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	1	0	0	0	0	0	0	0	2	0	0	0	0	0
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	2	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
5:30 PM	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
VOLUMES	1	2	0	0	1	1	0	0	0	0	0	0	5	0	0	0	0	0
APPROACH %	33%	67%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%						
APP/DEPART	3	/	2	2	/	1	0	/	0	0	/	2	0					
BEGIN PEAK HR		4:15 PM																
VOLUMES	1	1	0	0	1	1	0	0	0	0	0	0	4					
APPROACH %	50%	50%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.500			0.500			0.000			0.000		0.500					
APP/DEPART	2	/	1	2	/	1	0	/	0	0	/	2	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, Dec 12, 18

LOCATION: Colton
NORTH & SOUTH: Iowa
EAST & WEST: I-215 Ramp

PROJECT #: SC
LOCATION #: 8
CONTROL: SIGNAL

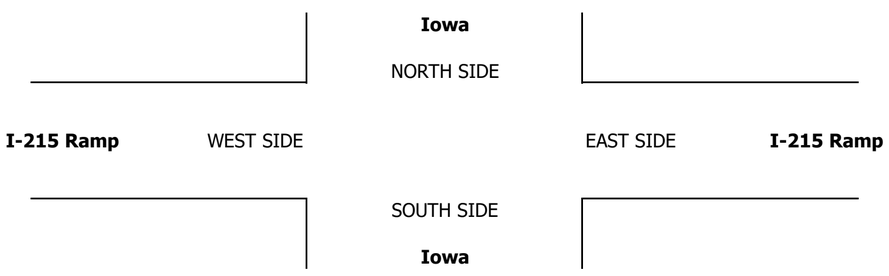
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

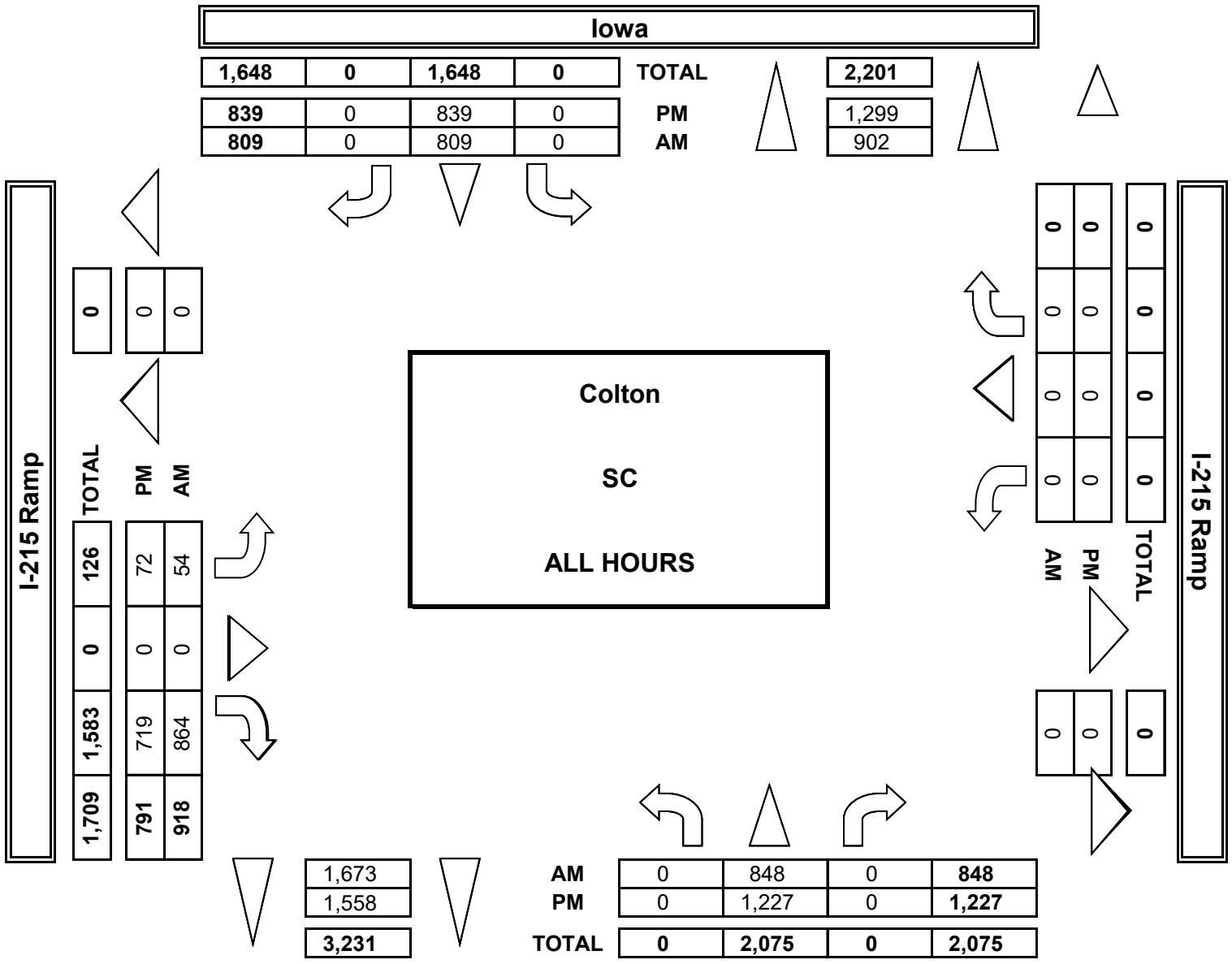
		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	154	0	0	154	0	7	0	106	0	0	0	421	0	0	0	0	0
	7:15 AM	0	153	0	0	111	0	4	0	134	0	0	0	402	0	0	0	0	0
	7:30 AM	0	104	0	0	154	0	7	0	114	0	0	0	379	0	0	0	0	0
	7:45 AM	0	99	0	0	118	0	7	0	134	0	0	0	358	0	0	0	0	0
	8:00 AM	0	88	0	0	83	0	9	0	121	0	0	0	301	0	0	0	0	0
	8:15 AM	0	97	0	0	52	0	10	0	111	0	0	0	270	0	0	0	0	0
	8:30 AM	0	62	0	0	62	0	4	0	67	0	0	0	195	0	0	0	0	0
	8:45 AM	0	91	0	0	75	0	6	0	77	0	0	0	249	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	0	848	0	0	809	0	54	0	864	0	0	0	2,575	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	6%	0%	94%	0%	0%	0%						
	APP/DEPART	848	/	902	809	/	1,673	918	/	0	0	/	0	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	510	0	0	537	0	25	0	488	0	0	0	1,560					
	APPROACH %	0%	100%	0%	0%	100%	0%	5%	0%	95%	0%	0%	0%						
	PEAK HR FACTOR		0.828			0.872			0.910			0.000		0.926					
	APP/DEPART	510	/	535	537	/	1,025	513	/	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
	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	0	174	0	0	120	0	8	0	72	0	0	0	374	0	0	0	0	0
	4:15 PM	0	147	0	0	93	0	10	0	92	0	0	0	342	0	0	0	0	0
	4:30 PM	0	156	0	0	106	0	15	0	105	0	0	0	382	0	0	0	0	0
	4:45 PM	0	166	0	0	104	0	11	0	100	0	0	0	381	0	0	0	0	0
	5:00 PM	0	142	0	0	106	0	5	0	85	0	0	0	338	0	0	0	0	0
	5:15 PM	0	155	0	0	113	0	7	0	98	0	0	0	373	0	0	0	0	0
	5:30 PM	0	148	0	0	104	0	11	0	89	0	0	0	352	0	0	0	0	0
	5:45 PM	0	139	0	0	93	0	5	0	78	0	0	0	315	0	0	0	0	0
	VOLUMES	0	1,227	0	0	839	0	72	0	719	0	0	0	2,857	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	9%	0%	91%	0%	0%	0%						
	APP/DEPART	1,227	/	1,299	839	/	1,558	791	/	0	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	643	0	0	423	0	44	0	369	0	0	0	1,479					
	APPROACH %	0%	100%	0%	0%	100%	0%	11%	0%	89%	0%	0%	0%						
	PEAK HR FACTOR		0.924			0.881			0.860			0.000		0.968					
	APP/DEPART	643	/	687	423	/	792	413	/	0	0	/	0	0					

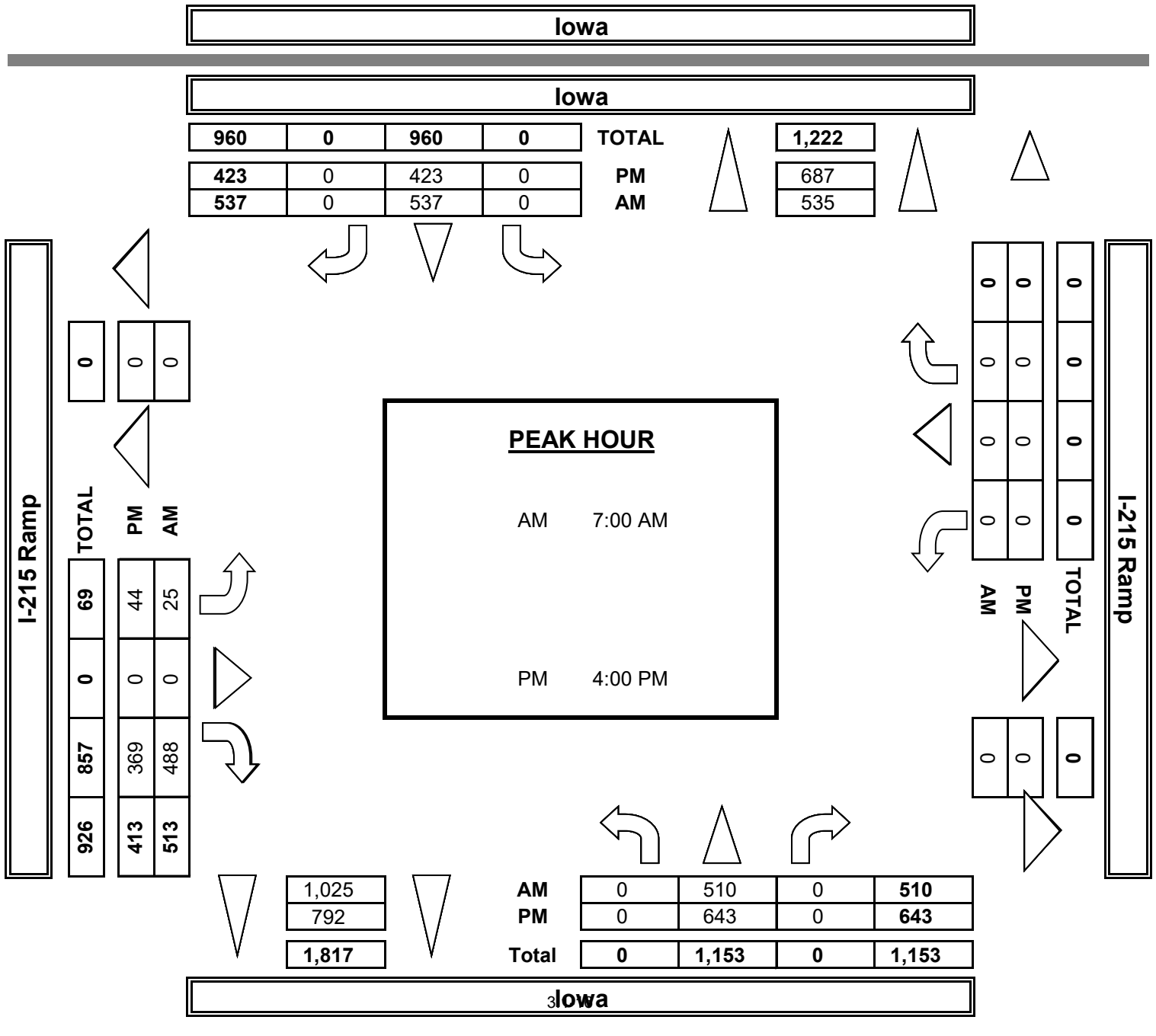


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0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

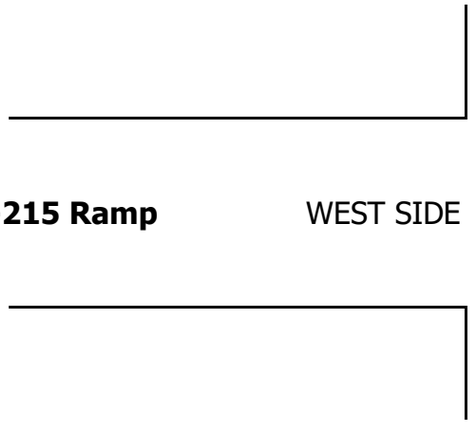
PREPARED BY: AimTD LL

DATE:	LOCATION:	Colton
12/12/18	NORTH & SOUTH:	Iowa
WEDNESDAY	EAST & WEST:	I-215 Ramp

	NOTES:				
PCE	Class	1	2	3	4
Adjusted	Factor	1	1.5	2	3

		NORTHBOUND Iowa			SOUTHBOUNI Iowa	
	LANES:	NL X	NT 1	NR X	SL X	ST 1
AM	7:00 AM	0	170	0	0	168
	7:15 AM	0	174	0	0	123
	7:30 AM	0	117	0	0	161
	7:45 AM	0	109	0	0	125
	8:00 AM	0	104	0	0	98
	8:15 AM	0	112	0	0	55
	8:30 AM	0	82	0	0	72
	8:45 AM	0	117	0	0	89
	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	983	0	0	889
	APPROACH %	0%	100%	0%	0%	100%
	APP/DEPART	983	/	1,046	889	/
	BEGIN PEAK HR		7:00 AM			
	VOLUMES	0	570	0	0	577
	APPROACH %	0%	100%	0%	0%	100%
	PEAK HR FACTOR		0.818			0.858
	APP/DEPART	570	/	598	577	/
	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	189	0	0	129
	4:15 PM	0	157	0	0	99

PM	4:30 PM	0	174	0	0	116
	4:45 PM	0	172	0	0	111
	5:00 PM	0	148	0	0	112
	5:15 PM	0	165	0	0	119
	5:30 PM	0	156	0	0	108
	5:45 PM	0	152	0	0	99
	VOLUMES	0	1,310	0	0	892
	APPROACH %	0%	100%	0%	0%	100%
	APP/DEPART	1,310	/	1,385	892	/
	BEGIN PEAK HR		4:00 PM			
	VOLUMES	0	690	0	0	455
	APPROACH %	0%	100%	0%	0%	100%
	PEAK HR FACTOR		0.915			0.884
	APP/DEPART	690	/	735	455	/



RNING MOVEMENT COUNTS

LC. tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC
LOCATION #: 8
CONTROL: SIGNAL

				AM		▲ N	
5	6			PM			
2	2			MD	◄ W		E ►
				OTHER		S	
				OTHER		▼	

D	EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp			
SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
0	9	0	120	0	0	0	467
0	4	0	138	0	0	0	439
0	7	0	128	0	0	0	413
0	9	0	148	0	0	0	389
0	9	0	132	0	0	0	342
0	11	0	121	0	0	0	299
0	6	0	76	0	0	0	235
0	8	0	84	0	0	0	297
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0 0%	63 6%	0 0%	945 94%	0 0%	0 0%	0 0%	2,880
1,834	1,008	/	0	0	/	0	0
0 0%	29 5%	0 0% 0.899	533 95%	0 0%	0 0% 0.000	0 0%	1,707 0.915
1,109	561	/	0	0	/	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	8	0	83	0	0	0	408
0	10	0	103	0	0	0	369

0	15	0	120	0	0	0	425
0	12	0	109	0	0	0	404
0	5	0	87	0	0	0	351
0	7	0	100	0	0	0	391
0	13	0	99	0	0	0	375
0	5	0	83	0	0	0	338
0	75	0	782	0	0	0	3,059
0%	9%	0%	91%	0%	0%	0%	
1,674	857	/	0	0	/	0	0
0	45	0	415	0	0	0	1,604
0%	10%	0%	90%	0%	0%	0%	
		0.851			0.000		0.945
869	460	/	0	0	/	0	0

Iowa

NORTH SIDE

EAST SIDE **I-215 Ramp**

SOUTH SIDE

Iowa

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

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 1:	NOTES:
PASSENGER VEHICLES	

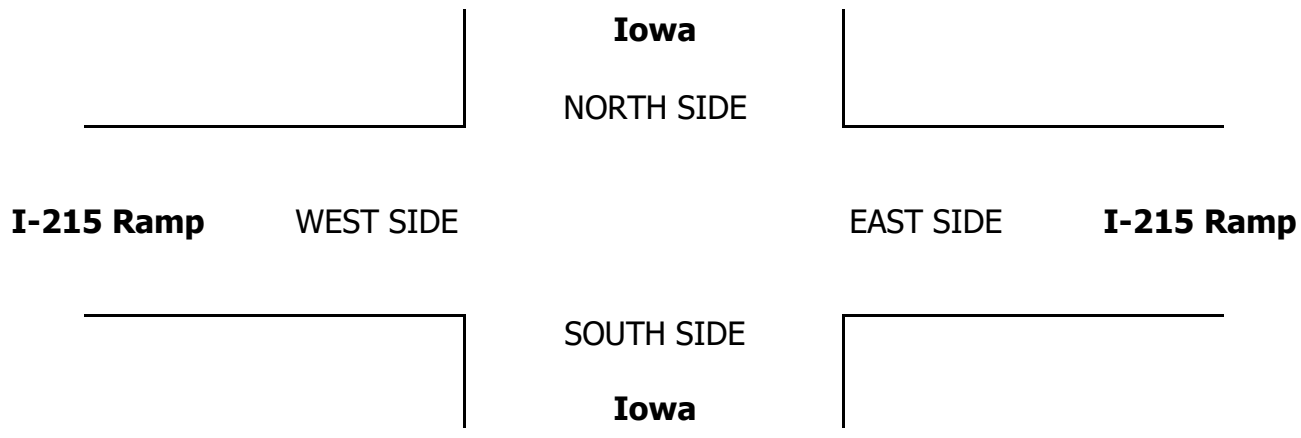
AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	136	0	0	138	0	6	0	93	0	0	0	373	0	0	0	0	0
	7:15 AM	0	132	0	0	97	0	4	0	126	0	0	0	359	0	0	0	0	0
	7:30 AM	0	91	0	0	143	0	7	0	102	0	0	0	343	0	0	0	0	0
	7:45 AM	0	83	0	0	108	0	5	0	122	0	0	0	318	0	0	0	0	0
	8:00 AM	0	74	0	0	73	0	9	0	109	0	0	0	265	0	0	0	0	0
	8:15 AM	0	80	0	0	47	0	8	0	102	0	0	0	237	0	0	0	0	0
	8:30 AM	0	46	0	0	48	0	3	0	61	0	0	0	158	0	0	0	0	0
	8:45 AM	0	64	0	0	63	0	5	0	71	0	0	0	203	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	0	706	0	0	717	0	47	0	786	0	0	0	2,256	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	6%	0%	94%	0%	0%	0%						
	APP/DEPART	706	/	753	717	/	1,503	833	/	0	0	/	0	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	442	0	0	486	0	22	0	443	0	0	0	1,393					
	APPROACH %	0%	100%	0%	0%	100%	0%	5%	0%	95%	0%	0%	0%						
	PEAK HR FACTOR		0.813			0.850			0.894			0.000		0.934					
	APP/DEPART	442	/	464	486	/	929	465	/	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
	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	0	151	0	0	109	0	8	0	59	0	0	0	327	0	0	0	0	0
	4:15 PM	0	135	0	0	85	0	10	0	76	0	0	0	306	0	0	0	0	0
	4:30 PM	0	131	0	0	91	0	15	0	91	0	0	0	328	0	0	0	0	0
	4:45 PM	0	155	0	0	92	0	10	0	87	0	0	0	344	0	0	0	0	0
	5:00 PM	0	134	0	0	101	0	5	0	82	0	0	0	322	0	0	0	0	0
	5:15 PM	0	145	0	0	104	0	7	0	96	0	0	0	352	0	0	0	0	0
	5:30 PM	0	134	0	0	100	0	10	0	80	0	0	0	324	0	0	0	0	0
	5:45 PM	0	124	0	0	90	0	5	0	72	0	0	0	291	0	0	0	0	0
	VOLUMES	0	1,109	0	0	772	0	70	0	643	0	0	0	2,594	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	10%	0%	90%	0%	0%	0%						
	APP/DEPART	1,109	/	1,179	772	/	1,415	713	/	0	0	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	565	0	0	388	0	37	0	356	0	0	0	1,346					
	APPROACH %	0%	100%	0%	0%	100%	0%	9%	0%	91%	0%	0%	0%						
	PEAK HR FACTOR		0.911			0.933			0.927			0.000		0.956					
	APP/DEPART	565	/	602	388	/	744	393	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

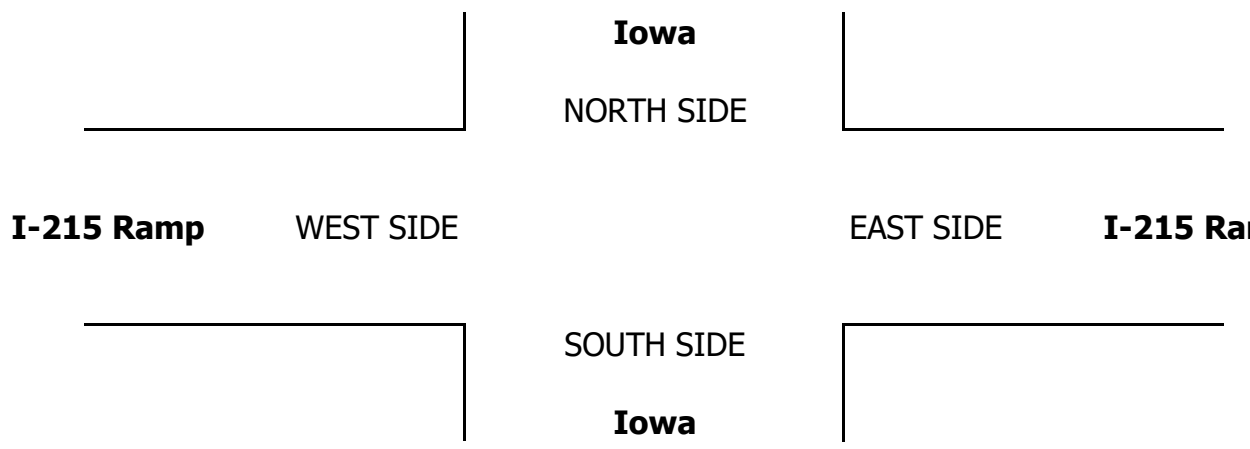
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

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

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	0	12	0	0	12	0	0	0	7	0	0	0	31	0	0	0	0	0
7:15 AM	0	14	0	0	10	0	0	0	8	0	0	0	32	0	0	0	0	0
7:30 AM	0	8	0	0	10	0	0	0	7	0	0	0	25	0	0	0	0	0
7:45 AM	0	13	0	0	9	0	1	0	7	0	0	0	30	0	0	0	0	0
8:00 AM	0	7	0	0	3	0	0	0	8	0	0	0	18	0	0	0	0	0
8:15 AM	0	13	0	0	4	0	2	0	4	0	0	0	23	0	0	0	0	0
8:30 AM	0	7	0	0	11	0	0	0	2	0	0	0	20	0	0	0	0	0
8:45 AM	0	16	0	0	5	0	0	0	3	0	0	0	24	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	0	90	0	0	64	0	3	0	46	0	0	0	203	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	6%	0%	94%	0%	0%	0%						
APP/DEPART	90	/	93	64	/	110	49	/	0	0	/	0	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	0	47	0	0	41	0	1	0	29	0	0	0	118					
APPROACH %	0%	100%	0%	0%	100%	0%	3%	0%	97%	0%	0%	0%						
PEAK HR FACTOR		0.839			0.854			0.938			0.000		0.922					
APP/DEPART	47	/	48	41	/	70	30	/	0	0	/	0	0					
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	0	17	0	0	7	0	0	0	9	0	0	0	33	0	0	0	0	0
4:15 PM	0	9	0	0	6	0	0	0	14	0	0	0	29	0	0	0	0	0
4:30 PM	0	21	0	0	12	0	0	0	8	0	0	0	41	0	0	0	0	0
4:45 PM	0	11	0	0	10	0	0	0	10	0	0	0	31	0	0	0	0	0
5:00 PM	0	6	0	0	3	0	0	0	3	0	0	0	12	0	0	0	0	0
5:15 PM	0	6	0	0	8	0	0	0	0	0	0	0	14	0	0	0	0	0
5:30 PM	0	13	0	0	3	0	0	0	5	0	0	0	21	0	0	0	0	0
5:45 PM	0	11	0	0	0	0	0	0	5	0	0	0	16	0	0	0	0	0
VOLUMES	0	94	0	0	49	0	0	0	54	0	0	0	197	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
APP/DEPART	94	/	94	49	/	103	54	/	0	0	/	0	0					
BEGIN PEAK HR		4:00 PM																
VOLUMES	0	58	0	0	35	0	0	0	41	0	0	0	134					
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
PEAK HR FACTOR		0.690			0.729			0.732			0.000		0.817					
APP/DEPART	58	/	58	35	/	76	41	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

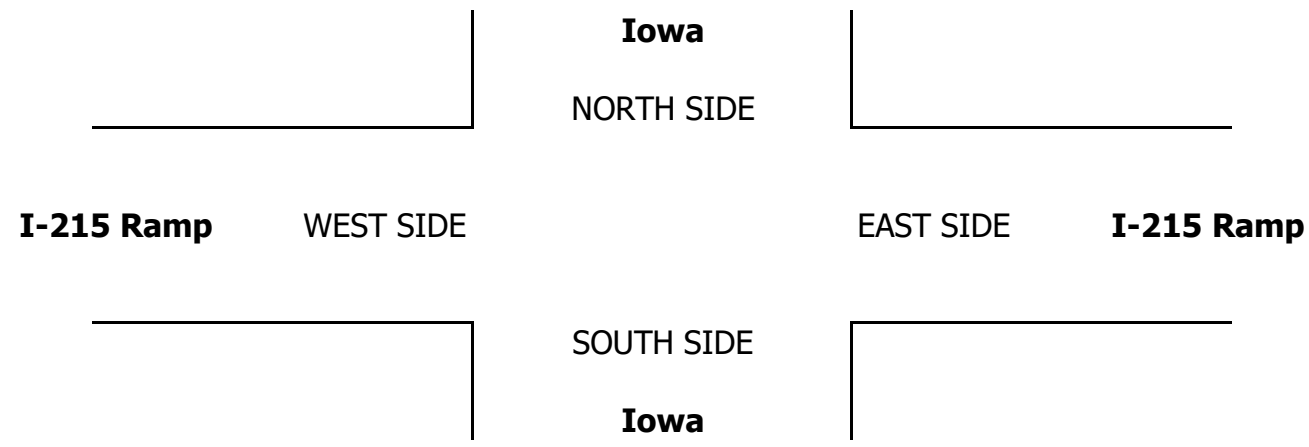
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 3:	NOTES:
3-AXLE TRUCKS	

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

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM																		
7:00 AM	0	1	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM	0	3	0	0	0	0	1	0	0	0	0	0	4	0	0	0	0	0
8:00 AM	0	2	0	0	1	0	0	0	1	0	0	0	4	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	0	0
8:30 AM	0	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0
8:45 AM	0	4	0	0	3	0	0	0	1	0	0	0	8	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	0	12	0	0	8	0	1	0	6	0	0	0	27	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	14%	0%	86%	0%	0%	0%						
APP/DEPART	12	/	13	8	/	14	7	/	0	0	/	0	0					
BEGIN PEAK HR		8:00 AM																
VOLUMES	0	7	0	0	7	0	0	0	4	0	0	0	18					
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
PEAK HR FACTOR		0.438			0.583			0.500			0.000		0.563					
APP/DEPART	7	/	7	7	/	11	4	/	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
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	0	5	0	0	3	0	0	0	2	0	0	0	10	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
4:30 PM	0	0	0	0	2	0	0	0	1	0	0	0	3	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	2	0	0	0	3	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
5:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
VOLUMES	0	9	0	0	7	0	0	0	7	0	0	0	23	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
APP/DEPART	9	/	9	7	/	14	7	/	0	0	/	0	0					
BEGIN PEAK HR		4:00 PM																
VOLUMES	0	6	0	0	7	0	0	0	5	0	0	0	18					
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
PEAK HR FACTOR		0.300			0.583			0.625			0.000		0.450					
APP/DEPART	6	/	6	7	/	12	5	/	0	0	/	0	0					



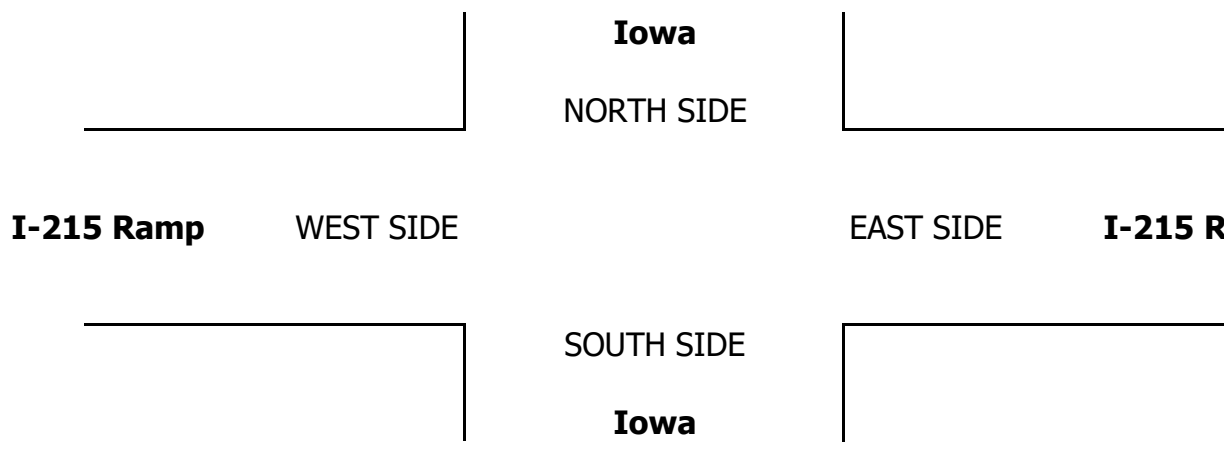
INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 4:	NOTES:	AM		▲ N	
4 OR MORE AXLE TRUCKS		PM			
		MD	◄ W		E ►
		OTHER		S	
		OTHER		▼	

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	4	0	0	4	0	1	0	4	0	0	0	13	0	0	0	0	0
	7:15 AM	0	7	0	0	3	0	0	0	0	0	0	0	10	0	0	0	0	0
	7:30 AM	0	4	0	0	1	0	0	0	5	0	0	0	10	0	0	0	0	0
	7:45 AM	0	0	0	0	1	0	0	0	5	0	0	0	6	0	0	0	0	0
	8:00 AM	0	5	0	0	6	0	0	0	3	0	0	0	14	0	0	0	0	0
	8:15 AM	0	4	0	0	0	0	0	0	3	0	0	0	7	0	0	0	0	0
	8:30 AM	0	7	0	0	1	0	1	0	4	0	0	0	13	0	0	0	0	0
	8:45 AM	0	7	0	0	4	0	1	0	2	0	0	0	14	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	0	38	0	0	20	0	3	0	26	0	0	0	87	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	10%	0%	90%	0%	0%	0%						
	APP/DEPART	38	/	41	20	/	46	29	/	0	0	/	0	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	23	0	0	11	0	2	0	12	0	0	0	48					
	APPROACH %	0%	100%	0%	0%	100%	0%	14%	0%	86%	0%	0%	0%						
	PEAK HR FACTOR		0.821			0.458			0.700			0.000		0.857					
	APP/DEPART	23	/	25	11	/	23	14	/	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
	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	0	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	0	0
	4:15 PM	0	2	0	0	1	0	0	0	2	0	0	0	5	0	0	0	0	0
	4:30 PM	0	3	0	0	1	0	0	0	5	0	0	0	9	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
	5:00 PM	0	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0
	5:15 PM	0	3	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0
	5:30 PM	0	0	0	0	1	0	1	0	3	0	0	0	5	0	0	0	0	0
	5:45 PM	0	3	0	0	3	0	0	0	1	0	0	0	7	0	0	0	0	0
	VOLUMES	0	12	0	0	10	0	1	0	14	0	0	0	37	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	7%	0%	93%	0%	0%	0%						
	APP/DEPART	12	/	13	10	/	24	15	/	0	0	/	0	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	7	0	0	7	0	1	0	4	0	0	0	19					
	APPROACH %	0%	100%	0%	0%	100%	0%	20%	0%	80%	0%	0%	0%						
	PEAK HR FACTOR		0.583			0.583			0.313			0.000		0.679					
	APP/DEPART	7	/	8	7	/	11	5	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	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
	7:30 AM	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
	8:00 AM	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
	8:30 AM	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
	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	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					
	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
	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	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
	4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
	5:00 PM	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
	5:30 PM	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
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR	3:45 PM																	
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1					
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR	0.250			0.000			0.000			0.000			0.250					
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					

Iowa

NORTH SIDE

I-215 Ramp WEST SIDE EAST SIDE **I-215 Ramp**

SOUTH SIDE

Iowa

INTERSECTION TURNING MOVEMENT COUNTS

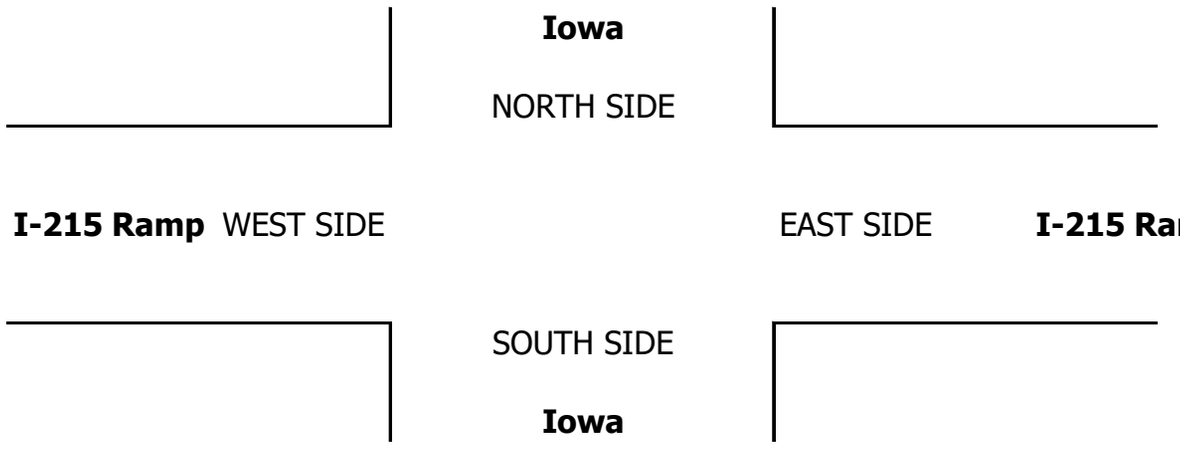
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

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

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
	7:30 AM	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
	8:00 AM	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
	8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
	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	0	2	0	0	0	0	0	0	0	0	0	0	2	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		7:00 AM																
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1					
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250					
	APP/DEPART	1	/	1	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
	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	0	1	0	0	0	0	0	0	0	0	0	0	1	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
	4:30 PM	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	1	0	1	0	0	0	0	0	2	0	0	0	0	0
	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	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
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	2	0	0	1	0	1	0	1	0	0	0	5	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	50%	0%	50%	0%	0%	0%						
	APP/DEPART	2	/	3	1	/	2	2	/	0	0	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	1	0	0	1	0	1	0	1	0	0	0	4					
	APPROACH %	0%	100%	0%	0%	100%	0%	50%	0%	50%	0%	0%	0%						
	PEAK HR FACTOR		0.250			0.250			0.500			0.000		0.500					
	APP/DEPART	1	/	2	1	/	2	2	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, Dec 12, 18

LOCATION: Colton
NORTH & SOUTH: Iowa
EAST & WEST: I-215 Ramp

PROJECT #: SC
LOCATION #: 9
CONTROL: SIGNAL

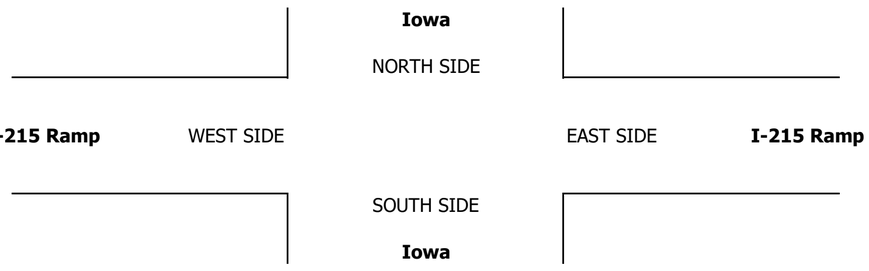
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W E ►
S ▼

☑ Add U-Turns to Left Turns

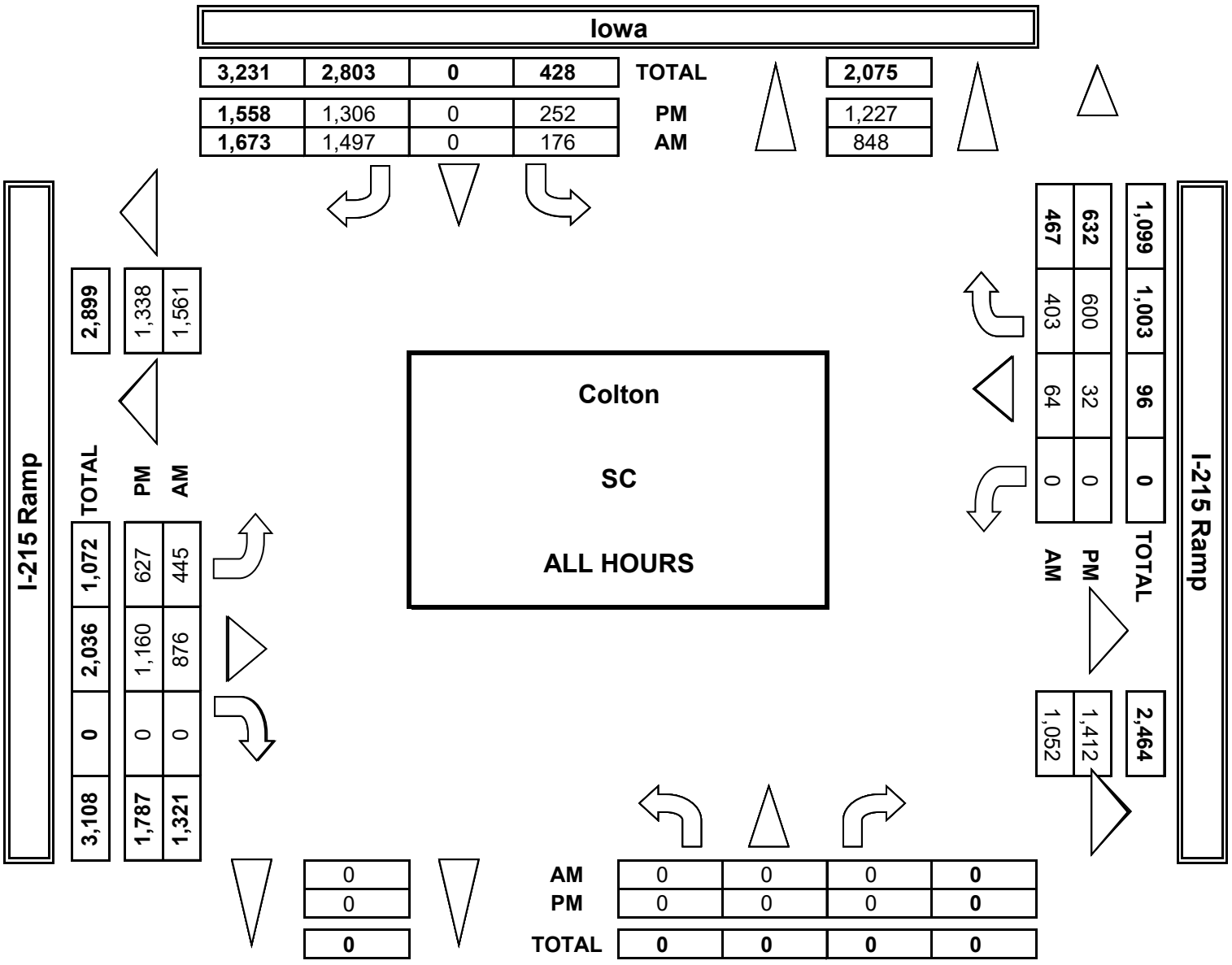
		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	25	0	235	80	125	0	0	11	74	550	0	0	0	0	0
	7:15 AM	0	0	0	23	0	222	90	129	0	0	5	63	532	0	0	0	0	0
	7:30 AM	0	0	0	33	0	235	67	124	0	0	4	37	500	0	0	0	0	0
	7:45 AM	0	0	0	18	0	234	44	107	0	0	8	55	466	0	0	0	0	0
	8:00 AM	0	0	0	14	0	190	38	99	0	0	6	50	397	0	0	0	0	0
	8:15 AM	0	0	0	13	0	150	55	112	0	0	9	42	381	0	0	0	0	0
	8:30 AM	0	0	0	24	0	105	27	83	0	0	10	35	284	0	0	0	0	0
	8:45 AM	0	0	0	26	0	126	44	97	0	0	11	47	351	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	0	0	0	176	0	1,497	445	876	0	0	64	403	3,461	0	0	0	0	0
	APPROACH %	0%	0%	0%	11%	0%	89%	34%	66%	0%	0%	14%	86%						
	APP/DEPART	0	/	848	1,673	/	0	1,321	/	1,052	467	/	1,561	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	99	0	926	281	485	0	0	28	229	2,048					
	APPROACH %	0%	0%	0%	10%	0%	90%	37%	63%	0%	0%	11%	89%						
	PEAK HR FACTOR		0.000			0.956			0.874			0.756		0.931					
	APP/DEPART	0	/	510	1,025	/	0	766	/	584	257	/	954	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	0	0	0	31	0	161	86	149	0	0	6	88	521	0	0	0	0	0
	4:15 PM	0	0	0	27	0	158	74	169	0	0	3	73	504	0	0	0	0	0
	4:30 PM	0	0	0	41	0	170	90	145	0	0	2	66	514	0	0	0	0	0
	4:45 PM	0	0	0	33	0	171	91	153	0	0	3	75	526	0	0	0	0	0
	5:00 PM	0	0	0	49	0	142	73	132	0	0	3	69	468	0	0	0	0	0
	5:15 PM	0	0	0	27	0	184	77	161	0	0	3	78	530	0	0	0	0	0
	5:30 PM	0	0	0	22	0	171	76	139	0	0	6	72	486	0	0	0	0	0
	5:45 PM	0	0	0	22	0	149	60	112	0	0	6	79	428	0	0	0	0	0
	VOLUMES	0	0	0	252	0	1,306	627	1,160	0	0	32	600	3,977	0	0	0	0	0
	APPROACH %	0%	0%	0%	16%	0%	84%	35%	65%	0%	0%	5%	95%						
	APP/DEPART	0	/	1,227	1,558	/	0	1,787	/	1,412	632	/	1,338	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	132	0	660	341	616	0	0	14	302	2,065					
	APPROACH %	0%	0%	0%	17%	0%	83%	36%	64%	0%	0%	4%	96%						
	PEAK HR FACTOR		0.000			0.938			0.981			0.840		0.981					
	APP/DEPART	0	/	643	792	/	0	957	/	748	316	/	674	0					

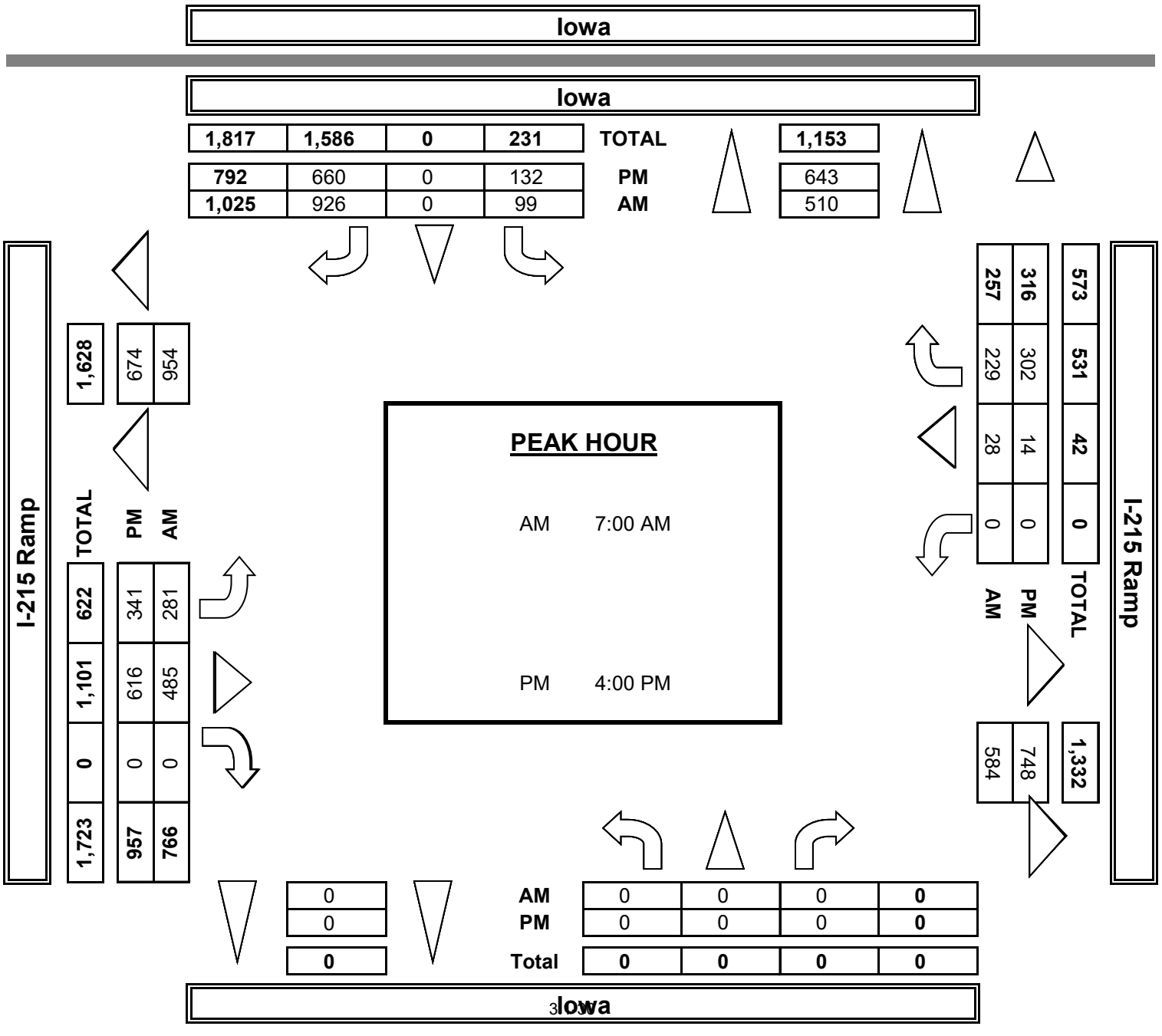


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0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

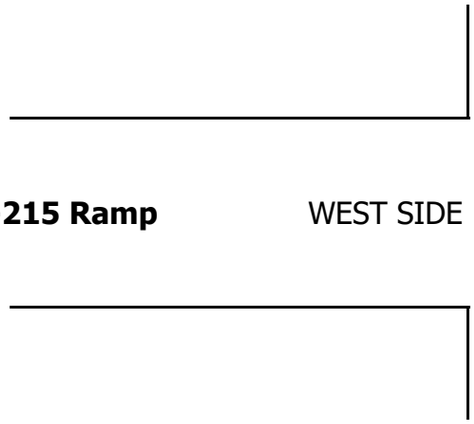
PREPARED BY: AimTD LL

DATE:	LOCATION:	Colton
12/12/18	NORTH & SOUTH:	Iowa
WEDNESDAY	EAST & WEST:	I-215 Ramp

	NOTES:				
PCE	Class	1	2	3	4
Adjusted	Factor	1	1.5	2	3

		NORTHBOUND Iowa			SOUTHBOUNI Iowa	
	LANES:	NL X	NT X	NR X	SL 0	ST X
AM	7:00 AM	0	0	0	31	0
	7:15 AM	0	0	0	25	0
	7:30 AM	0	0	0	35	0
	7:45 AM	0	0	0	19	0
	8:00 AM	0	0	0	16	0
	8:15 AM	0	0	0	16	0
	8:30 AM	0	0	0	28	0
	8:45 AM	0	0	0	29	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	199	0
	APPROACH %	0%	0%	0%	11%	0%
	APP/DEPART	0	/	983	1,834	/
	BEGIN PEAK HR		7:00 AM			
	VOLUMES	0	0	0	110	0
	APPROACH %	0%	0%	0%	10%	0%
	PEAK HR FACTOR		0.000			0.961
	APP/DEPART	0	/	570	1,109	/
	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	34	0
	4:15 PM	0	0	0	29	0

PM	4:30 PM	0	0	0	43	0
	4:45 PM	0	0	0	36	0
	5:00 PM	0	0	0	54	0
	5:15 PM	0	0	0	29	0
	5:30 PM	0	0	0	22	0
	5:45 PM	0	0	0	24	0
	VOLUMES	0	0	0	269	0
	APPROACH %	0%	0%	0%	16%	0%
	APP/DEPART	0	/	1,310	1,674	/
	BEGIN PEAK HR		4:00 PM			
	VOLUMES	0	0	0	141	0
	APPROACH %	0%	0%	0%	16%	0%
	PEAK HR FACTOR		0.000			0.921
	APP/DEPART	0	/	690	869	/



I-215 Ramp WEST SIDE

RNING MOVEMENT COUNTS

LC. tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC
LOCATION #: 9
CONTROL: SIGNAL

				AM		▲ N	
5	6			PM			
2	2			MD	◄ W		E ►
				OTHER		S	
				OTHER		▼	

D	EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp			
SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL
257	86	144	0	0	13	85	615
236	101	132	0	0	6	74	573
254	72	140	0	0	4	45	550
253	48	117	0	0	10	61	507
214	49	112	0	0	7	55	452
160	62	134	0	0	10	50	431
120	32	96	0	0	11	50	336
143	51	120	0	0	16	66	425
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,636	499	994	0	0	76	484	3,887
89%	33%	67%	0%	0%	13%	87%	
0	1,493	/	1,193	560	/	1,711	0
1,000	306	533	0	0	33	264	2,244
90%	36%	64%	0%	0%	11%	89%	
		0.901			0.760		0.913
0	838	/	642	297	/	1,032	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
178	92	160	0	0	7	97	566
174	78	184	0	0	3	79	546

194	99	158	0	0	2	75	569
184	94	167	0	0	5	78	563
145	77	141	0	0	4	71	491
190	81	170	0	0	3	85	557
184	78	153	0	0	8	78	522
158	68	122	0	0	7	84	461
1,405	667	1,253	0	0	38	644	4,274
84%	35%	65%	0%	0%	6%	94%	
0	1,919	/	1,522	681	/	1,442	0
729	363	668	0	0	17	327	2,244
84%	35%	65%	0%	0%	5%	95%	
		0.984			0.834		0.986
0	1,031	/	809	344	/	745	0

Iowa

NORTH SIDE

EAST SIDE **I-215 Ramp**

SOUTH SIDE

Iowa

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

INTERSECTION TURNING MOVEMENT COUNTS

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

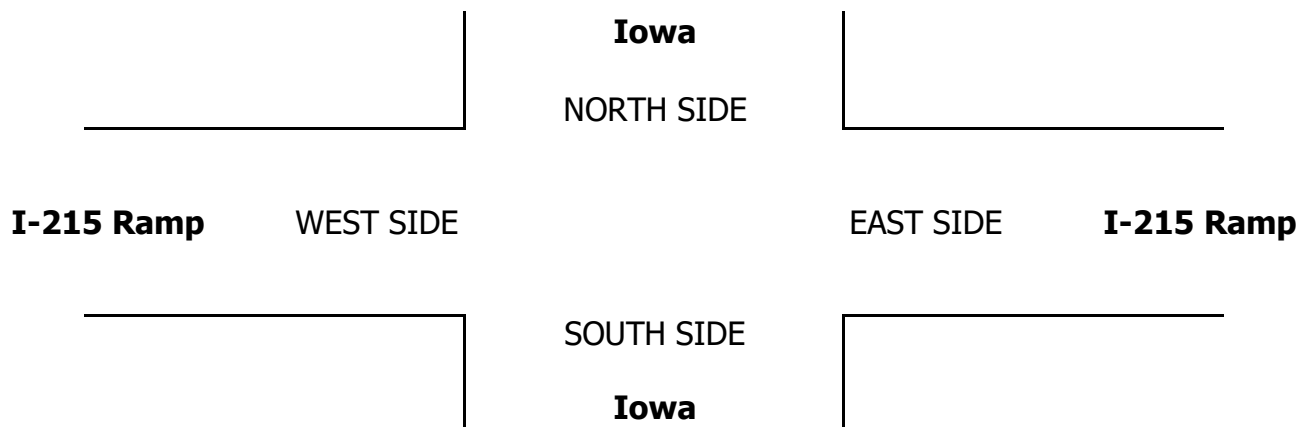
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 1:	NOTES:
PASSENGER VEHICLES	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	19	0	212	73	103	0	0	7	63	477	0	0	0	0	0
7:15 AM	0	0	0	19	0	204	78	123	0	0	4	54	482	0	0	0	0	0
7:30 AM	0	0	0	30	0	215	60	104	0	0	4	31	444	0	0	0	0	0
7:45 AM	0	0	0	16	0	214	37	88	0	0	7	46	408	0	0	0	0	0
8:00 AM	0	0	0	13	0	169	31	80	0	0	5	43	341	0	0	0	0	0
8:15 AM	0	0	0	10	0	139	45	88	0	0	8	35	325	0	0	0	0	0
8:30 AM	0	0	0	19	0	90	21	69	0	0	8	25	232	0	0	0	0	0
8:45 AM	0	0	0	23	0	111	33	70	0	0	8	31	276	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	0	0	0	149	0	1,354	378	725	0	0	51	328	2,985	0	0	0	0	0
APPROACH %	0%	0%	0%	10%	0%	90%	34%	66%	0%	0%	13%	87%						
APP/DEPART	0	/	706	1,503	/	0	1,103	/	874	379	/	1,405	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	0	0	0	84	0	845	248	418	0	0	22	194	1,811					
APPROACH %	0%	0%	0%	9%	0%	91%	37%	63%	0%	0%	10%	90%						
PEAK HR FACTOR		0.000			0.948			0.828			0.771		0.939					
APP/DEPART	0	/	442	929	/	0	666	/	502	216	/	867	0					
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	0	0	0	27	0	141	76	138	0	0	5	75	462	0	0	0	0	0
4:15 PM	0	0	0	25	0	136	69	149	0	0	3	66	448	0	0	0	0	0
4:30 PM	0	0	0	39	0	143	78	131	0	0	2	53	446	0	0	0	0	0
4:45 PM	0	0	0	28	0	151	85	138	0	0	2	70	474	0	0	0	0	0
5:00 PM	0	0	0	46	0	137	69	124	0	0	2	65	443	0	0	0	0	0
5:15 PM	0	0	0	26	0	174	73	153	0	0	3	72	501	0	0	0	0	0
5:30 PM	0	0	0	22	0	158	72	124	0	0	5	62	443	0	0	0	0	0
5:45 PM	0	0	0	21	0	141	53	106	0	0	5	71	397	0	0	0	0	0
VOLUMES	0	0	0	234	0	1,181	575	1,063	0	0	27	534	3,614	0	0	0	0	0
APPROACH %	0%	0%	0%	17%	0%	83%	35%	65%	0%	0%	5%	95%						
APP/DEPART	0	/	1,109	1,415	/	0	1,638	/	1,297	561	/	1,208	0					
BEGIN PEAK HR		4:30 PM																
VOLUMES	0	0	0	139	0	605	305	546	0	0	9	260	1,864					
APPROACH %	0%	0%	0%	19%	0%	81%	36%	64%	0%	0%	3%	97%						
PEAK HR FACTOR		0.000			0.930			0.941			0.897		0.930					
APP/DEPART	0	/	565	744	/	0	851	/	685	269	/	614	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

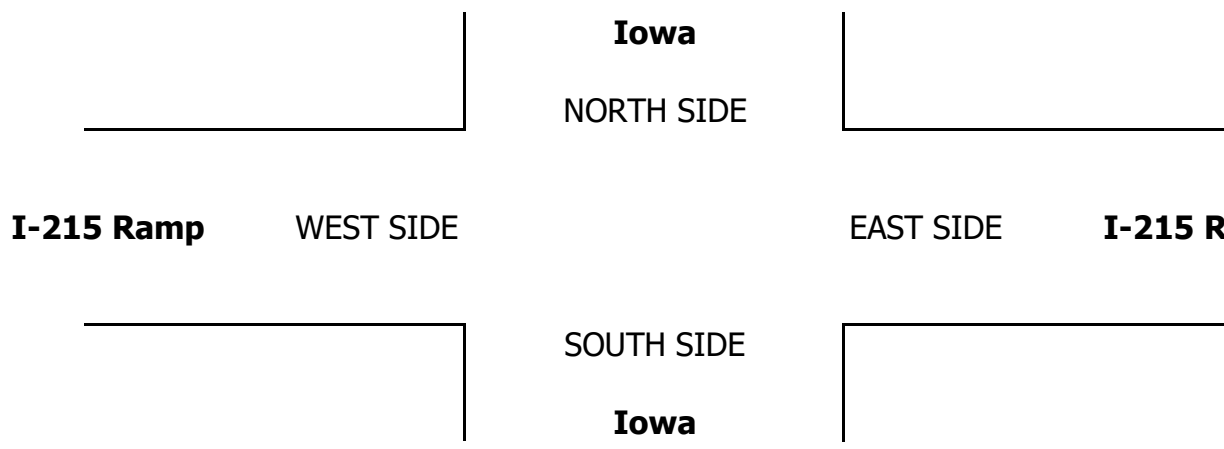
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

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

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	4	0	15	5	14	0	0	4	7	49	0	0	0	0	0
	7:15 AM	0	0	0	4	0	14	9	6	0	0	1	5	39	0	0	0	0	0
	7:30 AM	0	0	0	3	0	14	6	14	0	0	0	2	39	0	0	0	0	0
	7:45 AM	0	0	0	2	0	14	7	19	0	0	0	6	48	0	0	0	0	0
	8:00 AM	0	0	0	0	0	11	2	16	0	0	1	5	35	0	0	0	0	0
	8:15 AM	0	0	0	2	0	6	9	17	0	0	1	4	39	0	0	0	0	0
	8:30 AM	0	0	0	4	0	9	4	10	0	0	2	3	32	0	0	0	0	0
	8:45 AM	0	0	0	2	0	6	8	20	0	0	0	8	44	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	0	0	0	21	0	89	50	116	0	0	9	40	325	0	0	0	0	0
	APPROACH %	0%	0%	0%	19%	0%	81%	30%	70%	0%	0%	18%	82%						
	APP/DEPART	0	/	90	110	/	0	166	/	137	49	/	98	0					
	BEGIN PEAK HR	7:00 AM																	
	VOLUMES	0	0	0	13	0	57	27	53	0	0	5	20	175					
	APPROACH %	0%	0%	0%	19%	0%	81%	34%	66%	0%	0%	20%	80%						
	PEAK HR FACTOR	0.000			0.921			0.769			0.568			0.893					
	APP/DEPART	0	/	47	70	/	0	80	/	66	25	/	62	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	0	0	0	3	0	13	8	6	0	0	1	9	40	0	0	0	0	0
	4:15 PM	0	0	0	1	0	19	4	16	0	0	0	5	45	0	0	0	0	0
	4:30 PM	0	0	0	1	0	19	10	9	0	0	0	11	50	0	0	0	0	0
	4:45 PM	0	0	0	4	0	16	6	11	0	0	0	5	42	0	0	0	0	0
	5:00 PM	0	0	0	1	0	5	2	4	0	0	1	4	17	0	0	0	0	0
	5:15 PM	0	0	0	0	0	8	3	5	0	0	0	3	19	0	0	0	0	0
	5:30 PM	0	0	0	0	0	8	4	11	0	0	0	9	32	0	0	0	0	0
	5:45 PM	0	0	0	0	0	5	4	1	0	0	1	7	18	0	0	0	0	0
	VOLUMES	0	0	0	10	0	93	41	63	0	0	3	53	263	0	0	0	0	0
	APPROACH %	0%	0%	0%	10%	0%	90%	39%	61%	0%	0%	5%	95%						
	APP/DEPART	0	/	94	103	/	0	104	/	73	56	/	96	0					
	BEGIN PEAK HR	4:00 PM																	
	VOLUMES	0	0	0	9	0	67	28	42	0	0	1	30	177					
	APPROACH %	0%	0%	0%	12%	0%	88%	40%	60%	0%	0%	3%	97%						
	PEAK HR FACTOR	0.000			0.950			0.875			0.705			0.885					
	APP/DEPART	0	/	58	76	/	0	70	/	51	31	/	68	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

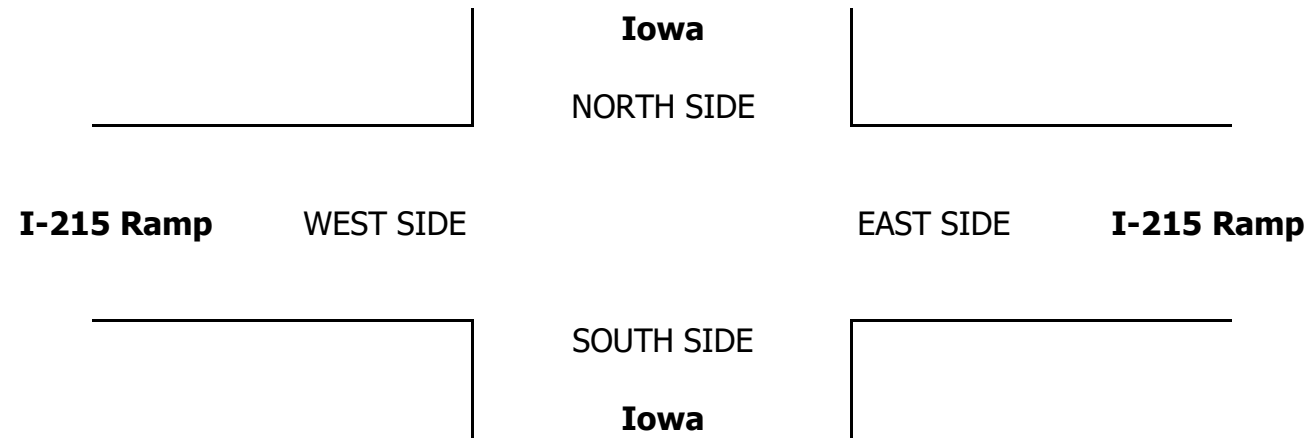
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

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

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	0	2	0	2	0	0	0	1	5	0	0	0	0	0
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	3	0	0	0	1	4	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0
	8:00 AM	0	0	0	0	0	2	0	1	0	0	0	2	5	0	0	0	0	0
	8:15 AM	0	0	0	0	0	3	0	1	0	0	0	0	4	0	0	0	0	0
	8:30 AM	0	0	0	0	0	2	1	0	0	0	0	0	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	4	3	1	0	0	1	1	10	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	0	0	0	0	0	14	4	8	0	0	1	8	35	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	33%	67%	0%	0%	11%	89%						
	APP/DEPART	0	/	12	14	/	0	12	/	8	9	/	15	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	0	0	0	0	11	4	3	0	0	1	3	22					
	APPROACH %	0%	0%	0%	0%	0%	100%	57%	43%	0%	0%	25%	75%						
	PEAK HR FACTOR		0.000			0.688			0.438			0.500		0.550					
	APP/DEPART	0	/	7	11	/	0	7	/	3	4	/	12	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	0	0	0	1	0	4	1	2	0	0	0	4	12	0	0	0	0	0
	4:15 PM	0	0	0	1	0	0	0	1	0	0	0	1	3	0	0	0	0	0
	4:30 PM	0	0	0	1	0	2	0	2	0	0	0	0	5	0	0	0	0	0
	4:45 PM	0	0	0	1	0	2	0	0	0	0	0	0	3	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0
	5:30 PM	0	0	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0
	VOLUMES	0	0	0	4	0	10	1	7	0	0	0	8	30	0	0	0	0	0
	APPROACH %	0%	0%	0%	29%	0%	71%	13%	88%	0%	0%	0%	100%						
	APP/DEPART	0	/	9	14	/	0	8	/	11	8	/	10	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	4	0	8	1	5	0	0	0	5	23					
	APPROACH %	0%	0%	0%	33%	0%	67%	17%	83%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.000			0.600			0.500			0.313		0.479					
	APP/DEPART	0	/	6	12	/	0	6	/	9	5	/	8	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

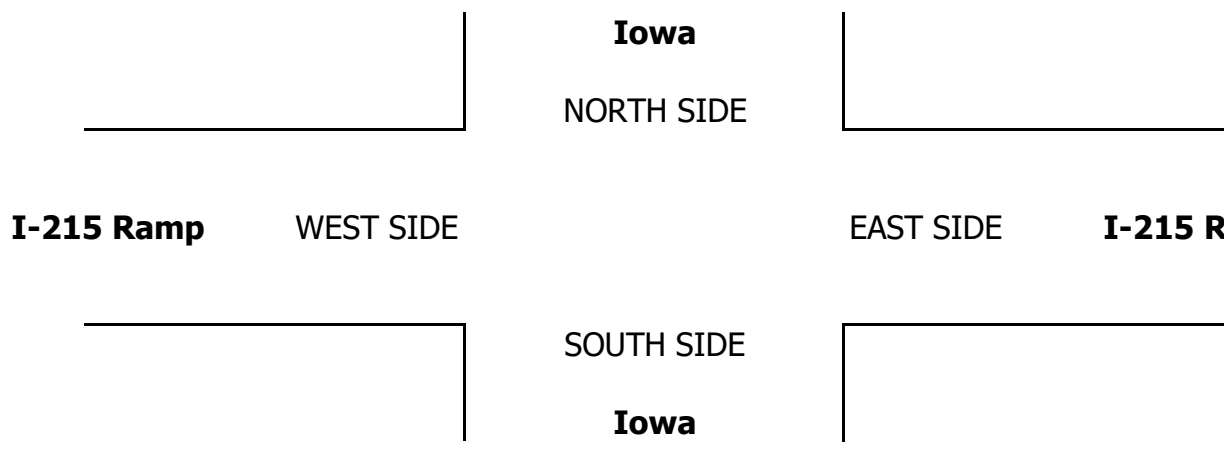
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

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

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	2	0	6	1	4	0	0	0	3	16	0	0	0	0	0
	7:15 AM	0	0	0	0	0	3	3	0	0	0	0	4	10	0	0	0	0	0
	7:30 AM	0	0	0	0	0	6	1	3	0	0	0	3	13	0	0	0	0	0
	7:45 AM	0	0	0	0	0	6	0	0	0	0	1	0	7	0	0	0	0	0
	8:00 AM	0	0	0	1	0	8	5	2	0	0	0	0	16	0	0	0	0	0
	8:15 AM	0	0	0	1	0	2	1	6	0	0	0	3	13	0	0	0	0	0
	8:30 AM	0	0	0	1	0	4	1	4	0	0	0	6	16	0	0	0	0	0
	8:45 AM	0	0	0	1	0	5	0	6	0	0	2	7	21	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	0	0	0	6	0	40	12	25	0	0	3	26	112	0	0	0	0	0
	APPROACH %	0%	0%	0%	13%	0%	87%	32%	68%	0%	0%	10%	90%						
	APP/DEPART	0	/	38	46	/	0	37	/	31	29	/	43	0					
	BEGIN PEAK HR	8:00 AM																	
	VOLUMES	0	0	0	4	0	19	7	18	0	0	2	16	66					
	APPROACH %	0%	0%	0%	17%	0%	83%	28%	72%	0%	0%	11%	89%						
	PEAK HR FACTOR	0.000			0.639			0.893			0.500			0.786					
	APP/DEPART	0	/	23	23	/	0	25	/	22	18	/	21	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	0	0	0	0	0	3	0	3	0	0	0	0	6	0	0	0	0	0
	4:15 PM	0	0	0	0	0	3	1	3	0	0	0	1	8	0	0	0	0	0
	4:30 PM	0	0	0	0	0	6	2	3	0	0	0	1	12	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	0	4	0	0	1	0	6	0	0	0	0	0
	5:00 PM	0	0	0	2	0	0	1	3	0	0	0	0	6	0	0	0	0	0
	5:15 PM	0	0	0	1	0	0	1	3	0	0	0	2	7	0	0	0	0	0
	5:30 PM	0	0	0	0	0	4	0	4	0	0	1	0	9	0	0	0	0	0
	5:45 PM	0	0	0	1	0	3	3	4	0	0	0	0	11	0	0	0	0	0
	VOLUMES	0	0	0	4	0	20	8	27	0	0	2	4	65	0	0	0	0	0
	APPROACH %	0%	0%	0%	17%	0%	83%	23%	77%	0%	0%	33%	67%						
	APP/DEPART	0	/	12	24	/	0	35	/	31	6	/	22	0					
	BEGIN PEAK HR	5:00 PM																	
	VOLUMES	0	0	0	4	0	7	5	14	0	0	1	2	33					
	APPROACH %	0%	0%	0%	36%	0%	64%	26%	74%	0%	0%	33%	67%						
	PEAK HR FACTOR	0.000			0.688			0.679			0.375			0.750					
	APP/DEPART	0	/	7	11	/	0	19	/	18	3	/	8	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

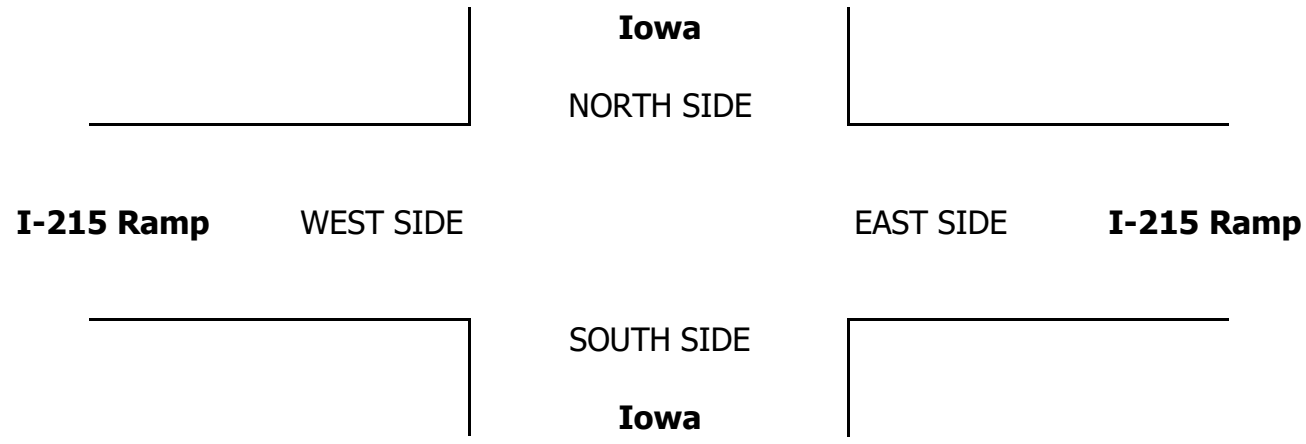
AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	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
	7:30 AM	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
	8:00 AM	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
	8:30 AM	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
	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	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					
	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
	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	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
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	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
	5:00 PM	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
	5:30 PM	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	0	/	1	0	/	0	0	/	0	1	/	0	0					
	BEGIN PEAK HR		3:45 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	1	1					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.250		0.250					
	APP/DEPART	0	/	1	0	/	0	0	/	0	1	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

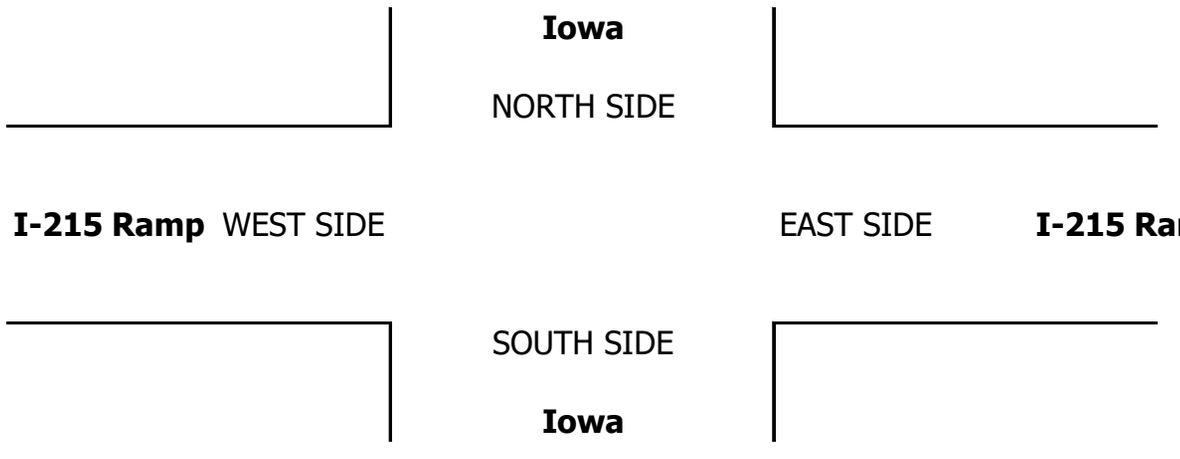
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

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

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	X	X	X	0	X	0	1	1	X	X	0.5	0.5						
7:00 AM	0	0	0	0	0	0	1	2	0	0	0	0	3	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
7:30 AM	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
8:00 AM	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
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	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
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	0	0	0	0	0	0	1	2	0	0	0	1	4	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	33%	67%	0%	0%	0%	100%						
APP/DEPART	0	/	2	0	/	0	3	/	2	1	/	0	0					
BEGIN PEAK HR	7:00 AM																	
VOLUMES	0	0	0	0	0	0	1	2	0	0	0	0	3					
APPROACH %	0%	0%	0%	0%	0%	0%	33%	67%	0%	0%	0%	0%						
PEAK HR FACTOR	0.000			0.000			0.250			0.000			0.250					
APP/DEPART	0	/	1	0	/	0	3	/	2	0	/	0	0					
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	0	0	0	0	0	0	1	0	0	0	0	0	1	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
4:30 PM	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	1	0	0	0	0	0	0	1	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	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
5:45 PM	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	2	0	0	0	0	0	4	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
APP/DEPART	0	/	2	2	/	0	2	/	0	0	/	2	0					
BEGIN PEAK HR	4:30 PM																	
VOLUMES	0	0	0	0	0	2	1	0	0	0	0	0	3					
APPROACH %	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
PEAK HR FACTOR	0.000			0.500			0.250			0.000			0.750					
APP/DEPART	0	/	1	2	/	0	1	/	0	0	/	2	0					



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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

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

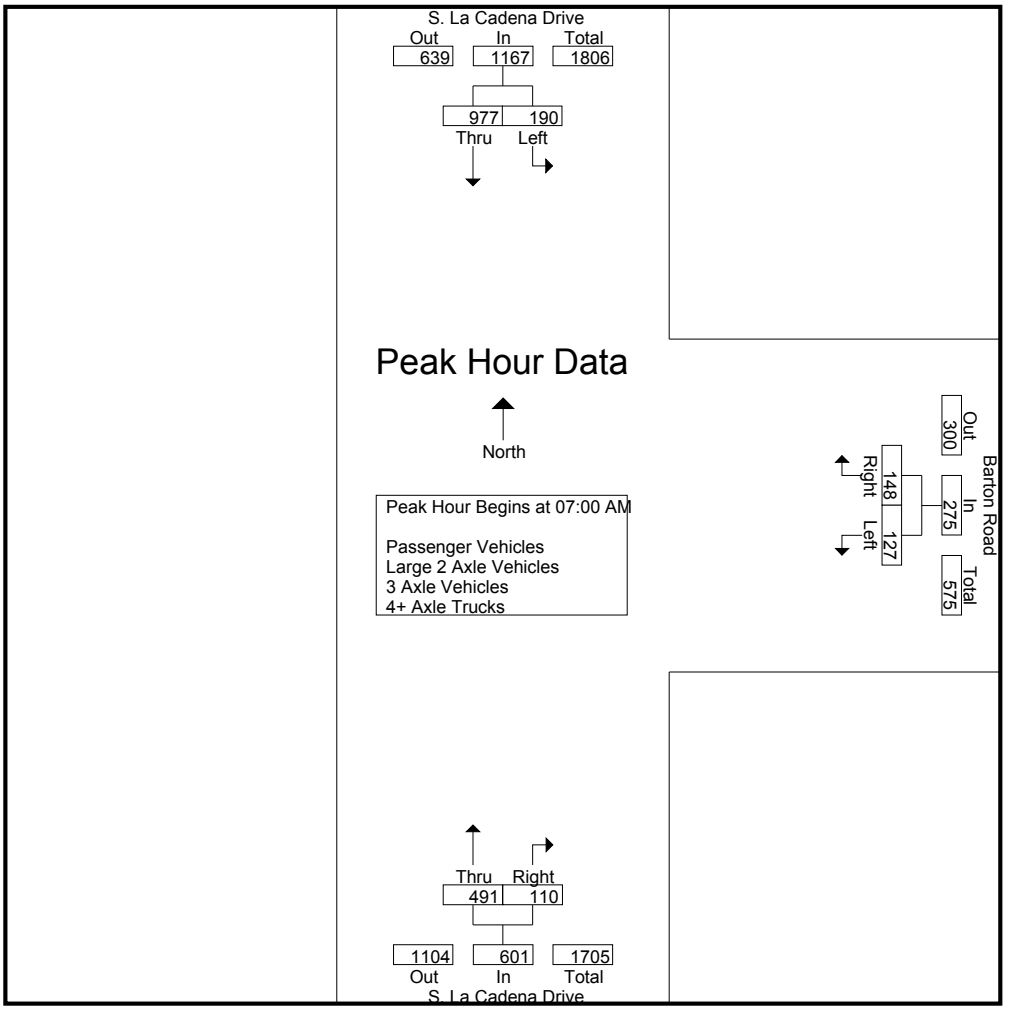
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	40	230	270	29	24	53	142	29	171	494
07:15 AM	65	239	304	29	28	57	118	36	154	515
07:30 AM	42	270	312	37	51	88	120	22	142	542
07:45 AM	43	238	281	32	45	77	111	23	134	492
Total	190	977	1167	127	148	275	491	110	601	2043
08:00 AM	31	201	232	24	33	57	72	25	97	386
08:15 AM	29	171	200	15	29	44	68	22	90	334
08:30 AM	26	126	152	15	23	38	74	18	92	282
08:45 AM	42	116	158	20	24	44	68	18	86	288
Total	128	614	742	74	109	183	282	83	365	1290
Grand Total	318	1591	1909	201	257	458	773	193	966	3333
Apprch %	16.7	83.3		43.9	56.1		80	20		
Total %	9.5	47.7	57.3	6	7.7	13.7	23.2	5.8	29	
Passenger Vehicles	298	1528	1826	182	231	413	735	164	899	3138
% Passenger Vehicles	93.7	96	95.7	90.5	89.9	90.2	95.1	85	93.1	94.1
Large 2 Axle Vehicles	10	38	48	10	10	20	24	14	38	106
% Large 2 Axle Vehicles	3.1	2.4	2.5	5	3.9	4.4	3.1	7.3	3.9	3.2
3 Axle Vehicles	2	10	12	1	5	6	2	4	6	24
% 3 Axle Vehicles	0.6	0.6	0.6	0.5	1.9	1.3	0.3	2.1	0.6	0.7
4+ Axle Trucks	8	15	23	8	11	19	12	11	23	65
% 4+ Axle Trucks	2.5	0.9	1.2	4	4.3	4.1	1.6	5.7	2.4	2

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	40	230	270	29	24	53	**142**	29	**171**	494
07:15 AM	**65**	239	304	29	28	57	118	**36**	154	515
07:30 AM	42	**270**	**312**	**37**	**51**	**88**	120	22	142	**542**
07:45 AM	43	238	281	32	45	77	111	23	134	492
Total Volume	190	977	1167	127	148	275	491	110	601	2043
% App. Total	16.3	83.7		46.2	53.8		81.7	18.3		
PHF	.731	.905	.935	.858	.725	.781	.864	.764	.879	.942

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019



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

	07:00 AM			07:15 AM			07:00 AM		
+0 mins.	40	230	270	29	28	57	**142**	29	**171**
+15 mins.	**65**	239	304	**37**	**51**	**88**	118	**36**	154
+30 mins.	42	**270**	**312**	32	45	77	120	22	142
+45 mins.	43	238	281	24	33	57	111	23	134
Total Volume	190	977	1167	122	157	279	491	110	601
% App. Total	16.3	83.7		43.7	56.3		81.7	18.3	
PHF	.731	.905	.935	.824	.770	.793	.864	.764	.879

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- Passenger Vehicles

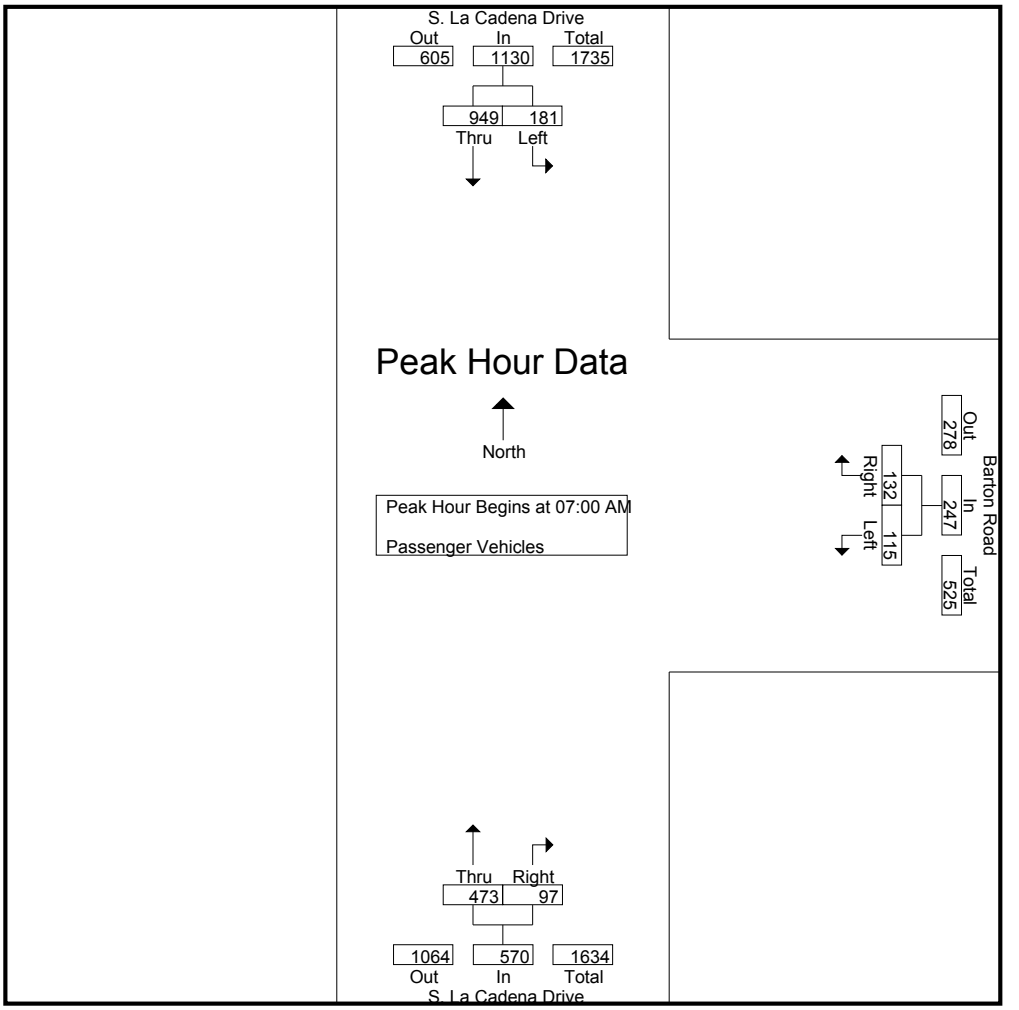
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	37	226	263	25	22	47	138	23	161	471
07:15 AM	65	230	295	27	25	52	112	35	147	494
07:30 AM	41	264	305	33	45	78	116	21	137	520
07:45 AM	38	229	267	30	40	70	107	18	125	462
Total	181	949	1130	115	132	247	473	97	570	1947
08:00 AM	27	191	218	24	29	53	68	21	89	360
08:15 AM	26	158	184	15	29	44	62	16	78	306
08:30 AM	25	120	145	14	21	35	70	14	84	264
08:45 AM	39	110	149	14	20	34	62	16	78	261
Total	117	579	696	67	99	166	262	67	329	1191
Grand Total	298	1528	1826	182	231	413	735	164	899	3138
Apprch %	16.3	83.7		44.1	55.9		81.8	18.2		
Total %	9.5	48.7	58.2	5.8	7.4	13.2	23.4	5.2	28.6	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	37	226	263	25	22	47	**138**	23	**161**	471
07:15 AM	**65**	230	295	27	25	52	112	**35**	147	494
07:30 AM	41	**264**	**305**	**33**	**45**	**78**	116	21	137	**520**
07:45 AM	38	229	267	30	40	70	107	18	125	462
Total Volume	181	949	1130	115	132	247	473	97	570	1947
% App. Total	16	84		46.6	53.4		83	17		
PHF	.696	.899	.926	.871	.733	.792	.857	.693	.885	.936

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	37	226	263	25	22	47	**138**	23	**161**
+15 mins.	**65**	230	295	27	25	52	112	**35**	147
+30 mins.	41	**264**	**305**	**33**	**45**	**78**	116	21	137
+45 mins.	38	229	267	30	40	70	107	18	125
Total Volume	181	949	1130	115	132	247	473	97	570
% App. Total	16	84		46.6	53.4		83	17	
PHF	.696	.899	.926	.871	.733	.792	.857	.693	.885

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

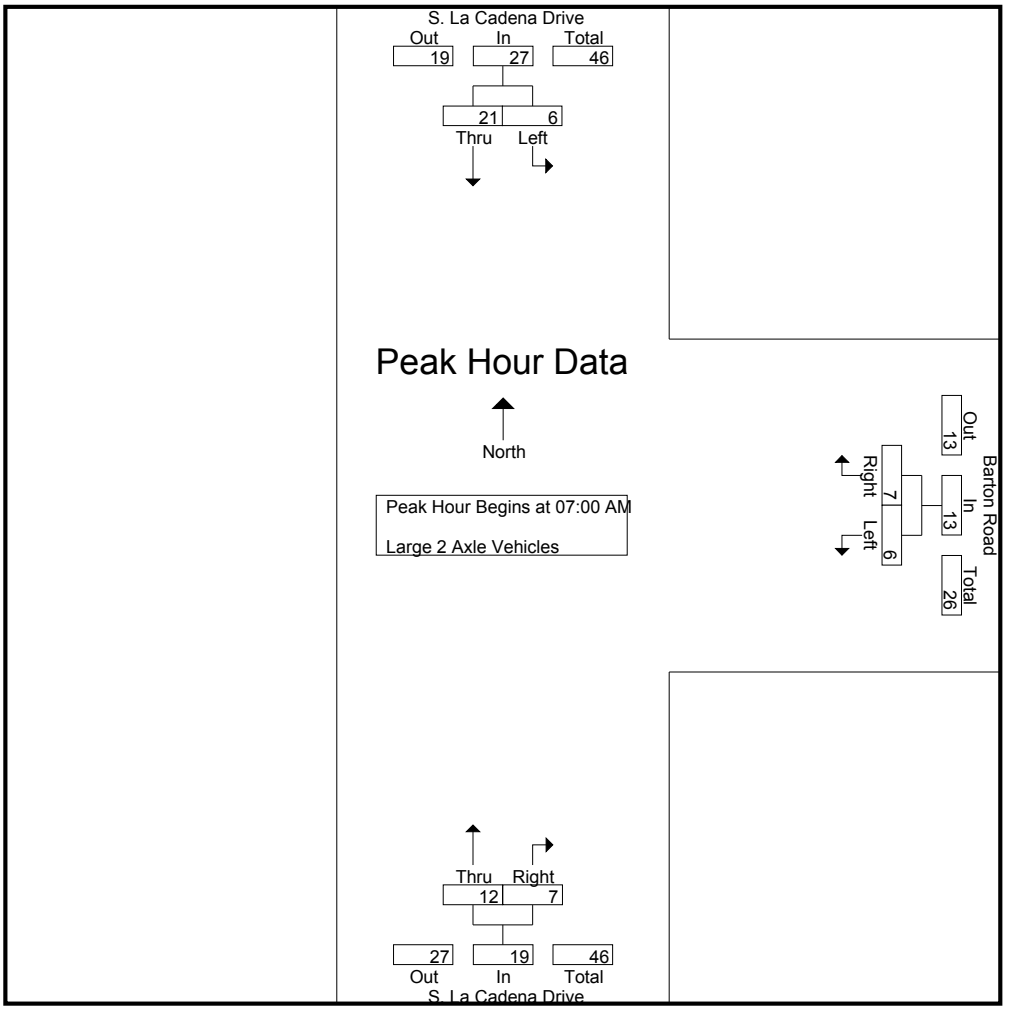
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	3	5	4	1	5	3	4	7	17
07:15 AM	0	7	7	1	1	2	3	0	3	12
07:30 AM	0	5	5	1	1	2	3	0	3	10
07:45 AM	4	6	10	0	4	4	3	3	6	20
Total	6	21	27	6	7	13	12	7	19	59
08:00 AM	1	5	6	0	2	2	4	2	6	14
08:15 AM	1	4	5	0	0	0	5	3	8	13
08:30 AM	1	4	5	0	0	0	1	1	2	7
08:45 AM	1	4	5	4	1	5	2	1	3	13
Total	4	17	21	4	3	7	12	7	19	47
Grand Total	10	38	48	10	10	20	24	14	38	106
Apprch %	20.8	79.2		50	50		63.2	36.8		
Total %	9.4	35.8	45.3	9.4	9.4	18.9	22.6	13.2	35.8	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	2	3	5	**4**	1	**5**	**3**	**4**	**7**	17
07:15 AM	0	**7**	7	1	1	2	3	0	3	12
07:30 AM	0	5	5	1	1	2	3	0	3	10
07:45 AM	**4**	6	**10**	0	**4**	4	3	3	6	**20**
Total Volume	6	21	27	6	7	13	12	7	19	59
% App. Total	22.2	77.8		46.2	53.8		63.2	36.8		
PHF	.375	.750	.675	.375	.438	.650	1.00	.438	.679	.738

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	2	3	5	**4**	1	**5**	**3**	**4**	**7**
+15 mins.	0	**7**	7	1	1	2	3	0	3
+30 mins.	0	5	5	1	1	2	3	0	3
+45 mins.	**4**	6	**10**	0	**4**	4	3	3	6
Total Volume	6	21	27	6	7	13	12	7	19
% App. Total	22.2	77.8		46.2	53.8		63.2	36.8	
PHF	.375	.750	.675	.375	.438	.650	1.000	.438	.679

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- 3 Axle Vehicles

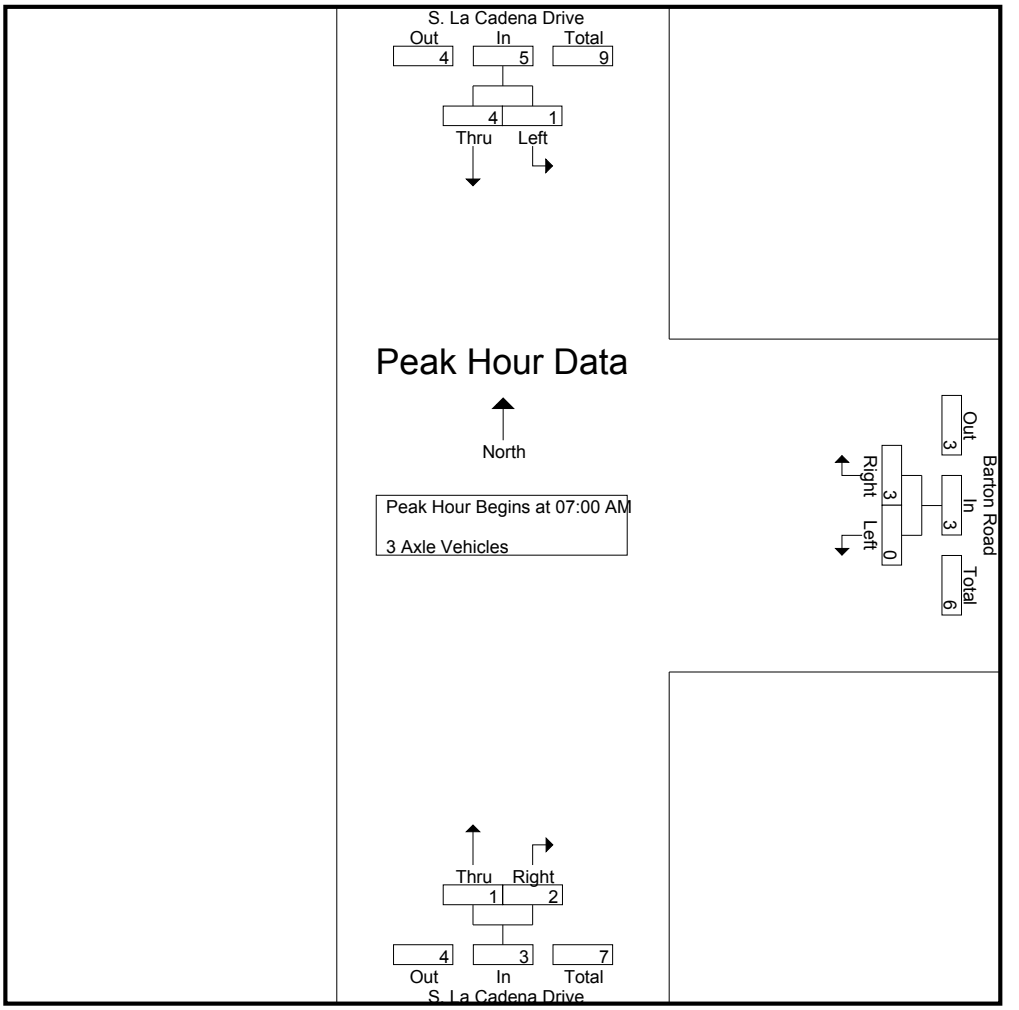
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	1	2	0	0	0	0	0	0	2
07:15 AM	0	1	1	0	0	0	1	0	1	2
07:30 AM	0	1	1	0	3	3	0	1	1	5
07:45 AM	0	1	1	0	0	0	0	1	1	2
Total	1	4	5	0	3	3	1	2	3	11
08:00 AM	0	2	2	0	0	0	0	1	1	3
08:15 AM	1	4	5	0	0	0	0	1	1	6
08:30 AM	0	0	0	1	0	1	1	0	1	2
08:45 AM	0	0	0	0	2	2	0	0	0	2
Total	1	6	7	1	2	3	1	2	3	13
Grand Total	2	10	12	1	5	6	2	4	6	24
Apprch %	16.7	83.3		16.7	83.3		33.3	66.7		
Total %	8.3	41.7	50	4.2	20.8	25	8.3	16.7	25	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**1**	**1**	**2**	0	0	0	0	0	0	2
07:15 AM	0	1	1	0	0	0	**1**	0	**1**	2
07:30 AM	0	1	1	0	**3**	**3**	0	**1**	1	**5**
07:45 AM	0	1	1	0	0	0	0	1	1	2
Total Volume	1	4	5	0	3	3	1	2	3	11
% App. Total	20	80		0	100		33.3	66.7		
PHF	.250	1.00	.625	.000	.250	.250	.250	.500	.750	.550

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**1**	**1**	**2**	0	0	0	0	0	0
+15 mins.	0	1	1	0	0	0	**1**	0	**1**
+30 mins.	0	1	1	0	**3**	**3**	0	**1**	1
+45 mins.	0	1	1	0	0	0	0	1	1
Total Volume	1	4	5	0	3	3	1	2	3
% App. Total	20	80		0	100		33.3	66.7	
PHF	.250	1.000	.625	.000	.250	.250	.250	.500	.750

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019

Groups Printed- 4+ Axle Trucks

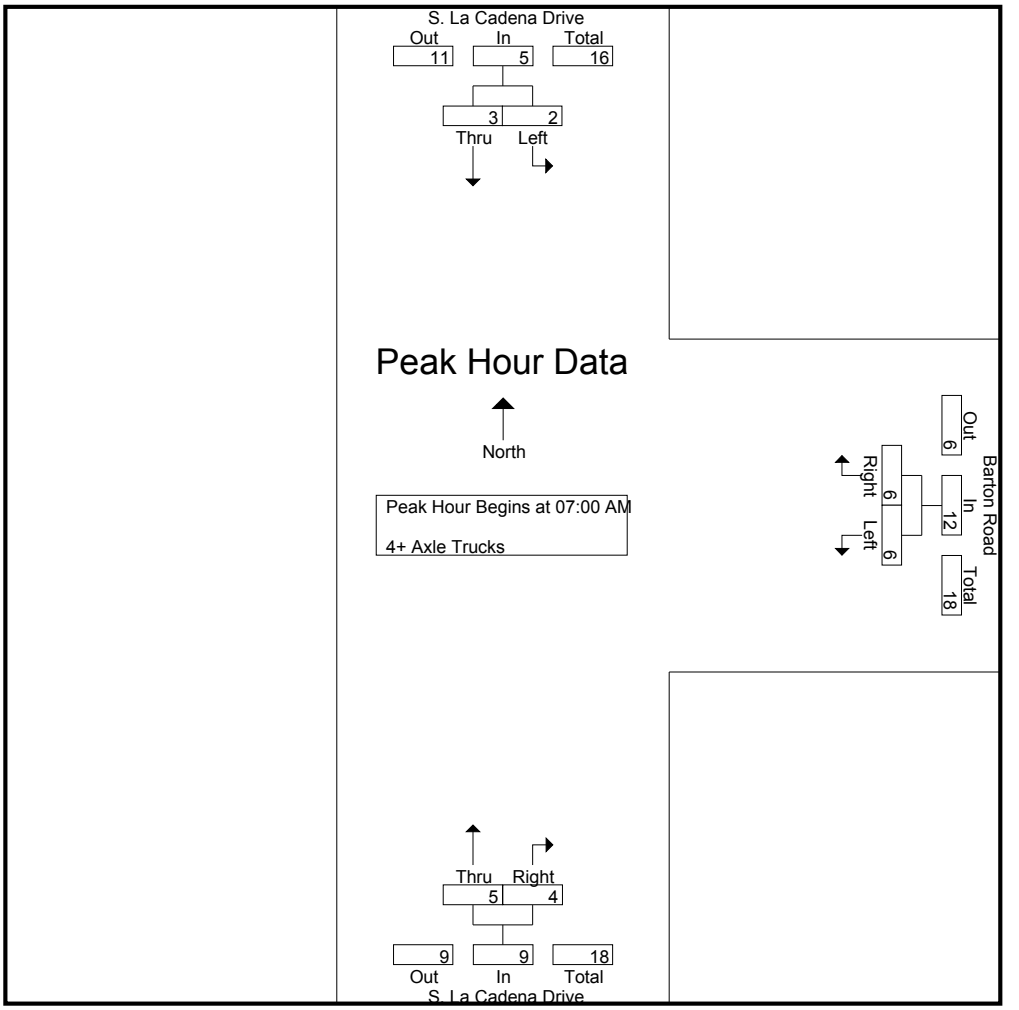
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	1	1	2	3	4
07:15 AM	0	1	1	1	2	3	2	1	3	7
07:30 AM	1	0	1	3	2	5	1	0	1	7
07:45 AM	1	2	3	2	1	3	1	1	2	8
Total	2	3	5	6	6	12	5	4	9	26
08:00 AM	3	3	6	0	2	2	0	1	1	9
08:15 AM	1	5	6	0	0	0	1	2	3	9
08:30 AM	0	2	2	0	2	2	2	3	5	9
08:45 AM	2	2	4	2	1	3	4	1	5	12
Total	6	12	18	2	5	7	7	7	14	39
Grand Total	8	15	23	8	11	19	12	11	23	65
Apprch %	34.8	65.2		42.1	57.9		52.2	47.8		
Total %	12.3	23.1	35.4	12.3	16.9	29.2	18.5	16.9	35.4	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	1	1	1	**2**	**3**	4
07:15 AM	0	1	1	1	**2**	3	**2**	1	3	7
07:30 AM	**1**	0	1	**3**	2	**5**	1	0	1	7
07:45 AM	1	**2**	**3**	2	1	3	1	1	2	**8**
Total Volume	2	3	5	6	6	12	5	4	9	26
% App. Total	40	60		50	50		55.6	44.4		
PHF	.500	.375	.417	.500	.750	.600	.625	.500	.750	.813

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	1	1	1	**2**	**3**
+15 mins.	0	1	1	1	**2**	3	**2**	1	3
+30 mins.	**1**	0	1	**3**	2	**5**	1	0	1
+45 mins.	1	**2**	**3**	2	1	3	1	1	2
Total Volume	2	3	5	6	6	12	5	4	9
% App. Total	40	60		50	50		55.6	44.4	
PHF	.500	.375	.417	.500	.750	.600	.625	.500	.750

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

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

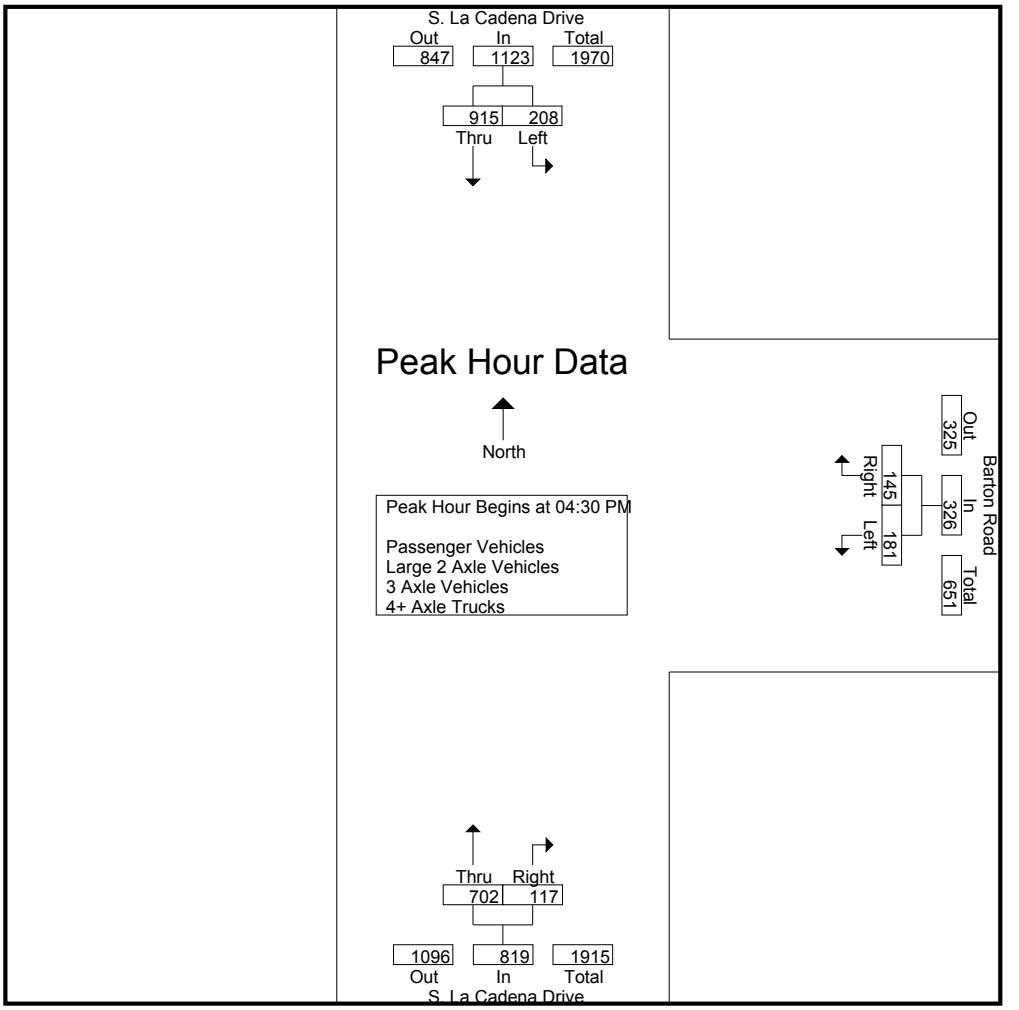
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	40	204	244	47	42	89	190	37	227	560
04:15 PM	56	201	257	47	38	85	147	33	180	522
04:30 PM	51	218	269	53	27	80	173	19	192	541
04:45 PM	58	228	286	33	44	77	184	36	220	583
Total	205	851	1056	180	151	331	694	125	819	2206
05:00 PM	52	239	291	43	43	86	167	24	191	568
05:15 PM	47	230	277	52	31	83	178	38	216	576
05:30 PM	65	224	289	42	27	69	151	25	176	534
05:45 PM	62	180	242	45	25	70	152	31	183	495
Total	226	873	1099	182	126	308	648	118	766	2173
Grand Total	431	1724	2155	362	277	639	1342	243	1585	4379
Apprch %	20	80		56.7	43.3		84.7	15.3		
Total %	9.8	39.4	49.2	8.3	6.3	14.6	30.6	5.5	36.2	
Passenger Vehicles	418	1686	2104	356	265	621	1305	222	1527	4252
% Passenger Vehicles	97	97.8	97.6	98.3	95.7	97.2	97.2	91.4	96.3	97.1
Large 2 Axle Vehicles	8	30	38	2	7	9	28	14	42	89
% Large 2 Axle Vehicles	1.9	1.7	1.8	0.6	2.5	1.4	2.1	5.8	2.6	2
3 Axle Vehicles	1	2	3	1	1	2	0	1	1	6
% 3 Axle Vehicles	0.2	0.1	0.1	0.3	0.4	0.3	0	0.4	0.1	0.1
4+ Axle Trucks	4	6	10	3	4	7	9	6	15	32
% 4+ Axle Trucks	0.9	0.3	0.5	0.8	1.4	1.1	0.7	2.5	0.9	0.7

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	51	218	269	**53**	27	80	173	19	192	541
04:45 PM	**58**	228	286	33	**44**	77	**184**	36	**220**	**583**
05:00 PM	52	**239**	**291**	43	43	**86**	167	24	191	568
05:15 PM	47	230	277	52	31	83	178	**38**	216	576
Total Volume	208	915	1123	181	145	326	702	117	819	2268
% App. Total	18.5	81.5		55.5	44.5		85.7	14.3		
PHF	.897	.957	.965	.854	.824	.948	.954	.770	.931	.973

Counts Unlimited
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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



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

	04:45 PM			04:00 PM			04:00 PM		
+0 mins.	58	228	286	47	42	**89**	**190**	**37**	**227**
+15 mins.	52	**239**	**291**	47	38	85	147	33	180
+30 mins.	47	230	277	**53**	27	80	173	19	192
+45 mins.	**65**	224	289	33	**44**	77	184	36	220
Total Volume	222	921	1143	180	151	331	694	125	819
% App. Total	19.4	80.6		54.4	45.6		84.7	15.3	
PHF	.854	.963	.982	.849	.858	.930	.913	.845	.902

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019

Groups Printed- Passenger Vehicles

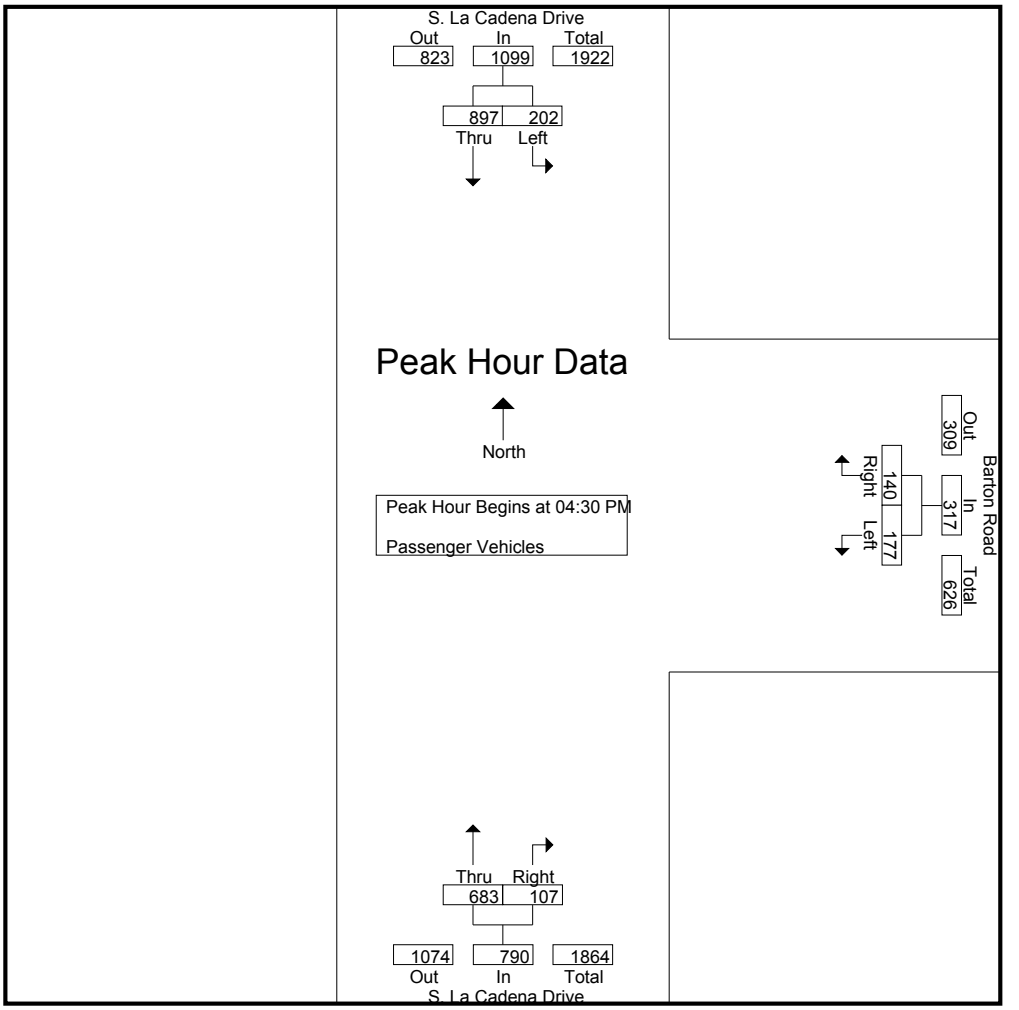
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	38	197	235	45	40	85	183	32	215	535
04:15 PM	54	194	248	47	36	83	139	30	169	500
04:30 PM	49	210	259	51	26	77	167	19	186	522
04:45 PM	57	224	281	33	44	77	179	28	207	565
Total	198	825	1023	176	146	322	668	109	777	2122
05:00 PM	50	234	284	42	42	84	161	23	184	552
05:15 PM	46	229	275	51	28	79	176	37	213	567
05:30 PM	64	220	284	42	27	69	150	24	174	527
05:45 PM	60	178	238	45	22	67	150	29	179	484
Total	220	861	1081	180	119	299	637	113	750	2130
Grand Total	418	1686	2104	356	265	621	1305	222	1527	4252
Apprch %	19.9	80.1		57.3	42.7		85.5	14.5		
Total %	9.8	39.7	49.5	8.4	6.2	14.6	30.7	5.2	35.9	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	49	210	259	**51**	26	77	167	19	186	522
04:45 PM	**57**	224	281	33	**44**	77	**179**	28	207	565
05:00 PM	50	**234**	**284**	42	42	**84**	161	23	184	552
05:15 PM	46	229	275	51	28	79	176	**37**	**213**	**567**
Total Volume	202	897	1099	177	140	317	683	107	790	2206
% App. Total	18.4	81.6		55.8	44.2		86.5	13.5		
PHF	.886	.958	.967	.868	.795	.943	.954	.723	.927	.973

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	49	210	259	**51**	26	77	167	19	186
+15 mins.	**57**	224	281	33	**44**	77	**179**	28	207
+30 mins.	50	**234**	**284**	42	42	**84**	161	23	184
+45 mins.	46	229	275	51	28	79	176	**37**	**213**
Total Volume	202	897	1099	177	140	317	683	107	790
% App. Total	18.4	81.6		55.8	44.2		86.5	13.5	
PHF	.886	.958	.967	.868	.795	.943	.954	.723	.927

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

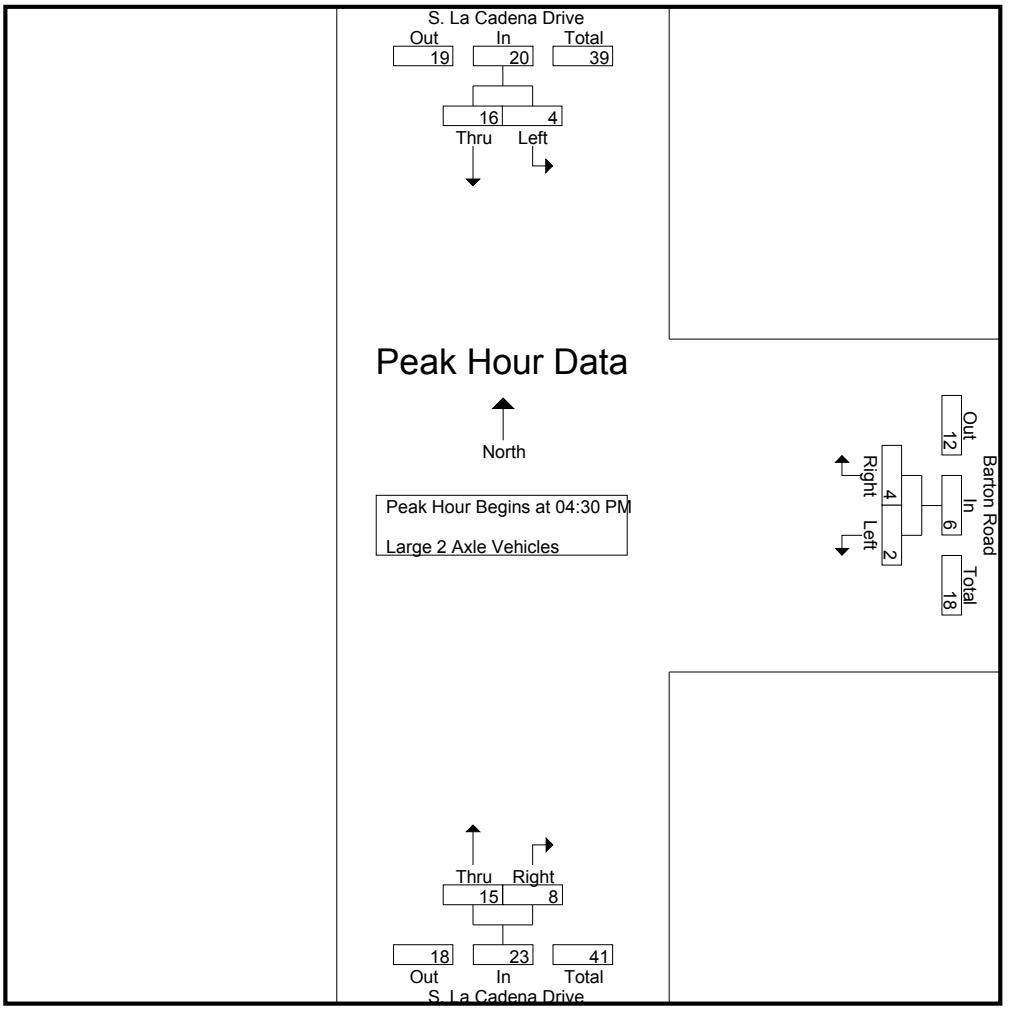
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	2	4	6	0	2	2	5	4	9	17
04:15 PM	1	4	5	0	0	0	5	2	7	12
04:30 PM	1	7	8	1	1	2	5	0	5	15
04:45 PM	1	4	5	0	0	0	5	6	11	16
Total	5	19	24	1	3	4	20	12	32	60
05:00 PM	2	4	6	1	1	2	3	1	4	12
05:15 PM	0	1	1	0	2	2	2	1	3	6
05:30 PM	0	4	4	0	0	0	1	0	1	5
05:45 PM	1	2	3	0	1	1	2	0	2	6
Total	3	11	14	1	4	5	8	2	10	29
Grand Total	8	30	38	2	7	9	28	14	42	89
Apprch %	21.1	78.9		22.2	77.8		66.7	33.3		
Total %	9	33.7	42.7	2.2	7.9	10.1	31.5	15.7	47.2	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	1	**7**	**8**	**1**	1	**2**	**5**	0	5	15
04:45 PM	1	4	5	0	0	0	5	**6**	**11**	**16**
05:00 PM	**2**	4	6	1	1	2	3	1	4	12
05:15 PM	0	1	1	0	**2**	2	2	1	3	6
Total Volume	4	16	20	2	4	6	15	8	23	49
% App. Total	20	80		33.3	66.7		65.2	34.8		
PHF	.500	.571	.625	.500	.500	.750	.750	.333	.523	.766

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	1	**7**	**8**	**1**	1	**2**	**5**	0	5
+15 mins.	1	4	5	0	0	0	5	**6**	**11**
+30 mins.	**2**	4	6	1	1	2	3	1	4
+45 mins.	0	1	1	0	**2**	2	2	1	3
Total Volume	4	16	20	2	4	6	15	8	23
% App. Total	20	80		33.3	66.7		65.2	34.8	
PHF	.500	.571	.625	.500	.500	.750	.750	.333	.523

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019

Groups Printed- 3 Axle Vehicles

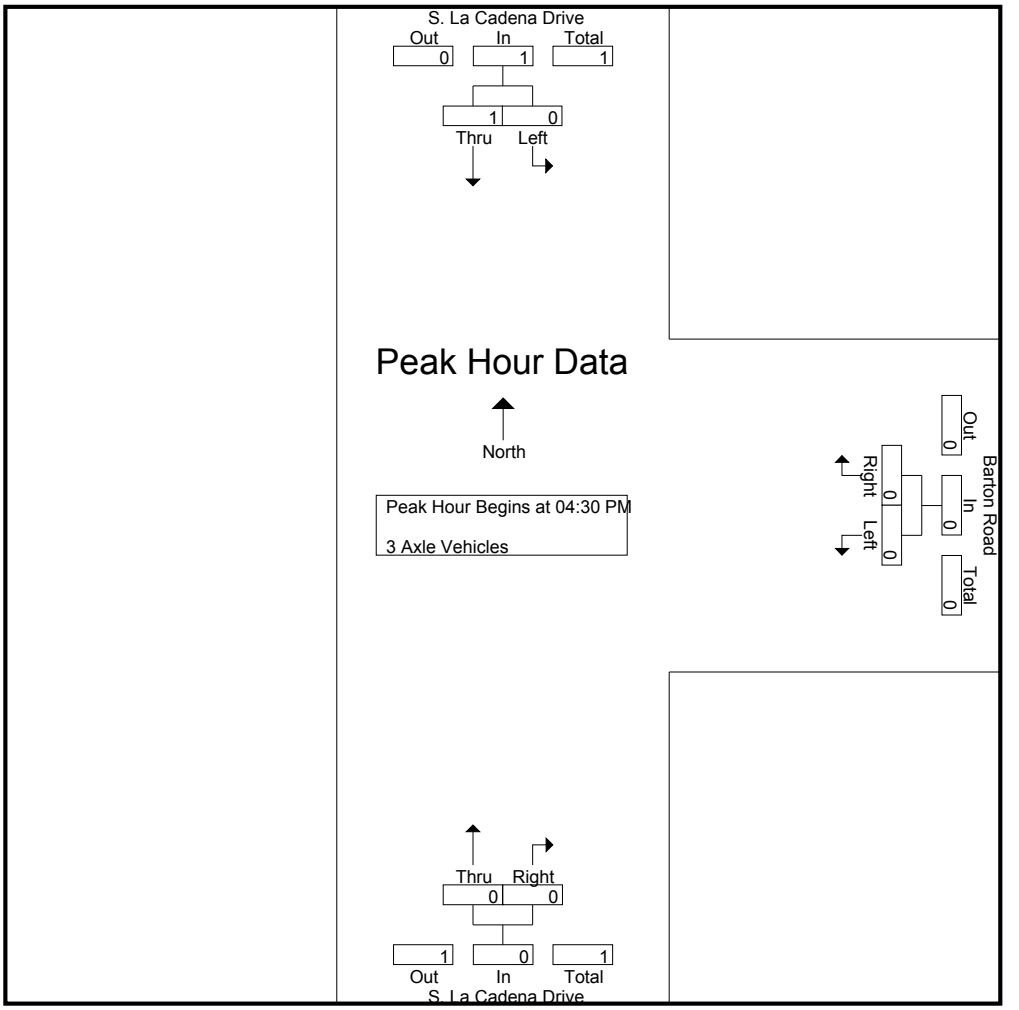
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	0	1	0	0	0	1
04:15 PM	1	1	2	0	1	1	0	1	1	4
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	2	3	1	1	2	0	1	1	6
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	1	2	3	1	1	2	0	1	1	6
Apprch %	33.3	66.7		50	50		0	100		
Total %	16.7	33.3	50	16.7	16.7	33.3	0	16.7	16.7	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**1**	**1**	0	0	0	0	0	0	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

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

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- 4+ Axle Trucks

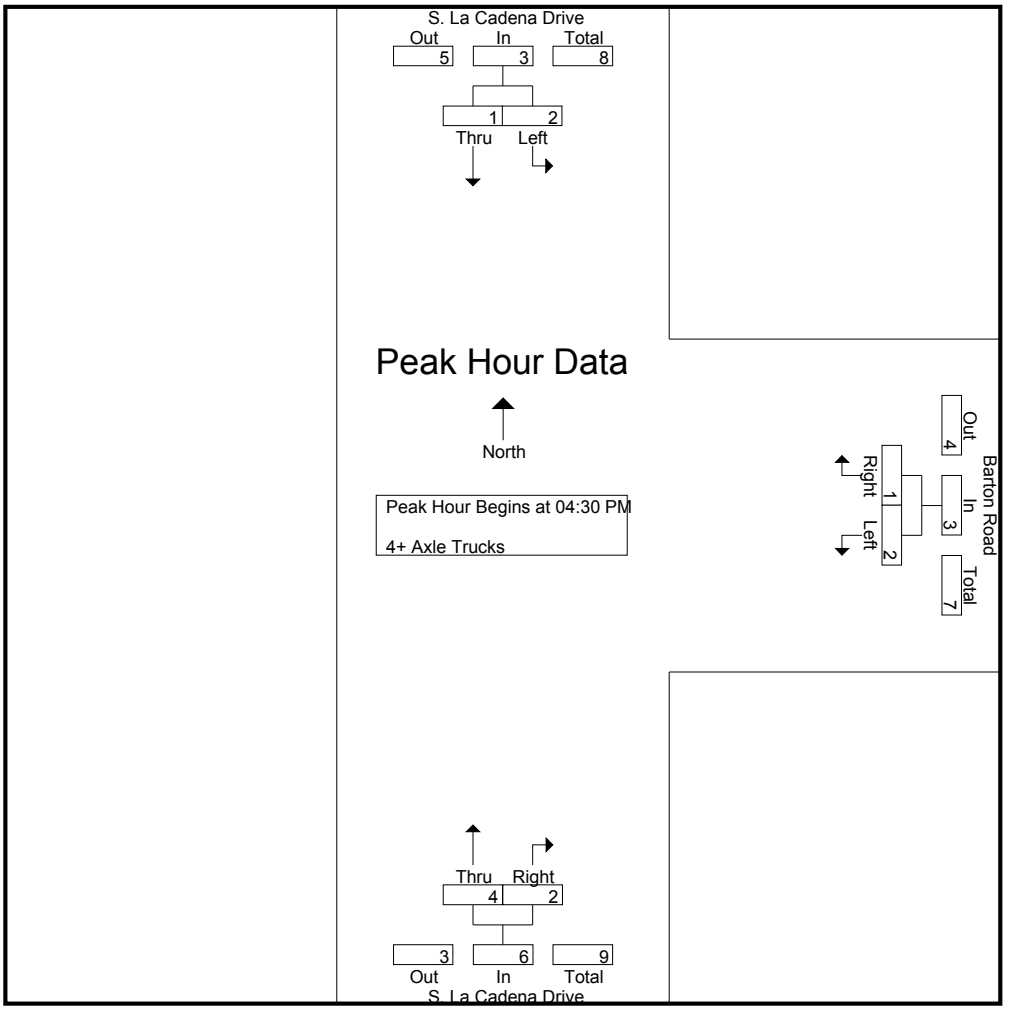
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	3	3	1	0	1	2	1	3	7
04:15 PM	0	2	2	0	1	1	3	0	3	6
04:30 PM	1	0	1	1	0	1	1	0	1	3
04:45 PM	0	0	0	0	0	0	0	2	2	2
Total	1	5	6	2	1	3	6	3	9	18
05:00 PM	0	1	1	0	0	0	3	0	3	4
05:15 PM	1	0	1	1	1	2	0	0	0	3
05:30 PM	1	0	1	0	0	0	0	1	1	2
05:45 PM	1	0	1	0	2	2	0	2	2	5
Total	3	1	4	1	3	4	3	3	6	14
Grand Total	4	6	10	3	4	7	9	6	15	32
Apprch %	40	60		42.9	57.1		60	40		
Total %	12.5	18.8	31.2	9.4	12.5	21.9	28.1	18.8	46.9	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**1**	0	**1**	**1**	0	1	1	0	1	3
04:45 PM	0	0	0	0	0	0	0	**2**	2	2
05:00 PM	0	**1**	1	0	0	0	**3**	0	**3**	**4**
05:15 PM	1	0	1	1	**1**	**2**	0	0	0	3
Total Volume	2	1	3	2	1	3	4	2	6	12
% App. Total	66.7	33.3		66.7	33.3		66.7	33.3		
PHF	.500	.250	.750	.500	.250	.375	.333	.250	.500	.750

Counts Unlimited
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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**1**	0	**1**	**1**	0	1	1	0	1
+15 mins.	0	0	0	0	0	0	0	**2**	2
+30 mins.	0	**1**	1	0	0	0	**3**	0	**3**
+45 mins.	1	0	1	1	**1**	**2**	0	0	0
Total Volume	2	1	3	2	1	3	4	2	6
% App. Total	66.7	33.3		66.7	33.3		66.7	33.3	
PHF	.500	.250	.750	.500	.250	.375	.333	.250	.500

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAAM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 1

Groups Printed- Total Volume

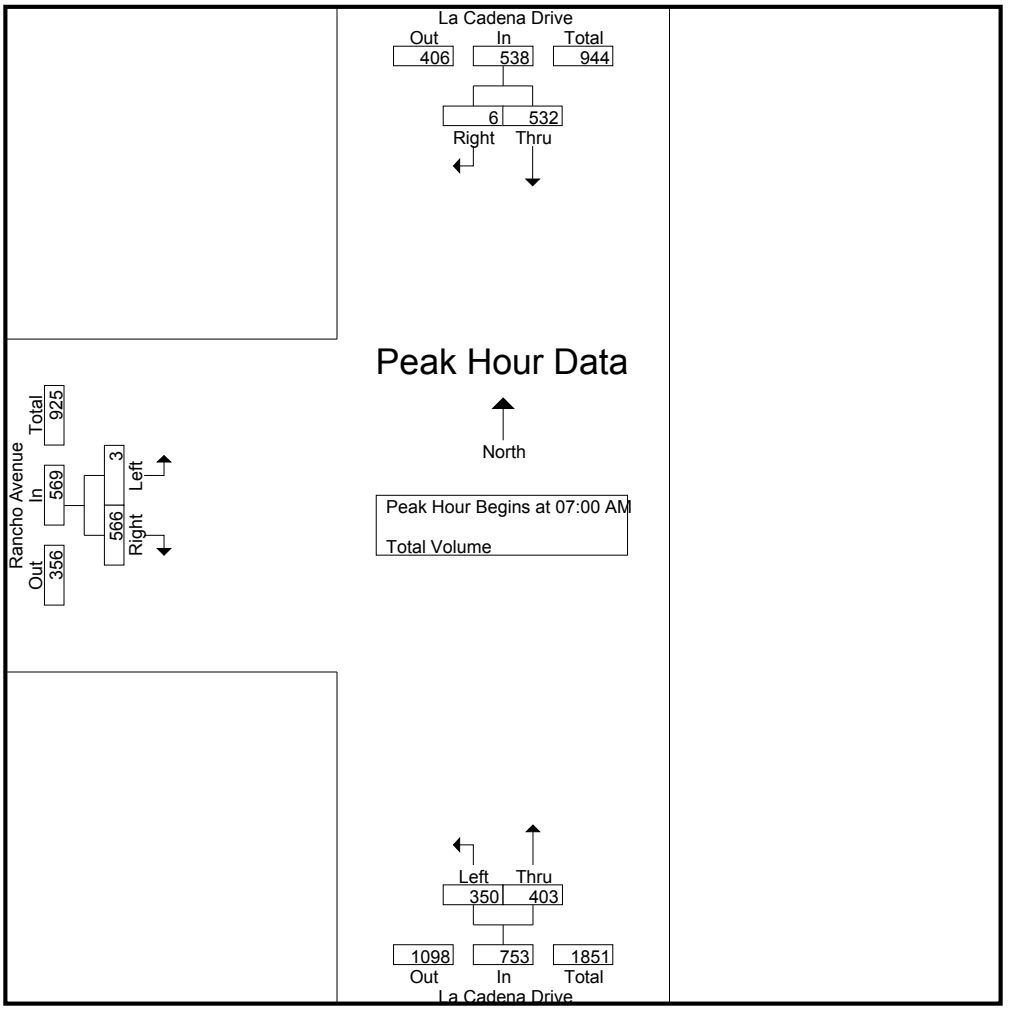
	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	110	2	112	96	84	180	1	138	139	431
07:15 AM	126	1	127	86	118	204	0	125	125	456
07:30 AM	148	1	149	88	111	199	1	144	145	493
07:45 AM	148	2	150	80	90	170	1	159	160	480
Total	532	6	538	350	403	753	3	566	569	1860
08:00 AM	105	1	106	51	72	123	0	121	121	350
08:15 AM	82	0	82	55	60	115	1	114	115	312
08:30 AM	46	2	48	37	72	109	3	77	80	237
08:45 AM	49	1	50	53	67	120	3	90	93	263
Total	282	4	286	196	271	467	7	402	409	1162
Grand Total	814	10	824	546	674	1220	10	968	978	3022
Apprch %	98.8	1.2		44.8	55.2		1	99		
Total %	26.9	0.3	27.3	18.1	22.3	40.4	0.3	32	32.4	

	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	110	2	112	96	84	180	1	138	139	431
07:15 AM	126	1	127	86	118	204	0	125	125	456
07:30 AM	148	1	149	88	111	199	1	144	145	493
07:45 AM	148	2	150	80	90	170	1	159	160	480
Total Volume	532	6	538	350	403	753	3	566	569	1860
% App. Total	98.9	1.1		46.5	53.5		0.5	99.5		
PHF	.899	.750	.897	.911	.854	.923	.750	.890	.889	.943

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAAM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	110	2	112	96	84	180	1	138	139
+15 mins.	126	1	127	86	118	204	0	125	125
+30 mins.	148	1	149	88	111	199	1	144	145
+45 mins.	148	2	150	80	90	170	1	159	160
Total Volume	532	6	538	350	403	753	3	566	569
% App. Total	98.9	1.1		46.5	53.5		0.5	99.5	
PHF	.899	.750	.897	.911	.854	.923	.750	.890	.889

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAPM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 1

Groups Printed- Total Volume

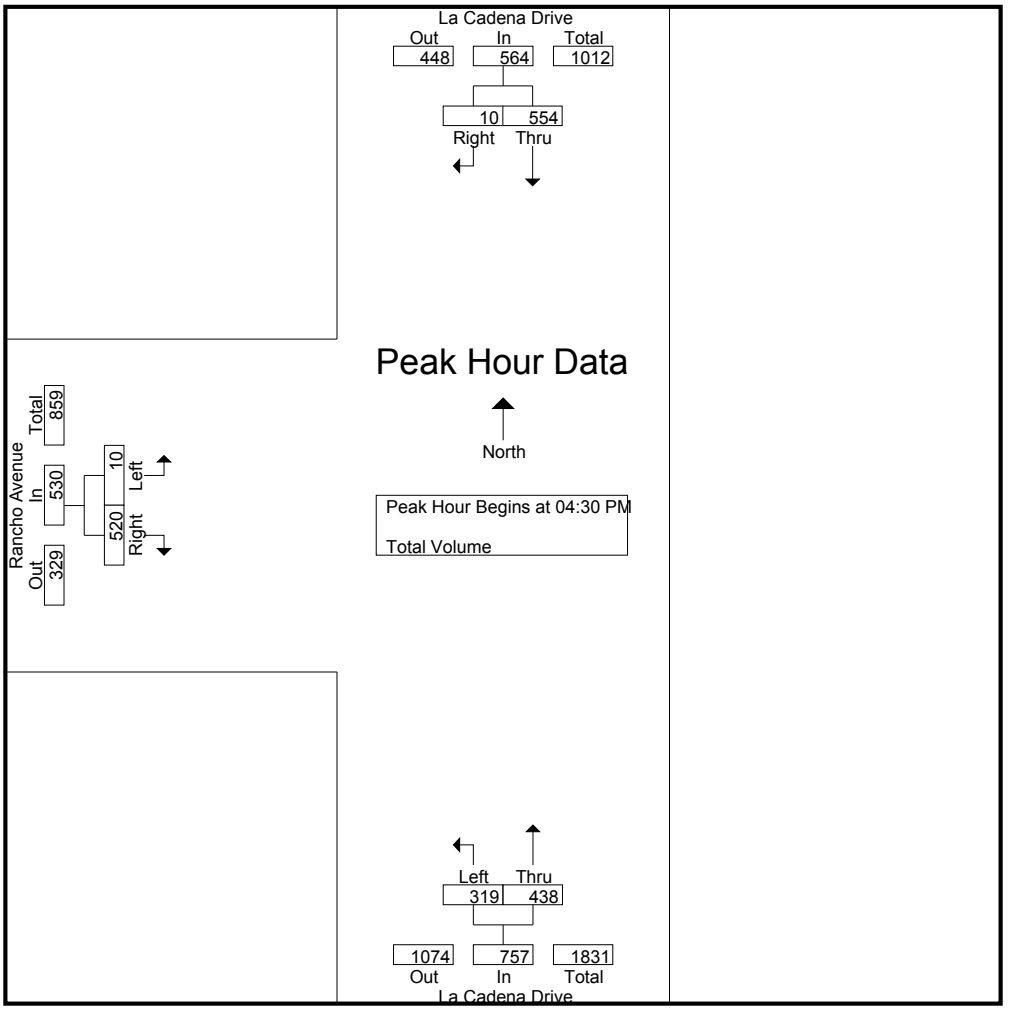
	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	116	1	117	91	131	222	0	127	127	466
04:15 PM	111	0	111	68	120	188	4	110	114	413
04:30 PM	110	2	112	84	120	204	2	128	130	446
04:45 PM	126	4	130	73	93	166	3	129	132	428
Total	463	7	470	316	464	780	9	494	503	1753
05:00 PM	166	1	167	69	110	179	4	126	130	476
05:15 PM	152	3	155	93	115	208	1	137	138	501
05:30 PM	128	1	129	93	92	185	4	114	118	432
05:45 PM	99	2	101	80	112	192	1	117	118	411
Total	545	7	552	335	429	764	10	494	504	1820
Grand Total	1008	14	1022	651	893	1544	19	988	1007	3573
Apprch %	98.6	1.4		42.2	57.8		1.9	98.1		
Total %	28.2	0.4	28.6	18.2	25	43.2	0.5	27.7	28.2	

	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	110	2	112	84	120	204	2	128	130	446
04:45 PM	126	4	130	73	93	166	3	129	132	428
05:00 PM	166	1	167	69	110	179	4	126	130	476
05:15 PM	152	3	155	93	115	208	1	137	138	501
Total Volume	554	10	564	319	438	757	10	520	530	1851
% App. Total	98.2	1.8		42.1	57.9		1.9	98.1		
PHF	.834	.625	.844	.858	.913	.910	.625	.949	.960	.924

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAPM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 2



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

	04:45 PM			04:00 PM			04:30 PM		
+0 mins.	126	4	130	91	131	222	2	128	130
+15 mins.	166	1	167	68	120	188	3	129	132
+30 mins.	152	3	155	84	120	204	4	126	130
+45 mins.	128	1	129	73	93	166	1	137	138
Total Volume	572	9	581	316	464	780	10	520	530
% App. Total	98.5	1.5		40.5	59.5		1.9	98.1	
PHF	.861	.563	.870	.868	.885	.878	.625	.949	.960

Location: Colton
N/S: La Cadena Drive
E/W: Rancho Avenue

Date: 1/29/2015
Weather: Clear

PEDESTRIANS

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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	1	1
TOTAL VOLUMES:	0	0	0	1	1

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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
TOTAL VOLUMES:	0	0	0	0	0

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Location: Colton
N/S: La Cadena Drive
E/W: Rancho Avenue

Date: 1/29/2015
Weather: Clear

BICYCLES

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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
TOTAL VOLUMES:	0	0	0	0	0

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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
TOTAL VOLUMES:	0	0	0	0	0

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

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

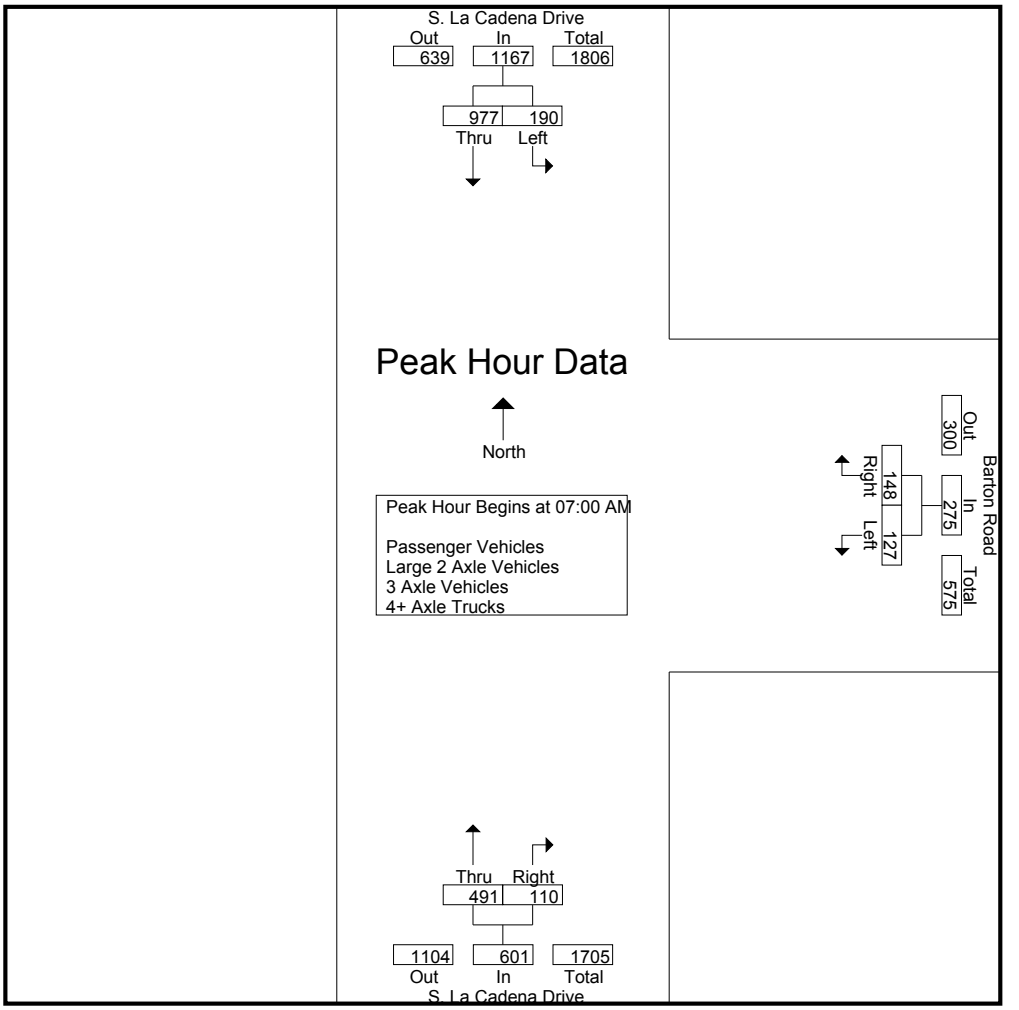
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	40	230	270	29	24	53	142	29	171	494
07:15 AM	65	239	304	29	28	57	118	36	154	515
07:30 AM	42	270	312	37	51	88	120	22	142	542
07:45 AM	43	238	281	32	45	77	111	23	134	492
Total	190	977	1167	127	148	275	491	110	601	2043
08:00 AM	31	201	232	24	33	57	72	25	97	386
08:15 AM	29	171	200	15	29	44	68	22	90	334
08:30 AM	26	126	152	15	23	38	74	18	92	282
08:45 AM	42	116	158	20	24	44	68	18	86	288
Total	128	614	742	74	109	183	282	83	365	1290
Grand Total	318	1591	1909	201	257	458	773	193	966	3333
Apprch %	16.7	83.3		43.9	56.1		80	20		
Total %	9.5	47.7	57.3	6	7.7	13.7	23.2	5.8	29	
Passenger Vehicles	298	1528	1826	182	231	413	735	164	899	3138
% Passenger Vehicles	93.7	96	95.7	90.5	89.9	90.2	95.1	85	93.1	94.1
Large 2 Axle Vehicles	10	38	48	10	10	20	24	14	38	106
% Large 2 Axle Vehicles	3.1	2.4	2.5	5	3.9	4.4	3.1	7.3	3.9	3.2
3 Axle Vehicles	2	10	12	1	5	6	2	4	6	24
% 3 Axle Vehicles	0.6	0.6	0.6	0.5	1.9	1.3	0.3	2.1	0.6	0.7
4+ Axle Trucks	8	15	23	8	11	19	12	11	23	65
% 4+ Axle Trucks	2.5	0.9	1.2	4	4.3	4.1	1.6	5.7	2.4	2

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	40	230	270	29	24	53	**142**	29	**171**	494
07:15 AM	**65**	239	304	29	28	57	118	**36**	154	515
07:30 AM	42	**270**	**312**	**37**	**51**	**88**	120	22	142	**542**
07:45 AM	43	238	281	32	45	77	111	23	134	492
Total Volume	190	977	1167	127	148	275	491	110	601	2043
% App. Total	16.3	83.7		46.2	53.8		81.7	18.3		
PHF	.731	.905	.935	.858	.725	.781	.864	.764	.879	.942

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019



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

	07:00 AM			07:15 AM			07:00 AM		
+0 mins.	40	230	270	29	28	57	**142**	29	**171**
+15 mins.	**65**	239	304	**37**	**51**	**88**	118	**36**	154
+30 mins.	42	**270**	**312**	32	45	77	120	22	142
+45 mins.	43	238	281	24	33	57	111	23	134
Total Volume	190	977	1167	122	157	279	491	110	601
% App. Total	16.3	83.7		43.7	56.3		81.7	18.3	
PHF	.731	.905	.935	.824	.770	.793	.864	.764	.879

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- Passenger Vehicles

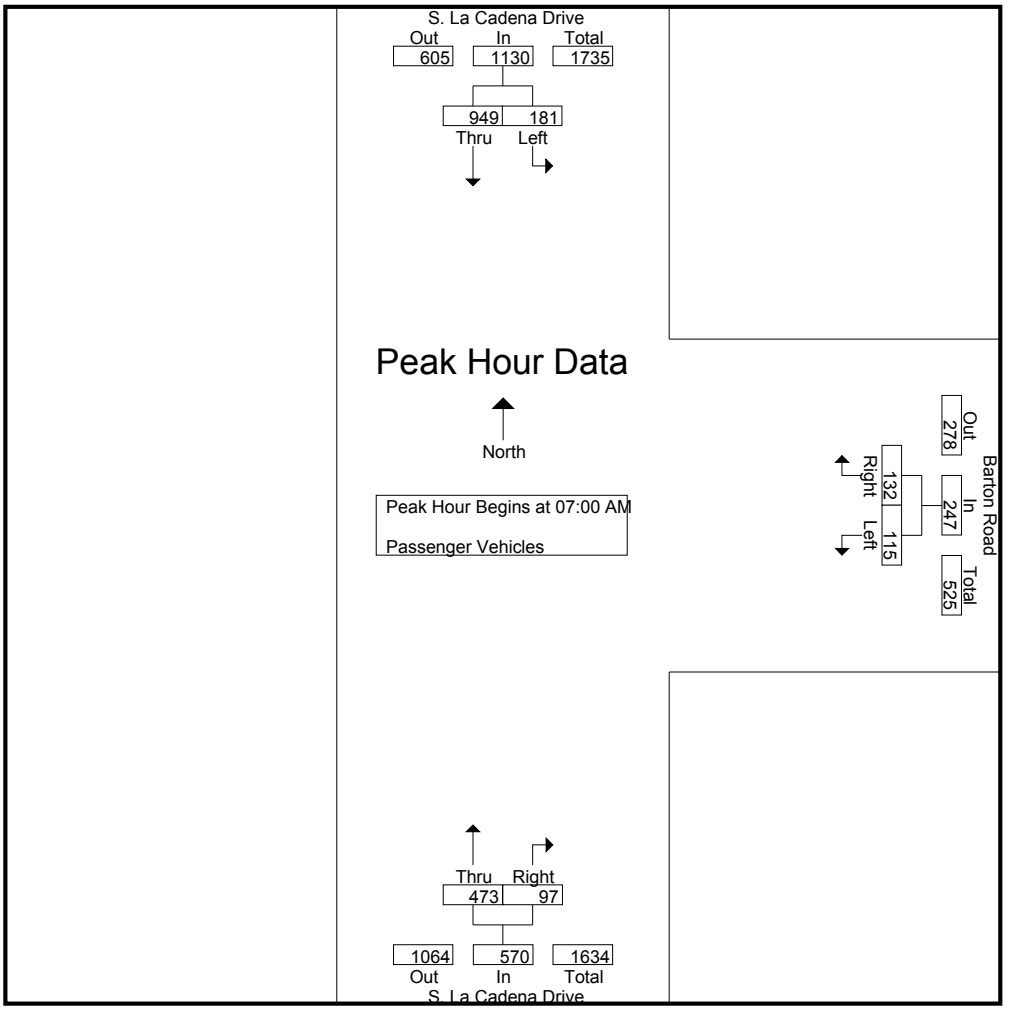
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	37	226	263	25	22	47	138	23	161	471
07:15 AM	65	230	295	27	25	52	112	35	147	494
07:30 AM	41	264	305	33	45	78	116	21	137	520
07:45 AM	38	229	267	30	40	70	107	18	125	462
Total	181	949	1130	115	132	247	473	97	570	1947
08:00 AM	27	191	218	24	29	53	68	21	89	360
08:15 AM	26	158	184	15	29	44	62	16	78	306
08:30 AM	25	120	145	14	21	35	70	14	84	264
08:45 AM	39	110	149	14	20	34	62	16	78	261
Total	117	579	696	67	99	166	262	67	329	1191
Grand Total	298	1528	1826	182	231	413	735	164	899	3138
Apprch %	16.3	83.7		44.1	55.9		81.8	18.2		
Total %	9.5	48.7	58.2	5.8	7.4	13.2	23.4	5.2	28.6	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	37	226	263	25	22	47	**138**	23	**161**	471
07:15 AM	**65**	230	295	27	25	52	112	**35**	147	494
07:30 AM	41	**264**	**305**	**33**	**45**	**78**	116	21	137	**520**
07:45 AM	38	229	267	30	40	70	107	18	125	462
Total Volume	181	949	1130	115	132	247	473	97	570	1947
% App. Total	16	84		46.6	53.4		83	17		
PHF	.696	.899	.926	.871	.733	.792	.857	.693	.885	.936

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	37	226	263	25	22	47	**138**	23	**161**
+15 mins.	**65**	230	295	27	25	52	112	**35**	147
+30 mins.	41	**264**	**305**	**33**	**45**	**78**	116	21	137
+45 mins.	38	229	267	30	40	70	107	18	125
Total Volume	181	949	1130	115	132	247	473	97	570
% App. Total	16	84		46.6	53.4		83	17	
PHF	.696	.899	.926	.871	.733	.792	.857	.693	.885

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

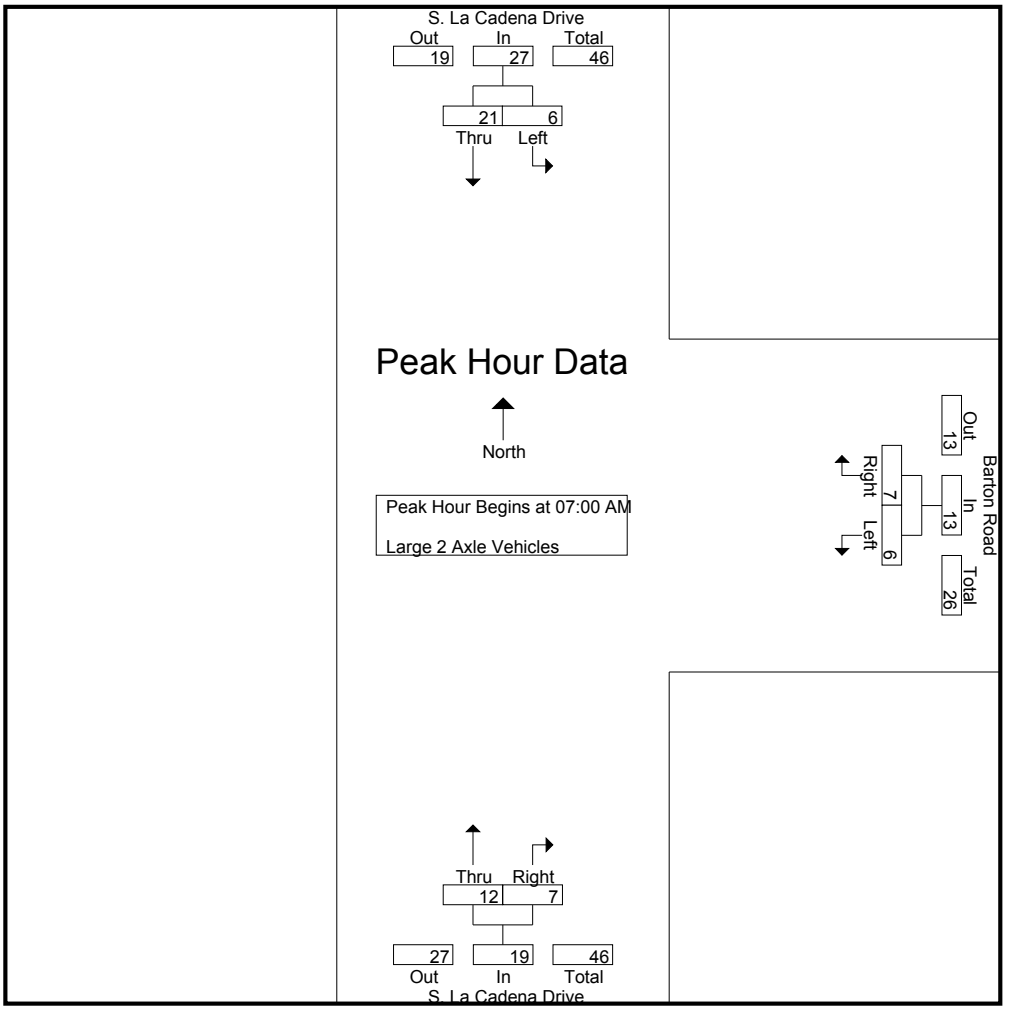
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	3	5	4	1	5	3	4	7	17
07:15 AM	0	7	7	1	1	2	3	0	3	12
07:30 AM	0	5	5	1	1	2	3	0	3	10
07:45 AM	4	6	10	0	4	4	3	3	6	20
Total	6	21	27	6	7	13	12	7	19	59
08:00 AM	1	5	6	0	2	2	4	2	6	14
08:15 AM	1	4	5	0	0	0	5	3	8	13
08:30 AM	1	4	5	0	0	0	1	1	2	7
08:45 AM	1	4	5	4	1	5	2	1	3	13
Total	4	17	21	4	3	7	12	7	19	47
Grand Total	10	38	48	10	10	20	24	14	38	106
Apprch %	20.8	79.2		50	50		63.2	36.8		
Total %	9.4	35.8	45.3	9.4	9.4	18.9	22.6	13.2	35.8	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	2	3	5	**4**	1	**5**	**3**	**4**	**7**	17
07:15 AM	0	**7**	7	1	1	2	3	0	3	12
07:30 AM	0	5	5	1	1	2	3	0	3	10
07:45 AM	**4**	6	**10**	0	**4**	4	3	3	6	**20**
Total Volume	6	21	27	6	7	13	12	7	19	59
% App. Total	22.2	77.8		46.2	53.8		63.2	36.8		
PHF	.375	.750	.675	.375	.438	.650	1.00	.438	.679	.738

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	2	3	5	**4**	1	**5**	**3**	**4**	**7**
+15 mins.	0	**7**	7	1	1	2	3	0	3
+30 mins.	0	5	5	1	1	2	3	0	3
+45 mins.	**4**	6	**10**	0	**4**	4	3	3	6
Total Volume	6	21	27	6	7	13	12	7	19
% App. Total	22.2	77.8		46.2	53.8		63.2	36.8	
PHF	.375	.750	.675	.375	.438	.650	1.000	.438	.679

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- 3 Axle Vehicles

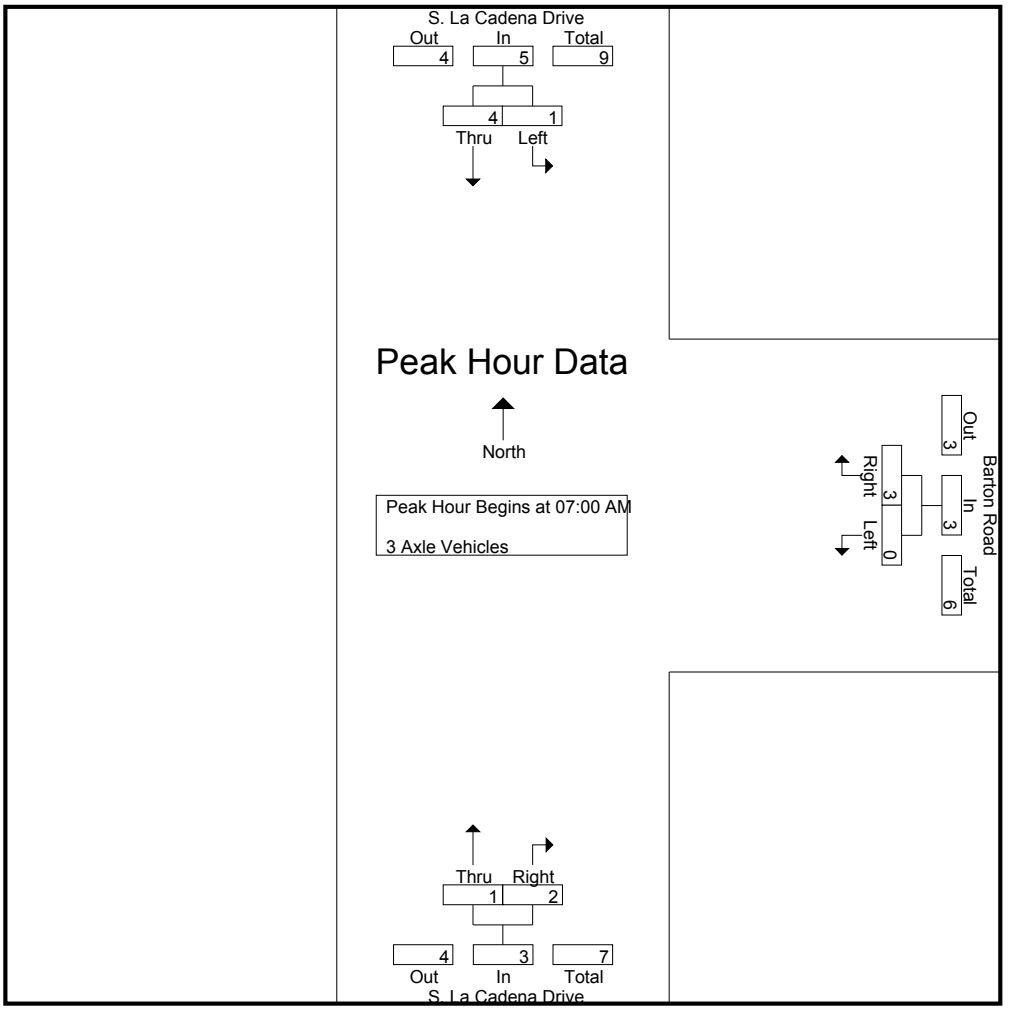
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	1	2	0	0	0	0	0	0	2
07:15 AM	0	1	1	0	0	0	1	0	1	2
07:30 AM	0	1	1	0	3	3	0	1	1	5
07:45 AM	0	1	1	0	0	0	0	1	1	2
Total	1	4	5	0	3	3	1	2	3	11
08:00 AM	0	2	2	0	0	0	0	1	1	3
08:15 AM	1	4	5	0	0	0	0	1	1	6
08:30 AM	0	0	0	1	0	1	1	0	1	2
08:45 AM	0	0	0	0	2	2	0	0	0	2
Total	1	6	7	1	2	3	1	2	3	13
Grand Total	2	10	12	1	5	6	2	4	6	24
Apprch %	16.7	83.3		16.7	83.3		33.3	66.7		
Total %	8.3	41.7	50	4.2	20.8	25	8.3	16.7	25	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**1**	**1**	**2**	0	0	0	0	0	0	2
07:15 AM	0	1	1	0	0	0	**1**	0	**1**	2
07:30 AM	0	1	1	0	**3**	**3**	0	**1**	1	**5**
07:45 AM	0	1	1	0	0	0	0	1	1	2
Total Volume	1	4	5	0	3	3	1	2	3	11
% App. Total	20	80		0	100		33.3	66.7		
PHF	.250	1.00	.625	.000	.250	.250	.250	.500	.750	.550

Counts Unlimited
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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**1**	**1**	**2**	0	0	0	0	0	0
+15 mins.	0	1	1	0	0	0	**1**	0	**1**
+30 mins.	0	1	1	0	**3**	**3**	0	**1**	1
+45 mins.	0	1	1	0	0	0	0	1	1
Total Volume	1	4	5	0	3	3	1	2	3
% App. Total	20	80		0	100		33.3	66.7	
PHF	.250	1.000	.625	.000	.250	.250	.250	.500	.750

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019

Groups Printed- 4+ Axle Trucks

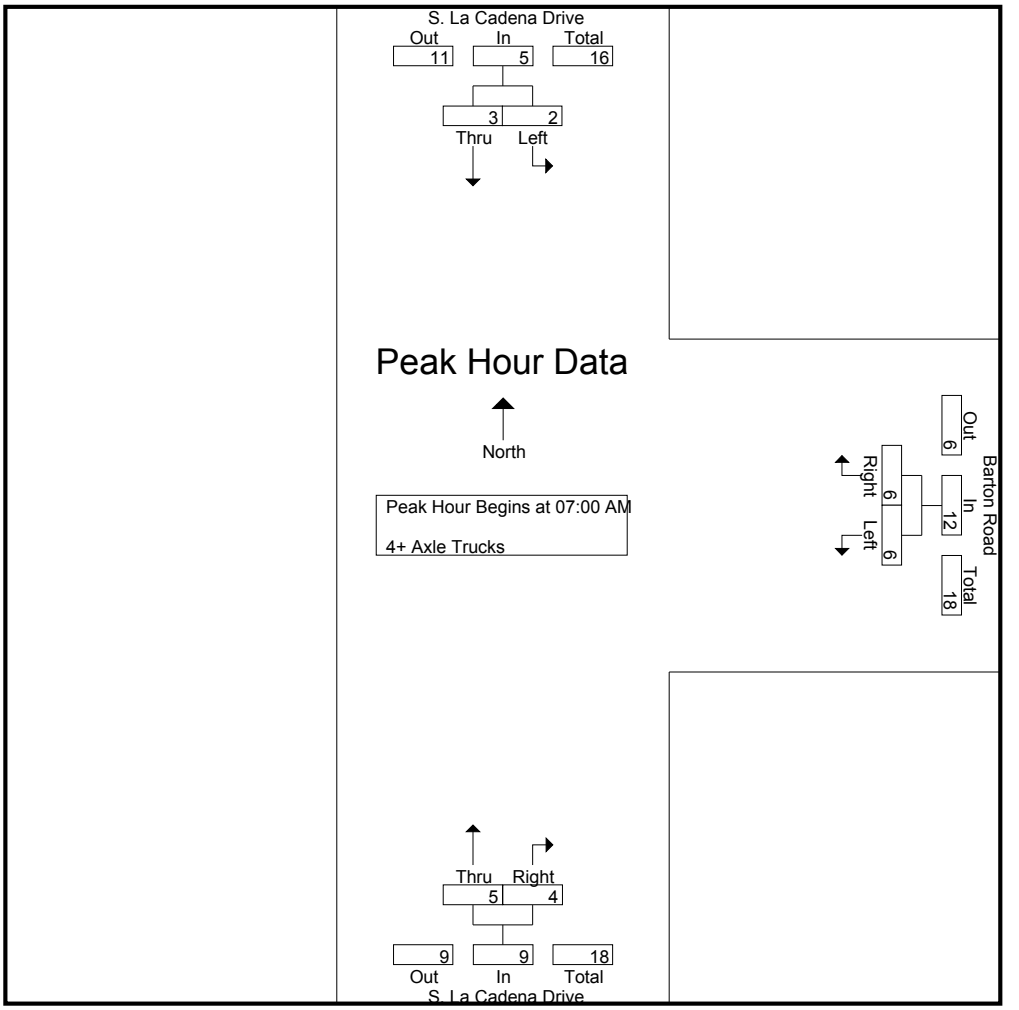
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	1	1	2	3	4
07:15 AM	0	1	1	1	2	3	2	1	3	7
07:30 AM	1	0	1	3	2	5	1	0	1	7
07:45 AM	1	2	3	2	1	3	1	1	2	8
Total	2	3	5	6	6	12	5	4	9	26
08:00 AM	3	3	6	0	2	2	0	1	1	9
08:15 AM	1	5	6	0	0	0	1	2	3	9
08:30 AM	0	2	2	0	2	2	2	3	5	9
08:45 AM	2	2	4	2	1	3	4	1	5	12
Total	6	12	18	2	5	7	7	7	14	39
Grand Total	8	15	23	8	11	19	12	11	23	65
Apprch %	34.8	65.2		42.1	57.9		52.2	47.8		
Total %	12.3	23.1	35.4	12.3	16.9	29.2	18.5	16.9	35.4	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	1	1	1	**2**	**3**	4
07:15 AM	0	1	1	1	**2**	3	**2**	1	3	7
07:30 AM	**1**	0	1	**3**	2	**5**	1	0	1	7
07:45 AM	1	**2**	**3**	2	1	3	1	1	2	**8**
Total Volume	2	3	5	6	6	12	5	4	9	26
% App. Total	40	60		50	50		55.6	44.4		
PHF	.500	.375	.417	.500	.750	.600	.625	.500	.750	.813

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_AM
Site Code : 999-1939
Start Date : 5/23/2019
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	1	1	1	**2**	**3**
+15 mins.	0	1	1	1	**2**	3	**2**	1	3
+30 mins.	**1**	0	1	**3**	2	**5**	1	0	1
+45 mins.	1	**2**	**3**	2	1	3	1	1	2
Total Volume	2	3	5	6	6	12	5	4	9
% App. Total	40	60		50	50		55.6	44.4	
PHF	.500	.375	.417	.500	.750	.600	.625	.500	.750

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

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

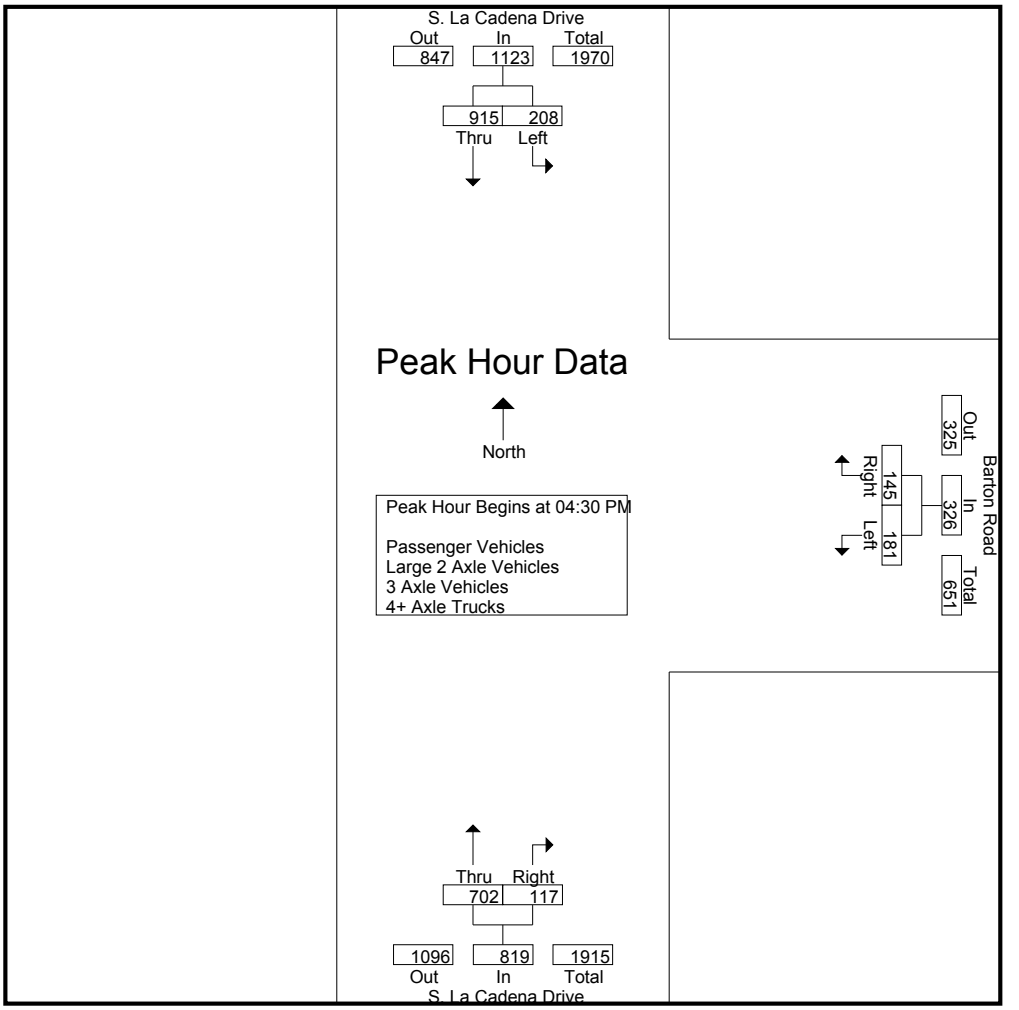
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	40	204	244	47	42	89	190	37	227	560
04:15 PM	56	201	257	47	38	85	147	33	180	522
04:30 PM	51	218	269	53	27	80	173	19	192	541
04:45 PM	58	228	286	33	44	77	184	36	220	583
Total	205	851	1056	180	151	331	694	125	819	2206
05:00 PM	52	239	291	43	43	86	167	24	191	568
05:15 PM	47	230	277	52	31	83	178	38	216	576
05:30 PM	65	224	289	42	27	69	151	25	176	534
05:45 PM	62	180	242	45	25	70	152	31	183	495
Total	226	873	1099	182	126	308	648	118	766	2173
Grand Total	431	1724	2155	362	277	639	1342	243	1585	4379
Apprch %	20	80		56.7	43.3		84.7	15.3		
Total %	9.8	39.4	49.2	8.3	6.3	14.6	30.6	5.5	36.2	
Passenger Vehicles	418	1686	2104	356	265	621	1305	222	1527	4252
% Passenger Vehicles	97	97.8	97.6	98.3	95.7	97.2	97.2	91.4	96.3	97.1
Large 2 Axle Vehicles	8	30	38	2	7	9	28	14	42	89
% Large 2 Axle Vehicles	1.9	1.7	1.8	0.6	2.5	1.4	2.1	5.8	2.6	2
3 Axle Vehicles	1	2	3	1	1	2	0	1	1	6
% 3 Axle Vehicles	0.2	0.1	0.1	0.3	0.4	0.3	0	0.4	0.1	0.1
4+ Axle Trucks	4	6	10	3	4	7	9	6	15	32
% 4+ Axle Trucks	0.9	0.3	0.5	0.8	1.4	1.1	0.7	2.5	0.9	0.7

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	51	218	269	**53**	27	80	173	19	192	541
04:45 PM	**58**	228	286	33	**44**	77	**184**	36	**220**	**583**
05:00 PM	52	**239**	**291**	43	43	**86**	167	24	191	568
05:15 PM	47	230	277	52	31	83	178	**38**	216	576
Total Volume	208	915	1123	181	145	326	702	117	819	2268
% App. Total	18.5	81.5		55.5	44.5		85.7	14.3		
PHF	.897	.957	.965	.854	.824	.948	.954	.770	.931	.973

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			04:00 PM		
+0 mins.	58	228	286	47	42	**89**	**190**	**37**	**227**
+15 mins.	52	**239**	**291**	47	38	85	147	33	180
+30 mins.	47	230	277	**53**	27	80	173	19	192
+45 mins.	**65**	224	289	33	**44**	77	184	36	220
Total Volume	222	921	1143	180	151	331	694	125	819
% App. Total	19.4	80.6		54.4	45.6		84.7	15.3	
PHF	.854	.963	.982	.849	.858	.930	.913	.845	.902

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
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Groups Printed- Passenger Vehicles

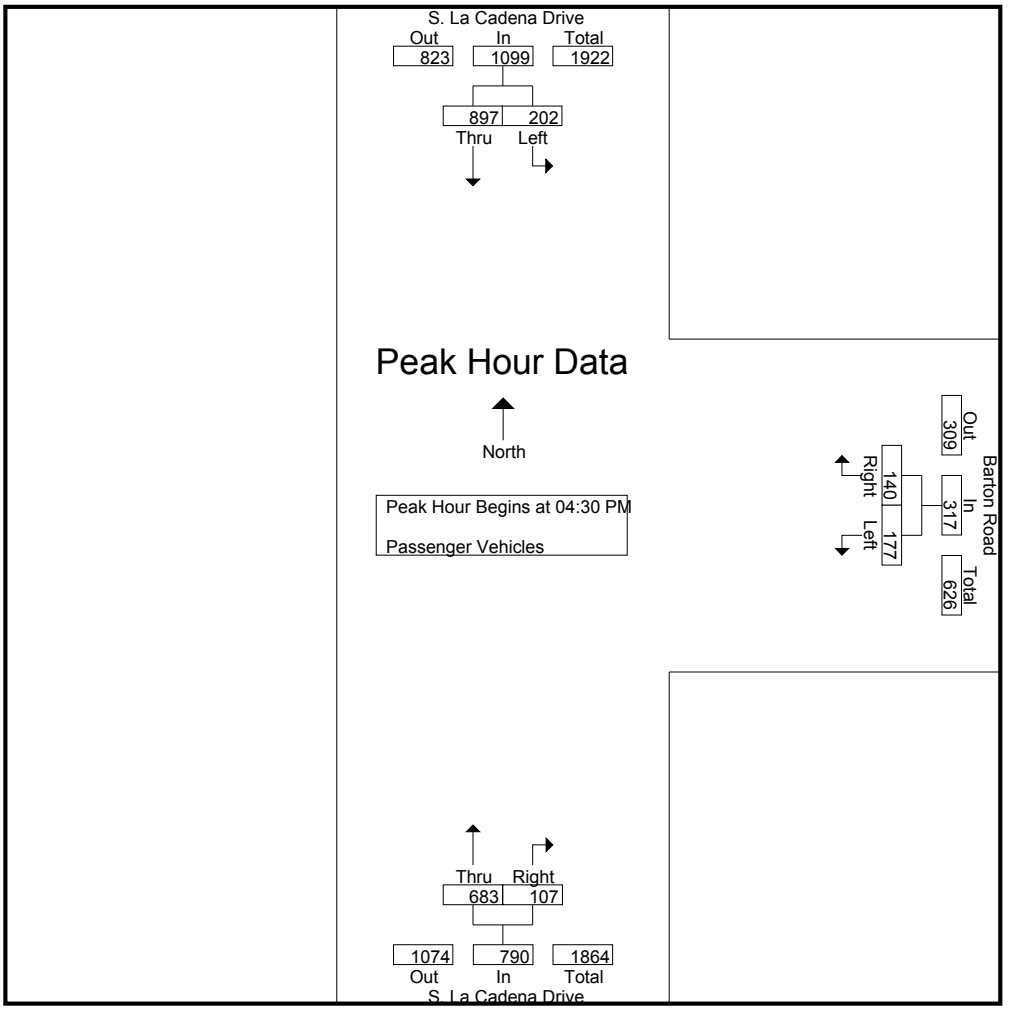
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	38	197	235	45	40	85	183	32	215	535
04:15 PM	54	194	248	47	36	83	139	30	169	500
04:30 PM	49	210	259	51	26	77	167	19	186	522
04:45 PM	57	224	281	33	44	77	179	28	207	565
Total	198	825	1023	176	146	322	668	109	777	2122
05:00 PM	50	234	284	42	42	84	161	23	184	552
05:15 PM	46	229	275	51	28	79	176	37	213	567
05:30 PM	64	220	284	42	27	69	150	24	174	527
05:45 PM	60	178	238	45	22	67	150	29	179	484
Total	220	861	1081	180	119	299	637	113	750	2130
Grand Total	418	1686	2104	356	265	621	1305	222	1527	4252
Apprch %	19.9	80.1		57.3	42.7		85.5	14.5		
Total %	9.8	39.7	49.5	8.4	6.2	14.6	30.7	5.2	35.9	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	49	210	259	**51**	26	77	167	19	186	522
04:45 PM	**57**	224	281	33	**44**	77	**179**	28	207	565
05:00 PM	50	**234**	**284**	42	42	**84**	161	23	184	552
05:15 PM	46	229	275	51	28	79	176	**37**	**213**	**567**
Total Volume	202	897	1099	177	140	317	683	107	790	2206
% App. Total	18.4	81.6		55.8	44.2		86.5	13.5		
PHF	.886	.958	.967	.868	.795	.943	.954	.723	.927	.973

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City of Grand Terrace
N/S: S. La Cadena Drive
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Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	49	210	259	**51**	26	77	167	19	186
+15 mins.	**57**	224	281	33	**44**	77	**179**	28	207
+30 mins.	50	**234**	**284**	42	42	**84**	161	23	184
+45 mins.	46	229	275	51	28	79	176	**37**	**213**
Total Volume	202	897	1099	177	140	317	683	107	790
% App. Total	18.4	81.6		55.8	44.2		86.5	13.5	
PHF	.886	.958	.967	.868	.795	.943	.954	.723	.927

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

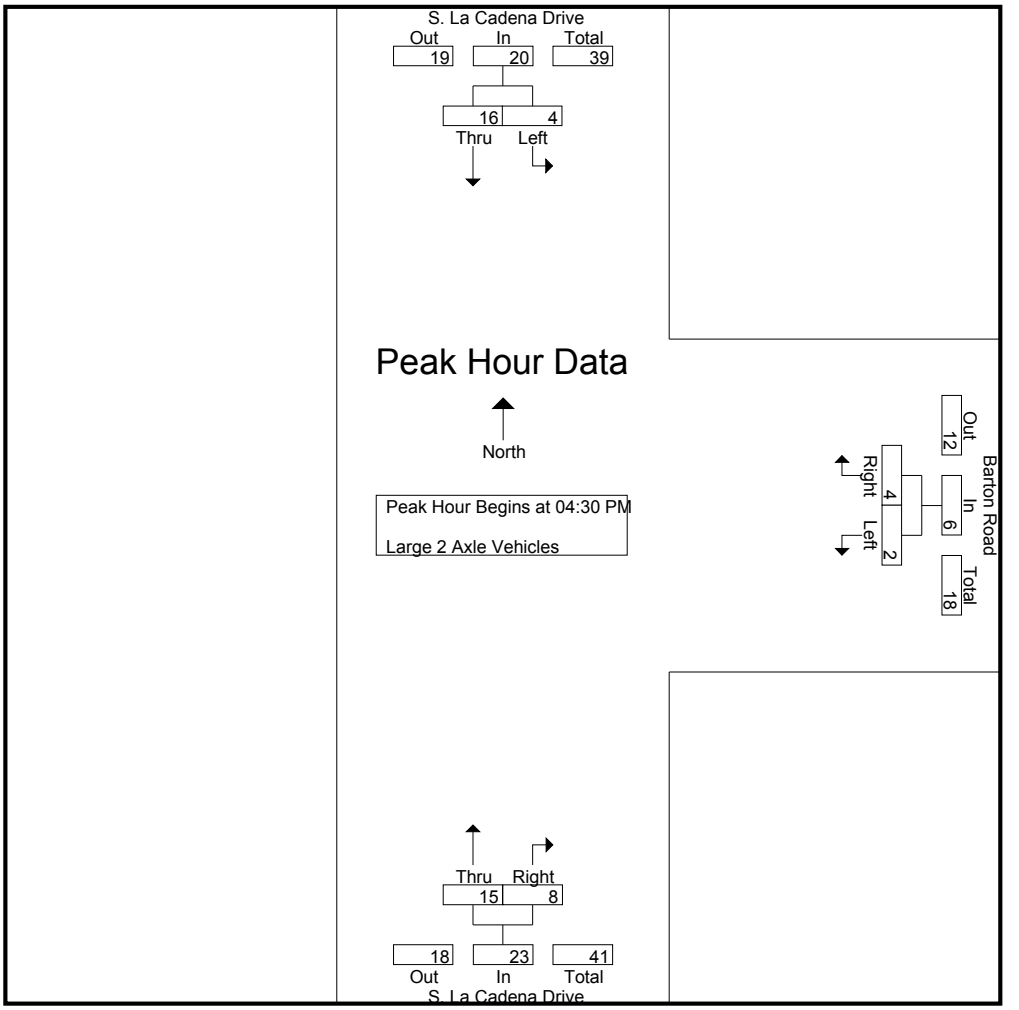
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	2	4	6	0	2	2	5	4	9	17
04:15 PM	1	4	5	0	0	0	5	2	7	12
04:30 PM	1	7	8	1	1	2	5	0	5	15
04:45 PM	1	4	5	0	0	0	5	6	11	16
Total	5	19	24	1	3	4	20	12	32	60
05:00 PM	2	4	6	1	1	2	3	1	4	12
05:15 PM	0	1	1	0	2	2	2	1	3	6
05:30 PM	0	4	4	0	0	0	1	0	1	5
05:45 PM	1	2	3	0	1	1	2	0	2	6
Total	3	11	14	1	4	5	8	2	10	29
Grand Total	8	30	38	2	7	9	28	14	42	89
Apprch %	21.1	78.9		22.2	77.8		66.7	33.3		
Total %	9	33.7	42.7	2.2	7.9	10.1	31.5	15.7	47.2	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	1	**7**	**8**	**1**	1	**2**	**5**	0	5	15
04:45 PM	1	4	5	0	0	0	5	**6**	**11**	**16**
05:00 PM	**2**	4	6	1	1	2	3	1	4	12
05:15 PM	0	1	1	0	**2**	2	2	1	3	6
Total Volume	4	16	20	2	4	6	15	8	23	49
% App. Total	20	80		33.3	66.7		65.2	34.8		
PHF	.500	.571	.625	.500	.500	.750	.750	.333	.523	.766

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City of Grand Terrace
N/S: S. La Cadena Drive
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Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	1	**7**	**8**	**1**	1	**2**	**5**	0	5
+15 mins.	1	4	5	0	0	0	5	**6**	**11**
+30 mins.	**2**	4	6	1	1	2	3	1	4
+45 mins.	0	1	1	0	**2**	2	2	1	3
Total Volume	4	16	20	2	4	6	15	8	23
% App. Total	20	80		33.3	66.7		65.2	34.8	
PHF	.500	.571	.625	.500	.500	.750	.750	.333	.523

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019

Groups Printed- 3 Axle Vehicles

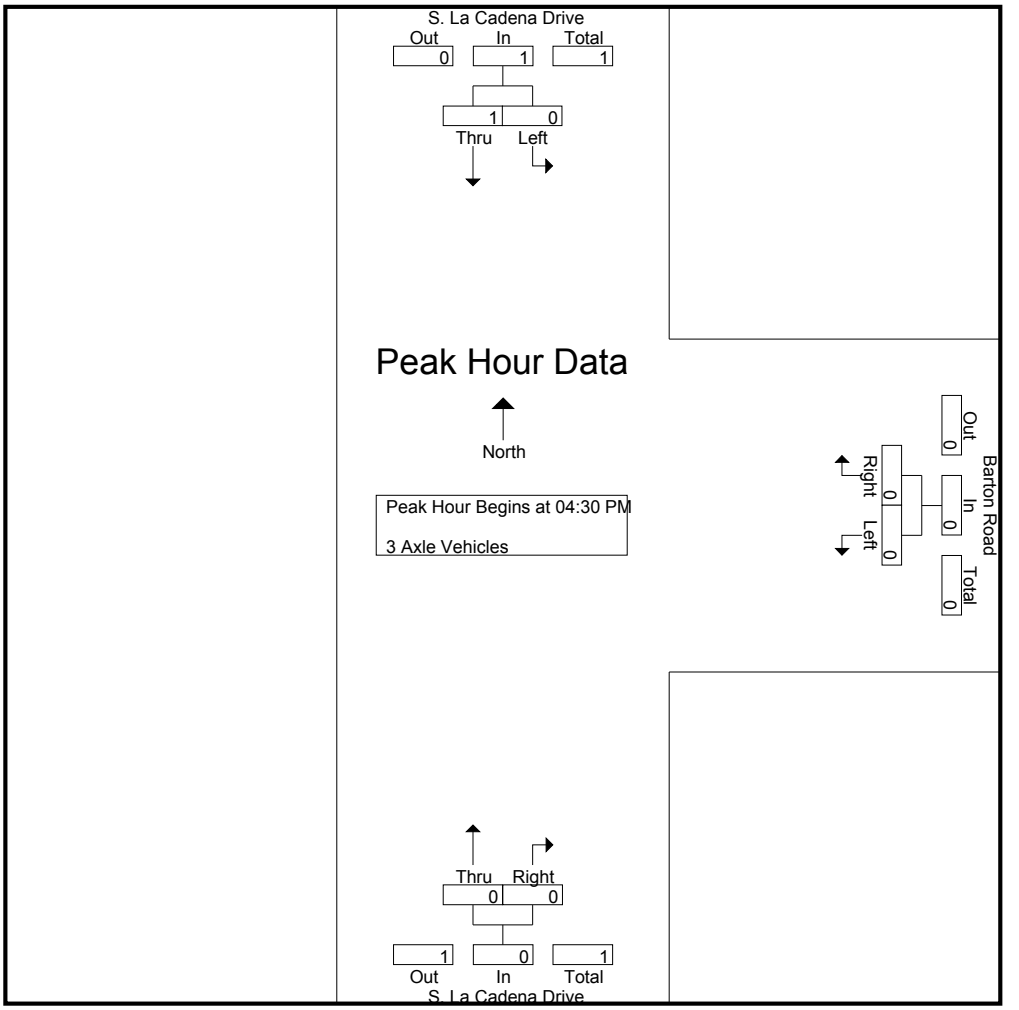
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	0	1	0	0	0	1
04:15 PM	1	1	2	0	1	1	0	1	1	4
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	2	3	1	1	2	0	1	1	6
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	1	2	3	1	1	2	0	1	1	6
Apprch %	33.3	66.7		50	50		0	100		
Total %	16.7	33.3	50	16.7	16.7	33.3	0	16.7	16.7	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**1**	**1**	0	0	0	0	0	0	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

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

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City of Grand Terrace
N/S: S. La Cadena Drive
E/W: Barton Road
Weather: Clear

File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019

Groups Printed- 4+ Axle Trucks

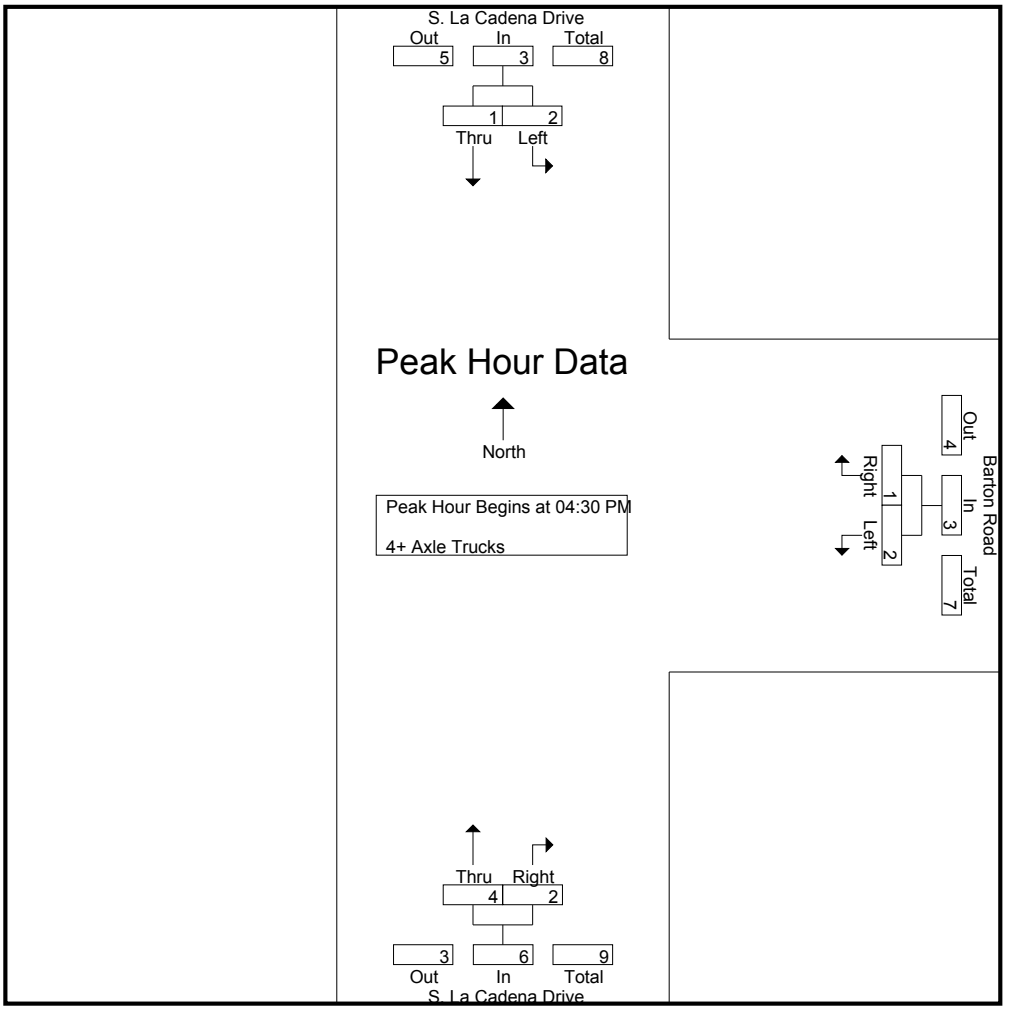
	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	3	3	1	0	1	2	1	3	7
04:15 PM	0	2	2	0	1	1	3	0	3	6
04:30 PM	1	0	1	1	0	1	1	0	1	3
04:45 PM	0	0	0	0	0	0	0	2	2	2
Total	1	5	6	2	1	3	6	3	9	18
05:00 PM	0	1	1	0	0	0	3	0	3	4
05:15 PM	1	0	1	1	1	2	0	0	0	3
05:30 PM	1	0	1	0	0	0	0	1	1	2
05:45 PM	1	0	1	0	2	2	0	2	2	5
Total	3	1	4	1	3	4	3	3	6	14
Grand Total	4	6	10	3	4	7	9	6	15	32
Apprch %	40	60		42.9	57.1		60	40		
Total %	12.5	18.8	31.2	9.4	12.5	21.9	28.1	18.8	46.9	

	S. La Cadena Drive Southbound			Barton Road Westbound			S. La Cadena Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**1**	0	**1**	**1**	0	1	1	0	1	3
04:45 PM	0	0	0	0	0	0	0	**2**	2	2
05:00 PM	0	**1**	1	0	0	0	**3**	0	**3**	**4**
05:15 PM	1	0	1	1	**1**	**2**	0	0	0	3
Total Volume	2	1	3	2	1	3	4	2	6	12
% App. Total	66.7	33.3		66.7	33.3		66.7	33.3		
PHF	.500	.250	.750	.500	.250	.375	.333	.250	.500	.750

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City of Grand Terrace
N/S: S. La Cadena Drive
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File Name : 01_GTC_La Cadena_Barton_PM
Site Code : 999-1939
Start Date : 5/23/2019
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**1**	0	**1**	**1**	0	1	1	0	1
+15 mins.	0	0	0	0	0	0	0	**2**	2
+30 mins.	0	**1**	1	0	0	0	**3**	0	**3**
+45 mins.	1	0	1	1	**1**	**2**	0	0	0
Total Volume	2	1	3	2	1	3	4	2	6
% App. Total	66.7	33.3		66.7	33.3		66.7	33.3	
PHF	.500	.250	.750	.500	.250	.375	.333	.250	.500

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City of Colton
N/S: 9th Street
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COL910EAM
Site Code : 10245050
Start Date : 11/17/2010
Page No : 1

Groups Printed- Total Volume

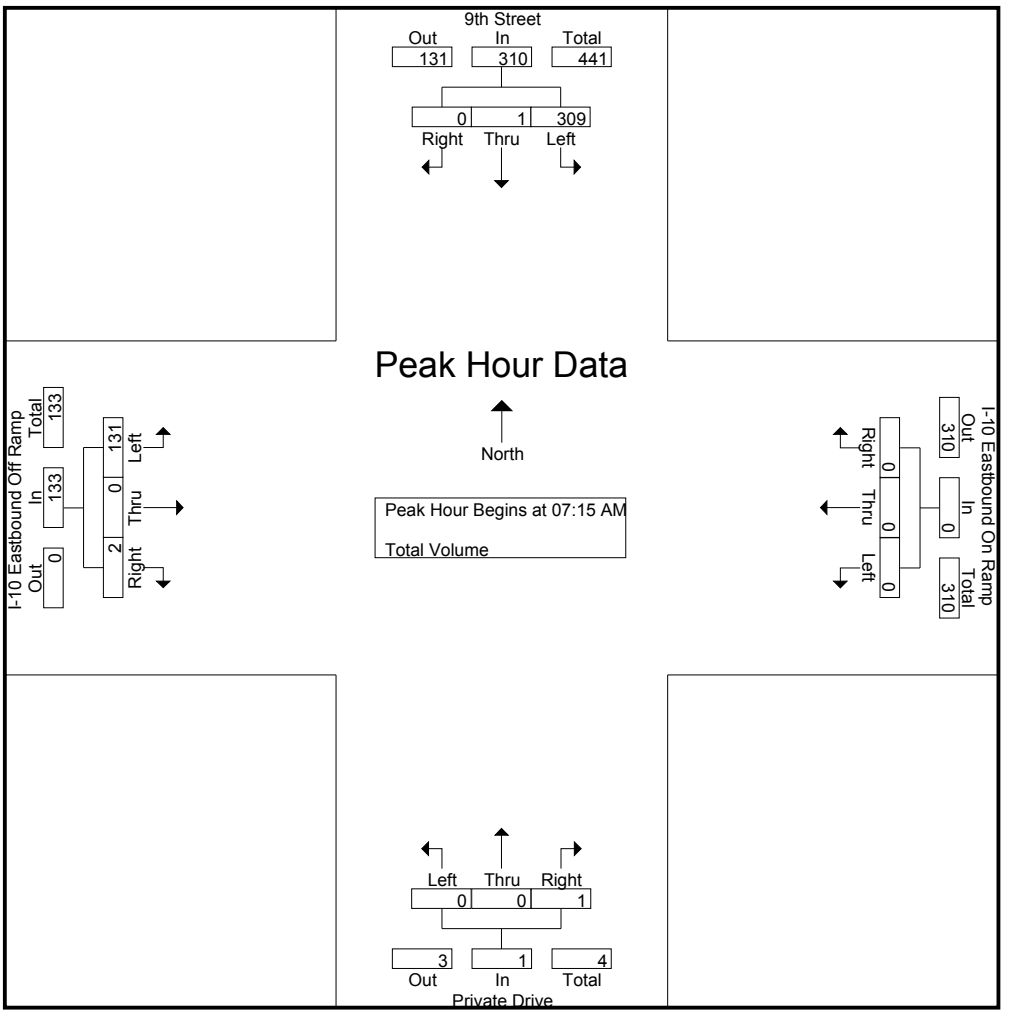
	9th Street Southbound				I-10 Eastbound On Ramp Westbound				Private Drive Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	50	0	0	50	0	0	0	0	0	0	0	0	19	0	0	19	69
07:15 AM	104	0	0	104	0	0	0	0	0	0	0	0	27	0	0	27	131
07:30 AM	84	0	0	84	0	0	0	0	0	0	0	0	33	0	0	33	117
07:45 AM	68	0	0	68	0	0	0	0	0	0	1	1	41	0	2	43	112
Total	306	0	0	306	0	0	0	0	0	0	1	1	120	0	2	122	429
08:00 AM	53	1	0	54	0	0	0	0	0	0	0	0	30	0	0	30	84
08:15 AM	45	0	0	45	0	0	0	0	0	1	0	1	24	1	0	25	71
08:30 AM	38	0	0	38	0	0	0	0	0	1	0	1	24	0	0	24	63
08:45 AM	34	0	0	34	0	0	0	0	0	0	0	0	41	0	0	41	75
Total	170	1	0	171	0	0	0	0	0	2	0	2	119	1	0	120	293
Grand Total	476	1	0	477	0	0	0	0	0	2	1	3	239	1	2	242	722
Apprch %	99.8	0.2	0		0	0	0		0	66.7	33.3		98.8	0.4	0.8		
Total %	65.9	0.1	0	66.1	0	0	0	0	0	0.3	0.1	0.4	33.1	0.1	0.3	33.5	

	9th Street Southbound				I-10 Eastbound On Ramp Westbound				Private Drive Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**104**	0	0	**104**	0	0	0	0	0	0	0	0	27	0	0	27	**131**
07:30 AM	84	0	0	84	0	0	0	0	0	0	0	0	33	0	0	33	117
07:45 AM	68	0	0	68	0	0	0	0	0	0	**1**	**1**	**41**	0	**2**	**43**	112
08:00 AM	53	**1**	0	54	0	0	0	0	0	0	0	0	30	0	0	30	84
Total Volume	309	1	0	310	0	0	0	0	0	0	1	1	131	0	2	133	444
% App. Total	99.7	0.3	0		0	0	0		0	0	100		98.5	0	1.5		
PHF	.743	.250	.000	.745	.000	.000	.000	.000	.000	.000	.250	.250	.799	.000	.250	.773	.847

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Corona, CA 92878
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City of Colton
N/S: 9th Street
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COL910EAM
Site Code : 10245050
Start Date : 11/17/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:45 AM				07:15 AM			
+0 mins.	**104**	0	0	**104**	0	0	0	0	0	0	**1**	**1**	27	0	0	27
+15 mins.	84	0	0	84	0	0	0	0	0	0	0	0	33	0	0	33
+30 mins.	68	0	0	68	0	0	0	0	0	**1**	0	1	**41**	0	**2**	**43**
+45 mins.	53	**1**	0	54	0	0	0	0	0	1	0	1	30	0	0	30
Total Volume	309	1	0	310	0	0	0	0	0	2	1	3	131	0	2	133
% App. Total	99.7	0.3	0		0	0	0		0	66.7	33.3		98.5	0	1.5	
PHF	.743	.250	.000	.745	.000	.000	.000	.000	.000	.500	.250	.750	.799	.000	.250	.773

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City of Colton
N/S: 9th Street
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COL910EPM
Site Code : 10245050
Start Date : 11/17/2010
Page No : 1

Groups Printed- Total Volume

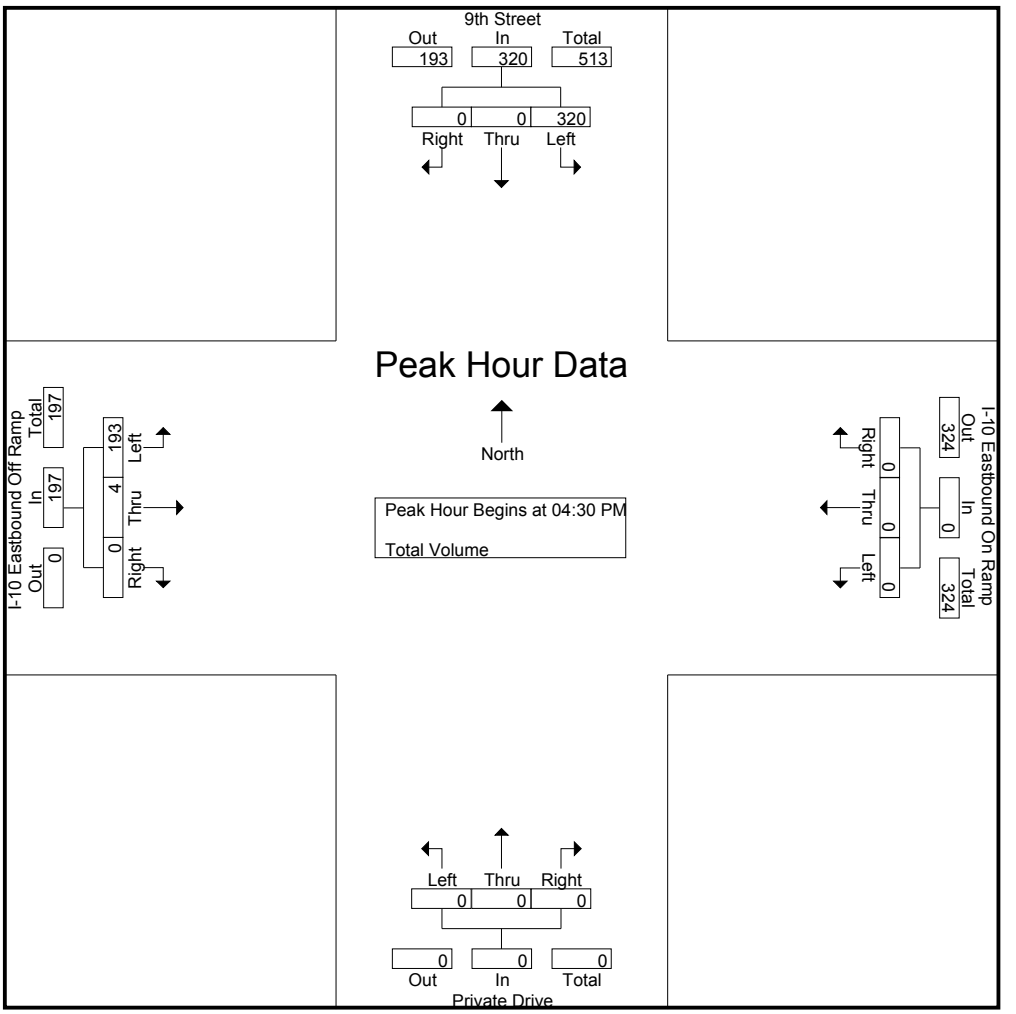
	9th Street Southbound				I-10 Eastbound On Ramp Westbound				Private Drive Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	82	1	0	83	0	0	0	0	0	0	2	2	43	0	0	43	128
04:15 PM	58	0	0	58	0	0	0	0	0	0	0	0	43	0	0	43	101
04:30 PM	85	0	0	85	0	0	0	0	0	0	0	0	50	0	0	50	135
04:45 PM	70	0	0	70	0	0	0	0	0	0	0	0	49	2	0	51	121
Total	295	1	0	296	0	0	0	0	0	0	2	2	185	2	0	187	485
05:00 PM	98	0	0	98	0	0	0	0	0	0	0	0	45	1	0	46	144
05:15 PM	67	0	0	67	0	0	0	0	0	0	0	0	49	1	0	50	117
05:30 PM	63	1	0	64	0	0	0	0	0	0	1	1	47	1	0	48	113
05:45 PM	64	1	0	65	0	0	0	0	0	1	0	1	46	0	0	46	112
Total	292	2	0	294	0	0	0	0	0	1	1	2	187	3	0	190	486
Grand Total	587	3	0	590	0	0	0	0	0	1	3	4	372	5	0	377	971
Apprch %	99.5	0.5	0		0	0	0		0	25	75		98.7	1.3	0		
Total %	60.5	0.3	0	60.8	0	0	0	0	0	0.1	0.3	0.4	38.3	0.5	0	38.8	

	9th Street Southbound				I-10 Eastbound On Ramp Westbound				Private Drive Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	85	0	0	85	0	0	0	0	0	0	0	0	**50**	0	0	50	135
04:45 PM	70	0	0	70	0	0	0	0	0	0	0	0	49	**2**	0	**51**	121
05:00 PM	**98**	0	0	**98**	0	0	0	0	0	0	0	0	45	1	0	46	**144**
05:15 PM	67	0	0	67	0	0	0	0	0	0	0	0	49	1	0	50	117
Total Volume	320	0	0	320	0	0	0	0	0	0	0	0	193	4	0	197	517
% App. Total	100	0	0		0	0	0		0	0	0		98	2	0		
PHF	.816	.000	.000	.816	.000	.000	.000	.000	.000	.000	.000	.000	.965	.500	.000	.966	.898

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PO Box 1178
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City of Colton
N/S: 9th Street
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COL910EPM
Site Code : 10245050
Start Date : 11/17/2010
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	85	0	0	85	0	0	0	0	0	0	**2**	**2**	**50**	0	0	50
+15 mins.	70	0	0	70	0	0	0	0	0	0	0	0	49	**2**	0	**51**
+30 mins.	**98**	0	0	**98**	0	0	0	0	0	0	0	0	45	1	0	46
+45 mins.	67	0	0	67	0	0	0	0	0	0	0	0	49	1	0	50
Total Volume	320	0	0	320	0	0	0	0	0	0	2	2	193	4	0	197
% App. Total	100	0	0		0	0	0		0	0	100		98	2	0	
PHF	.816	.000	.000	.816	.000	.000	.000	.000	.000	.000	.250	.250	.965	.500	.000	.966

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City of Colton
N/S: 9th Street
E/W: I-10 Westbound Off Ramp
Weather: Sunny

File Name : COL910WAM
Site Code : 10245092
Start Date : 11/17/2010
Page No : 1

Groups Printed- Total Volume

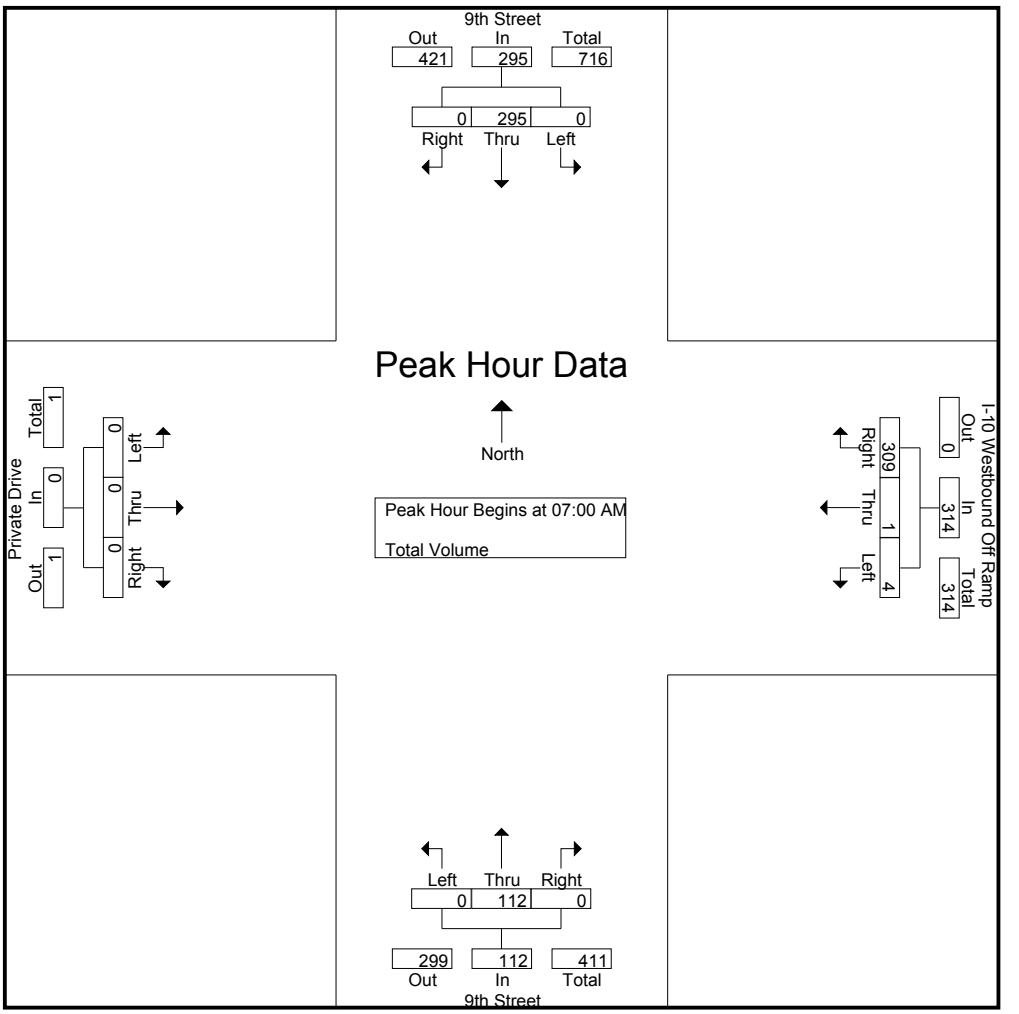
	9th Street Southbound				I-10 Westbound Off Ramp Westbound				9th Street Northbound				Private Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	49	0	49	1	0	85	86	0	19	0	19	0	0	0	0	154
07:15 AM	0	104	0	104	0	0	101	101	0	26	0	26	0	0	0	0	231
07:30 AM	0	78	0	78	0	0	54	54	0	28	0	28	0	0	0	0	160
07:45 AM	0	64	0	64	3	1	69	73	0	39	0	39	0	0	0	0	176
Total	0	295	0	295	4	1	309	314	0	112	0	112	0	0	0	0	721
08:00 AM	0	47	0	47	1	0	40	41	0	30	0	30	0	0	0	0	118
08:15 AM	0	41	0	41	0	1	39	40	0	25	0	25	0	0	0	0	106
08:30 AM	0	32	0	32	5	0	58	63	0	22	0	22	0	0	0	0	117
08:45 AM	0	35	0	35	1	0	44	45	0	37	0	37	0	0	0	0	117
Total	0	155	0	155	7	1	181	189	0	114	0	114	0	0	0	0	458
Grand Total	0	450	0	450	11	2	490	503	0	226	0	226	0	0	0	0	1179
Apprch %	0	100	0		2.2	0.4	97.4		0	100	0		0	0	0		
Total %	0	38.2	0	38.2	0.9	0.2	41.6	42.7	0	19.2	0	19.2	0	0	0	0	

	9th Street Southbound				I-10 Westbound Off Ramp Westbound				9th Street Northbound				Private Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	49	0	49	1	0	85	86	0	19	0	19	0	0	0	0	154
07:15 AM	0	**104**	0	**104**	0	0	**101**	**101**	0	26	0	26	0	0	0	0	**231**
07:30 AM	0	78	0	78	0	0	54	54	0	28	0	28	0	0	0	0	160
07:45 AM	0	64	0	64	**3**	**1**	69	73	0	**39**	0	**39**	0	0	0	0	176
Total Volume	0	295	0	295	4	1	309	314	0	112	0	112	0	0	0	0	721
% App. Total	0	100	0		1.3	0.3	98.4		0	100	0		0	0	0		
PHF	.000	.709	.000	.709	.333	.250	.765	.777	.000	.718	.000	.718	.000	.000	.000	.000	.780

Counts Unlimited Inc.
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City of Colton
N/S: 9th Street
E/W: I-10 Westbound Off Ramp
Weather: Sunny

File Name : COL910WAM
Site Code : 10245092
Start Date : 11/17/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:15 AM				07:00 AM			
+0 mins.	0	49	0	49	1	0	85	86	0	26	0	26	0	0	0	0
+15 mins.	0	**104**	0	**104**	0	0	**101**	**101**	0	28	0	28	0	0	0	0
+30 mins.	0	78	0	78	0	0	54	54	0	**39**	0	**39**	0	0	0	0
+45 mins.	0	64	0	64	**3**	**1**	69	73	0	30	0	30	0	0	0	0
Total Volume	0	295	0	295	4	1	309	314	0	123	0	123	0	0	0	0
% App. Total	0	100	0		1.3	0.3	98.4		0	100	0		0	0	0	
PHF	.000	.709	.000	.709	.333	.250	.765	.777	.000	.788	.000	.788	.000	.000	.000	.000

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City of Colton
N/S: 9th Street
E/W: I-10 Westbound Off Ramp
Weather: Sunny

File Name : COL910WPM
Site Code : 10245092
Start Date : 11/17/2010
Page No : 1

Groups Printed- Total Volume

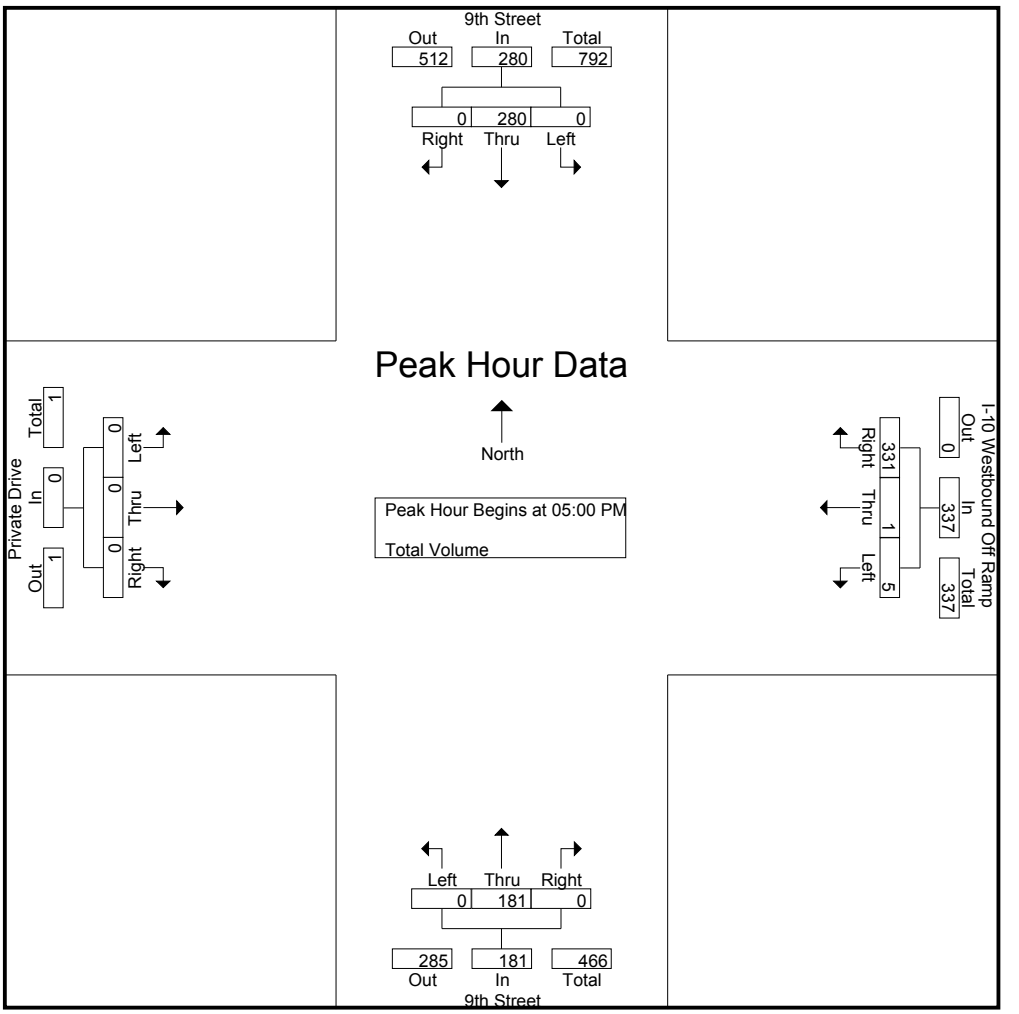
	9th Street Southbound				I-10 Westbound Off Ramp Westbound				9th Street Northbound				Private Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	77	0	77	3	1	63	67	0	40	0	40	0	0	0	0	184
04:15 PM	0	58	0	58	1	1	44	46	0	44	0	44	0	0	0	0	148
04:30 PM	0	79	0	79	1	1	60	62	0	52	0	52	0	0	0	0	193
04:45 PM	0	64	0	64	1	1	68	70	0	48	0	48	0	0	0	0	182
Total	0	278	0	278	6	4	235	245	0	184	0	184	0	0	0	0	707
05:00 PM	0	88	0	88	1	1	74	76	0	42	0	42	0	0	0	0	206
05:15 PM	0	66	0	66	2	0	78	80	0	51	0	51	0	0	0	0	197
05:30 PM	0	65	0	65	0	0	98	98	0	44	0	44	0	0	0	0	207
05:45 PM	0	61	0	61	2	0	81	83	0	44	0	44	0	0	0	0	188
Total	0	280	0	280	5	1	331	337	0	181	0	181	0	0	0	0	798
Grand Total	0	558	0	558	11	5	566	582	0	365	0	365	0	0	0	0	1505
Apprch %	0	100	0		1.9	0.9	97.3		0	100	0		0	0	0		
Total %	0	37.1	0	37.1	0.7	0.3	37.6	38.7	0	24.3	0	24.3	0	0	0	0	

	9th Street Southbound				I-10 Westbound Off Ramp Westbound				9th Street Northbound				Private Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**88**	0	**88**	1	**1**	74	76	0	42	0	42	0	0	0	0	206
05:15 PM	0	66	0	66	**2**	0	78	80	0	**51**	0	**51**	0	0	0	0	197
05:30 PM	0	65	0	65	0	0	**98**	**98**	0	44	0	44	0	0	0	0	**207**
05:45 PM	0	61	0	61	2	0	81	83	0	44	0	44	0	0	0	0	188
Total Volume	0	280	0	280	5	1	331	337	0	181	0	181	0	0	0	0	798
% App. Total	0	100	0		1.5	0.3	98.2		0	100	0		0	0	0		
PHF	.000	.795	.000	.795	.625	.250	.844	.860	.000	.887	.000	.887	.000	.000	.000	.000	.964

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(951) 268-6268

City of Colton
N/S: 9th Street
E/W: I-10 Westbound Off Ramp
Weather: Sunny

File Name : COL910WPM
Site Code : 10245092
Start Date : 11/17/2010
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:30 PM				04:00 PM			
+0 mins.	0	79	0	79	1	**1**	74	76	0	**52**	0	**52**	0	0	0	0
+15 mins.	0	64	0	64	**2**	0	78	80	0	48	0	48	0	0	0	0
+30 mins.	0	**88**	0	**88**	0	0	**98**	**98**	0	42	0	42	0	0	0	0
+45 mins.	0	66	0	66	2	0	81	83	0	51	0	51	0	0	0	0
Total Volume	0	297	0	297	5	1	331	337	0	193	0	193	0	0	0	0
% App. Total	0	100	0		1.5	0.3	98.2		0	100	0		0	0	0	
PHF	.000	.844	.000	.844	.625	.250	.844	.860	.000	.928	.000	.928	.000	.000	.000	.000

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City of Colton
N/S: La Cadena Drive
E/W: I-10 Westbound On Ramp
Weather: Sunny

File Name : COLLC10WAM
Site Code : 10245097
Start Date : 11/18/2010

Groups Printed- Total Volume

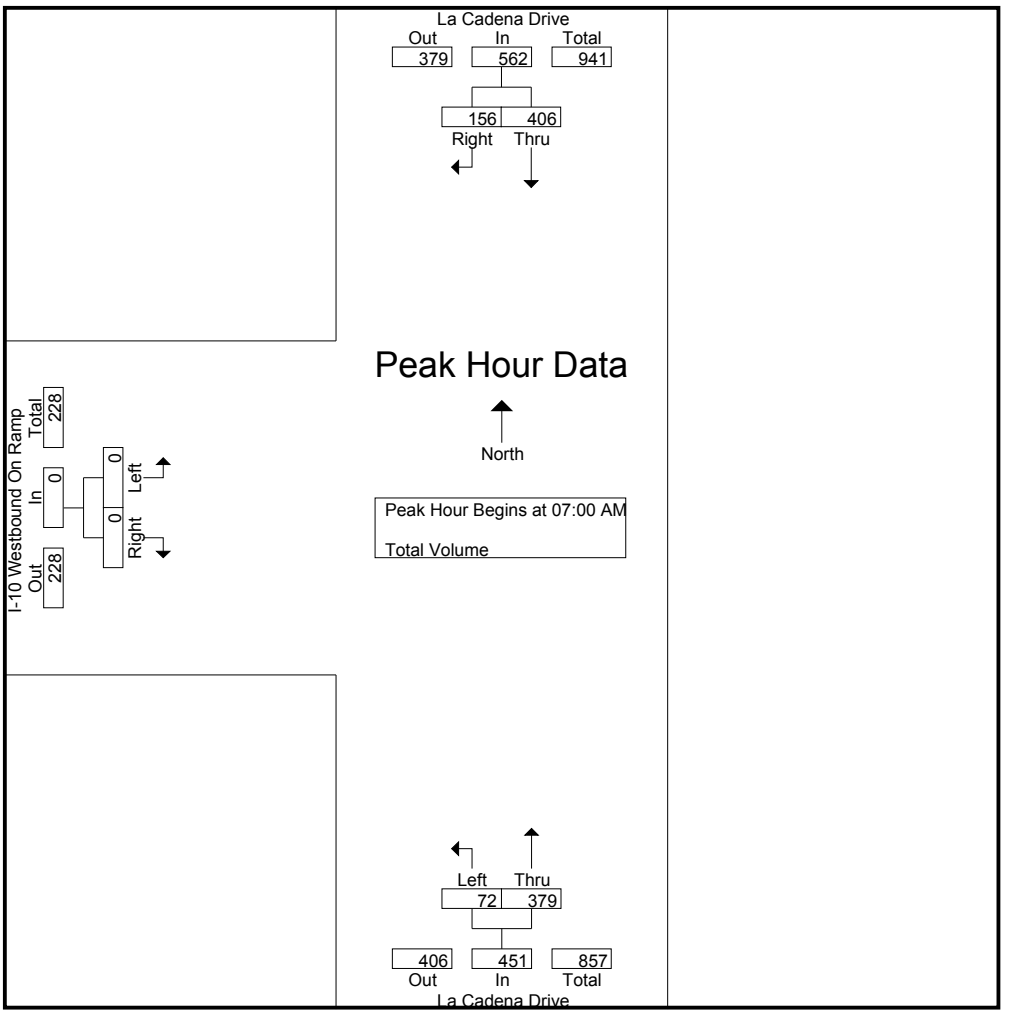
	La Cadena Drive Southbound			La Cadena Drive Northbound			I-10 Westbound On Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	75	45	120	16	99	115	0	0	0	235
07:15 AM	101	43	144	18	128	146	0	0	0	290
07:30 AM	125	38	163	17	71	88	0	0	0	251
07:45 AM	105	30	135	21	81	102	0	0	0	237
Total	406	156	562	72	379	451	0	0	0	1013
08:00 AM	87	28	115	12	79	91	0	0	0	206
08:15 AM	54	21	75	15	79	94	0	0	0	169
08:30 AM	53	24	77	11	78	89	0	0	0	166
08:45 AM	66	32	98	11	81	92	0	0	0	190
Total	260	105	365	49	317	366	0	0	0	731
Grand Total	666	261	927	121	696	817	0	0	0	1744
Apprch %	71.8	28.2		14.8	85.2		0	0		
Total %	38.2	15	53.2	6.9	39.9	46.8	0	0	0	

	La Cadena Drive Southbound			La Cadena Drive Northbound			I-10 Westbound On Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	75	**45**	120	16	99	115	0	0	0	235
07:15 AM	101	43	144	18	**128**	**146**	0	0	0	**290**
07:30 AM	**125**	38	**163**	17	71	88	0	0	0	251
07:45 AM	105	30	135	**21**	81	102	0	0	0	237
Total Volume	406	156	562	72	379	451	0	0	0	1013
% App. Total	72.2	27.8		16	84		0	0		
PHF	.812	.867	.862	.857	.740	.772	.000	.000	.000	.873

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City of Colton
N/S: La Cadena Drive
E/W: I-10 Westbound On Ramp
Weather: Sunny

File Name : COLLC10WAM
Site Code : 10245097
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	75	**45**	120	16	99	115	0	0	0
+15 mins.	101	43	144	18	**128**	**146**	0	0	0
+30 mins.	**125**	38	**163**	17	71	88	0	0	0
+45 mins.	105	30	135	**21**	81	102	0	0	0
Total Volume	406	156	562	72	379	451	0	0	0
% App. Total	72.2	27.8		16	84		0	0	
PHF	.812	.867	.862	.857	.740	.772	.000	.000	.000

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City of Colton
N/S: La Cadena Drive
E/W: I-10 Westbound On Ramp
Weather: Sunny

File Name : COLLC10WPM
Site Code : 10245131
Start Date : 11/18/2010

Groups Printed- Total Volume

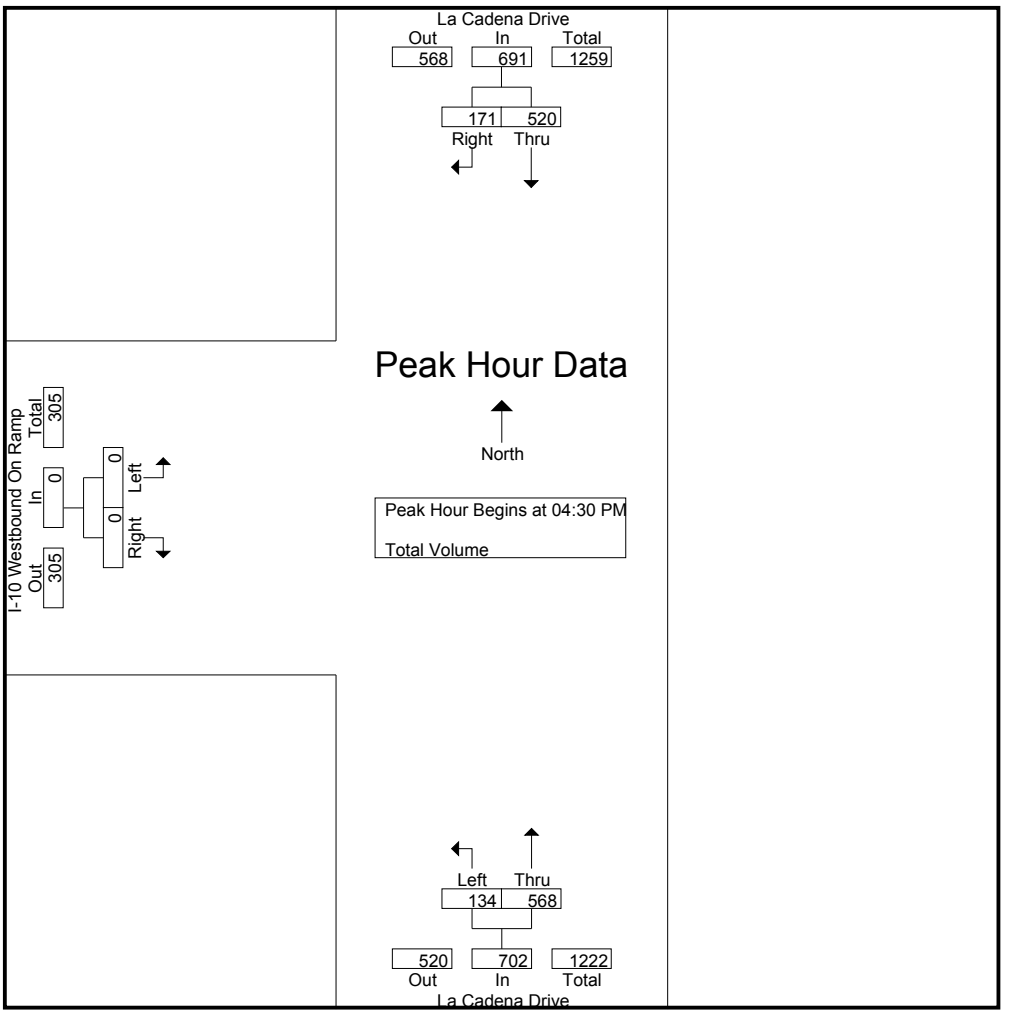
	La Cadena Drive Southbound			La Cadena Drive Northbound			I-10 Westbound On Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	120	26	146	29	146	175	0	0	0	321
04:15 PM	118	38	156	21	128	149	0	0	0	305
04:30 PM	133	37	170	33	157	190	0	0	0	360
04:45 PM	111	37	148	34	133	167	0	0	0	315
Total	482	138	620	117	564	681	0	0	0	1301
05:00 PM	140	52	192	48	140	188	0	0	0	380
05:15 PM	136	45	181	19	138	157	0	0	0	338
05:30 PM	140	44	184	17	127	144	0	0	0	328
05:45 PM	134	54	188	13	120	133	0	0	0	321
Total	550	195	745	97	525	622	0	0	0	1367
Grand Total	1032	333	1365	214	1089	1303	0	0	0	2668
Apprch %	75.6	24.4		16.4	83.6		0	0		
Total %	38.7	12.5	51.2	8	40.8	48.8	0	0	0	

	La Cadena Drive Southbound			La Cadena Drive Northbound			I-10 Westbound On Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	133	37	170	33	**157**	**190**	0	0	0	360
04:45 PM	111	37	148	34	133	167	0	0	0	315
05:00 PM	**140**	**52**	**192**	**48**	140	188	0	0	0	**380**
05:15 PM	136	45	181	19	138	157	0	0	0	338
Total Volume	520	171	691	134	568	702	0	0	0	1393
% App. Total	75.3	24.7		19.1	80.9		0	0		
PHF	.929	.822	.900	.698	.904	.924	.000	.000	.000	.916

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City of Colton
N/S: La Cadena Drive
E/W: I-10 Westbound On Ramp
Weather: Sunny

File Name : COLLC10WPM
Site Code : 10245131
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			04:00 PM		
+0 mins.	**140**	52	**192**	33	**157**	**190**	0	0	0
+15 mins.	136	45	181	34	133	167	0	0	0
+30 mins.	140	44	184	**48**	140	188	0	0	0
+45 mins.	134	**54**	188	19	138	157	0	0	0
Total Volume	550	195	745	134	568	702	0	0	0
% App. Total	73.8	26.2		19.1	80.9		0	0	
PHF	.982	.903	.970	.698	.904	.924	.000	.000	.000

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAAM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 1

Groups Printed- Total Volume

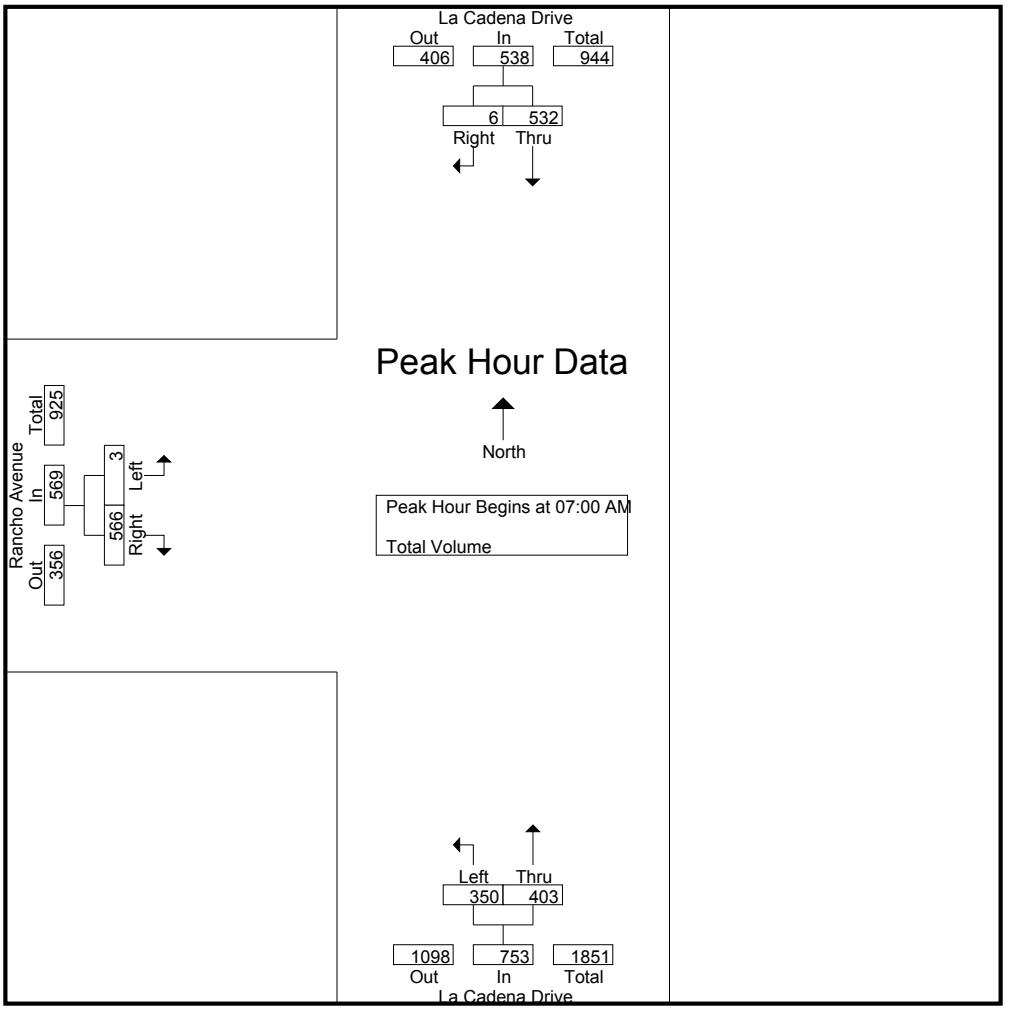
	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	110	2	112	96	84	180	1	138	139	431
07:15 AM	126	1	127	86	118	204	0	125	125	456
07:30 AM	148	1	149	88	111	199	1	144	145	493
07:45 AM	148	2	150	80	90	170	1	159	160	480
Total	532	6	538	350	403	753	3	566	569	1860
08:00 AM	105	1	106	51	72	123	0	121	121	350
08:15 AM	82	0	82	55	60	115	1	114	115	312
08:30 AM	46	2	48	37	72	109	3	77	80	237
08:45 AM	49	1	50	53	67	120	3	90	93	263
Total	282	4	286	196	271	467	7	402	409	1162
Grand Total	814	10	824	546	674	1220	10	968	978	3022
Apprch %	98.8	1.2		44.8	55.2		1	99		
Total %	26.9	0.3	27.3	18.1	22.3	40.4	0.3	32	32.4	

	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	110	2	112	96	84	180	1	138	139	431
07:15 AM	126	1	127	86	118	204	0	125	125	456
07:30 AM	148	1	149	88	111	199	1	144	145	493
07:45 AM	148	2	150	80	90	170	1	159	160	480
Total Volume	532	6	538	350	403	753	3	566	569	1860
% App. Total	98.9	1.1		46.5	53.5		0.5	99.5		
PHF	.899	.750	.897	.911	.854	.923	.750	.890	.889	.943

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAAM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	110	2	112	96	84	180	1	138	139
+15 mins.	126	1	127	86	118	204	0	125	125
+30 mins.	148	1	149	88	111	199	1	144	145
+45 mins.	148	2	150	80	90	170	1	159	160
Total Volume	532	6	538	350	403	753	3	566	569
% App. Total	98.9	1.1		46.5	53.5		0.5	99.5	
PHF	.899	.750	.897	.911	.854	.923	.750	.890	.889

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAPM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 1

Groups Printed- Total Volume

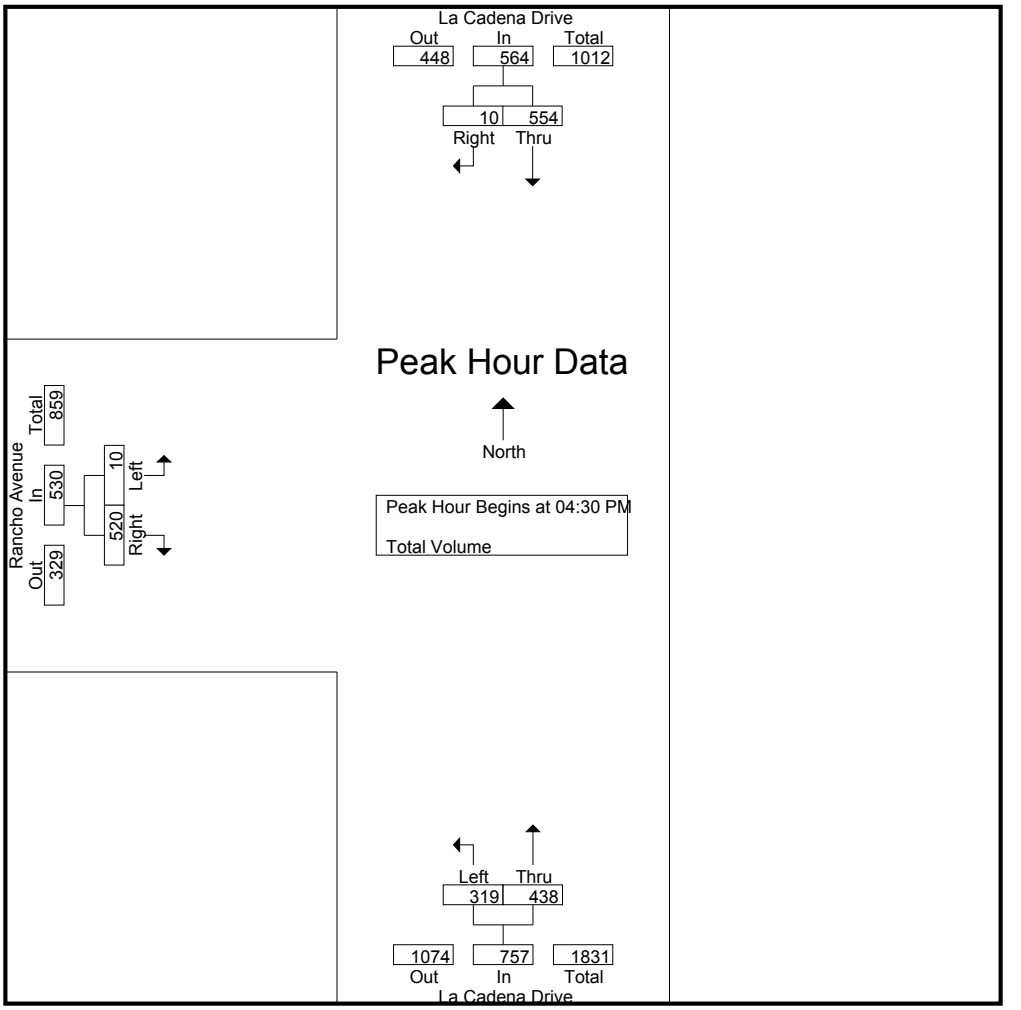
	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	116	1	117	91	131	222	0	127	127	466
04:15 PM	111	0	111	68	120	188	4	110	114	413
04:30 PM	110	2	112	84	120	204	2	128	130	446
04:45 PM	126	4	130	73	93	166	3	129	132	428
Total	463	7	470	316	464	780	9	494	503	1753
05:00 PM	166	1	167	69	110	179	4	126	130	476
05:15 PM	152	3	155	93	115	208	1	137	138	501
05:30 PM	128	1	129	93	92	185	4	114	118	432
05:45 PM	99	2	101	80	112	192	1	117	118	411
Total	545	7	552	335	429	764	10	494	504	1820
Grand Total	1008	14	1022	651	893	1544	19	988	1007	3573
Apprch %	98.6	1.4		42.2	57.8		1.9	98.1		
Total %	28.2	0.4	28.6	18.2	25	43.2	0.5	27.7	28.2	

	La Cadena Drive Southbound			La Cadena Drive Northbound			Rancho Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	110	2	112	84	120	204	2	128	130	446
04:45 PM	126	4	130	73	93	166	3	129	132	428
05:00 PM	166	1	167	69	110	179	4	126	130	476
05:15 PM	152	3	155	93	115	208	1	137	138	501
Total Volume	554	10	564	319	438	757	10	520	530	1851
% App. Total	98.2	1.8		42.1	57.9		1.9	98.1		
PHF	.834	.625	.844	.858	.913	.910	.625	.949	.960	.924

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City of Colton
N/S: La Cadena Drive
E/W: Rancho Avenue
Weather: Clear

File Name : COLLCRAPM
Site Code : 05115058
Start Date : 1/29/2015
Page No : 2



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

	04:45 PM			04:00 PM			04:30 PM		
+0 mins.	126	4	130	91	131	222	2	128	130
+15 mins.	166	1	167	68	120	188	3	129	132
+30 mins.	152	3	155	84	120	204	4	126	130
+45 mins.	128	1	129	73	93	166	1	137	138
Total Volume	572	9	581	316	464	780	10	520	530
% App. Total	98.5	1.5		40.5	59.5		1.9	98.1	
PHF	.861	.563	.870	.868	.885	.878	.625	.949	.960

Location: Colton
N/S: La Cadena Drive
E/W: Rancho Avenue

Date: 1/29/2015
Weather: Clear

PEDESTRIANS

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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	1	1
TOTAL VOLUMES:	0	0	0	1	1

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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
TOTAL VOLUMES:	0	0	0	0	0

Location: Colton
N/S: La Cadena Drive
E/W: Rancho Avenue

Date: 1/29/2015
Weather: Clear

BICYCLES

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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
TOTAL VOLUMES:	0	0	0	0	0

	North Leg La Cadena Drive	East Leg Rancho Avenue	South Leg La Cadena Drive	West Leg Rancho Avenue	TOTAL
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
TOTAL VOLUMES:	0	0	0	0	0

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 1

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

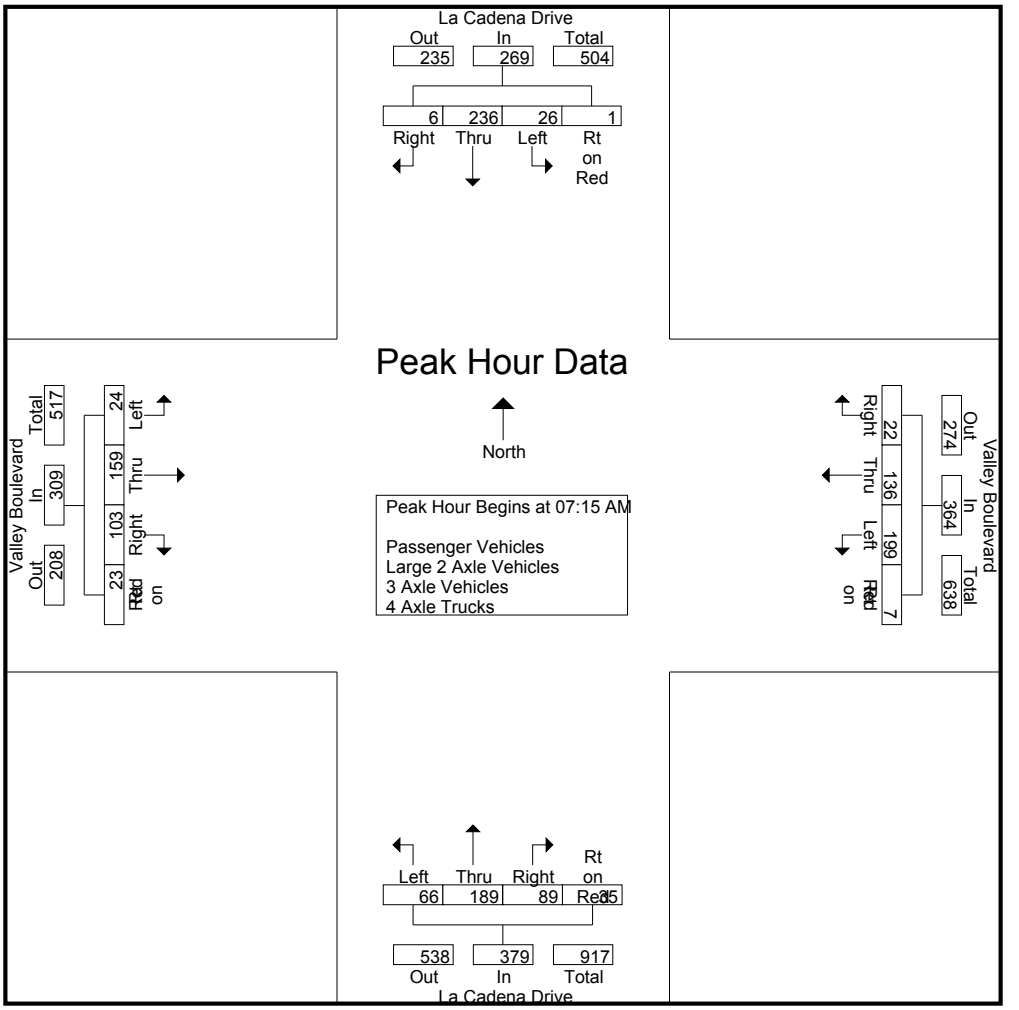
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:00 AM	4	48	5	0	57	31	32	4	1	68	9	39	12	0	60	3	15	10	10	38	223
07:15 AM	3	51	0	0	54	41	35	4	1	81	19	45	15	8	87	5	31	27	5	68	290
07:30 AM	6	71	2	0	79	57	31	4	1	93	17	53	32	11	113	8	37	27	7	79	364
07:45 AM	1	62	1	1	65	44	34	4	2	84	17	48	21	11	97	5	46	27	4	82	328
Total	14	232	8	1	255	173	132	16	5	326	62	185	80	30	357	21	129	91	26	267	1205
08:00 AM	16	52	3	0	71	57	36	10	3	106	13	43	21	5	82	6	45	22	7	80	339
08:15 AM	6	24	1	2	33	35	33	4	2	74	14	19	16	6	55	1	24	14	3	42	204
08:30 AM	6	33	6	0	45	35	38	6	4	83	13	31	12	14	70	9	43	17	8	77	275
08:45 AM	8	32	1	2	43	35	50	4	1	90	15	27	11	11	64	9	47	13	5	74	271
Total	36	141	11	4	192	162	157	24	10	353	55	120	60	36	271	25	159	66	23	273	1089
Grand Total	50	373	19	5	447	335	289	40	15	679	117	305	140	66	628	46	288	157	49	540	2294
Apprch %	11.2	83.4	4.3	1.1		49.3	42.6	5.9	2.2		18.6	48.6	22.3	10.5		8.5	53.3	29.1	9.1		
Total %	2.2	16.3	0.8	0.2	19.5	14.6	12.6	1.7	0.7	29.6	5.1	13.3	6.1	2.9	27.4	2	12.6	6.8	2.1	23.5	
Passenger Vehicles																					
% Passenger Vehicles	88	94.4	84.2	100	93.3	92.2	90.3	95	86.7	91.5	93.2	94.8	89.3	92.4	93	100	93.8	95.5	98	95.2	93.1
Large 2 Axle Vehicles																					
% Large 2 Axle Vehicles	10	4.6	10.5	0	5.4	5.4	8.7	0	13.3	6.6	6	4.6	8.6	6.1	5.9	0	5.2	3.8	2	4.1	5.6
3 Axle Vehicles																					
% 3 Axle Vehicles	0	0	5.3	0	0.2	1.2	0	0	0	0.6	0	0.3	1.4	1.5	0.6	0	0	0.6	0	0.2	0.4
4 Axle Trucks	1	4	0	0	5	4	3	2	0	9	1	1	1	0	3	0	3	0	0	3	20
% 4 Axle Trucks	2	1.1	0	0	1.1	1.2	1	5	0	1.3	0.9	0.3	0.7	0	0.5	0	1	0	0	0.6	0.9

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	3	51	0	0	54	41	35	4	1	81	**19**	45	15	8	87	5	31	**27**	5	68	290
07:30 AM	6	**71**	2	0	**79**	**57**	31	4	1	93	17	**53**	**32**	**11**	**113**	**8**	37	27	**7**	79	**364**
07:45 AM	1	62	1	**1**	65	44	34	4	2	84	17	48	21	11	97	5	**46**	27	4	**82**	328
08:00 AM	**16**	52	**3**	0	71	57	**36**	**10**	**3**	**106**	13	43	21	5	82	6	45	22	7	80	339
Total Volume	26	236	6	1	269	199	136	22	7	364	66	189	89	35	379	24	159	103	23	309	1321
% App. Total	9.7	87.7	2.2	0.4		54.7	37.4	6	1.9		17.4	49.9	23.5	9.2		7.8	51.5	33.3	7.4		
PHF	.406	.831	.500	.250	.851	.873	.944	.550	.583	.858	.868	.892	.695	.795	.838	.750	.864	.954	.821	.942	.907

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 2



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

	07:15 AM					07:15 AM					07:15 AM					07:15 AM				
+0 mins.	3	51	0	0	54	41	35	4	1	81	**19**	45	15	8	87	5	31	**27**	5	68
+15 mins.	6	**71**	2	0	**79**	**57**	31	4	1	93	17	**53**	**32**	**11**	**113**	**8**	37	27	**7**	79
+30 mins.	1	62	1	**1**	65	44	34	4	2	84	17	48	21	11	97	5	**46**	27	4	**82**
+45 mins.	**16**	52	**3**	0	71	57	**36**	**10**	**3**	**106**	13	43	21	5	82	6	45	22	7	80
Total Volume	26	236	6	1	269	199	136	22	7	364	66	189	89	35	379	24	159	103	23	309
% App. Total	9.7	87.7	2.2	0.4		54.7	37.4	6	1.9		17.4	49.9	23.5	9.2		7.8	51.5	33.3	7.4	
PHF	.406	.831	.500	.250	.851	.873	.944	.550	.583	.858	.868	.892	.695	.795	.838	.750	.864	.954	.821	.942

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 1

Groups Printed- Passenger Vehicles

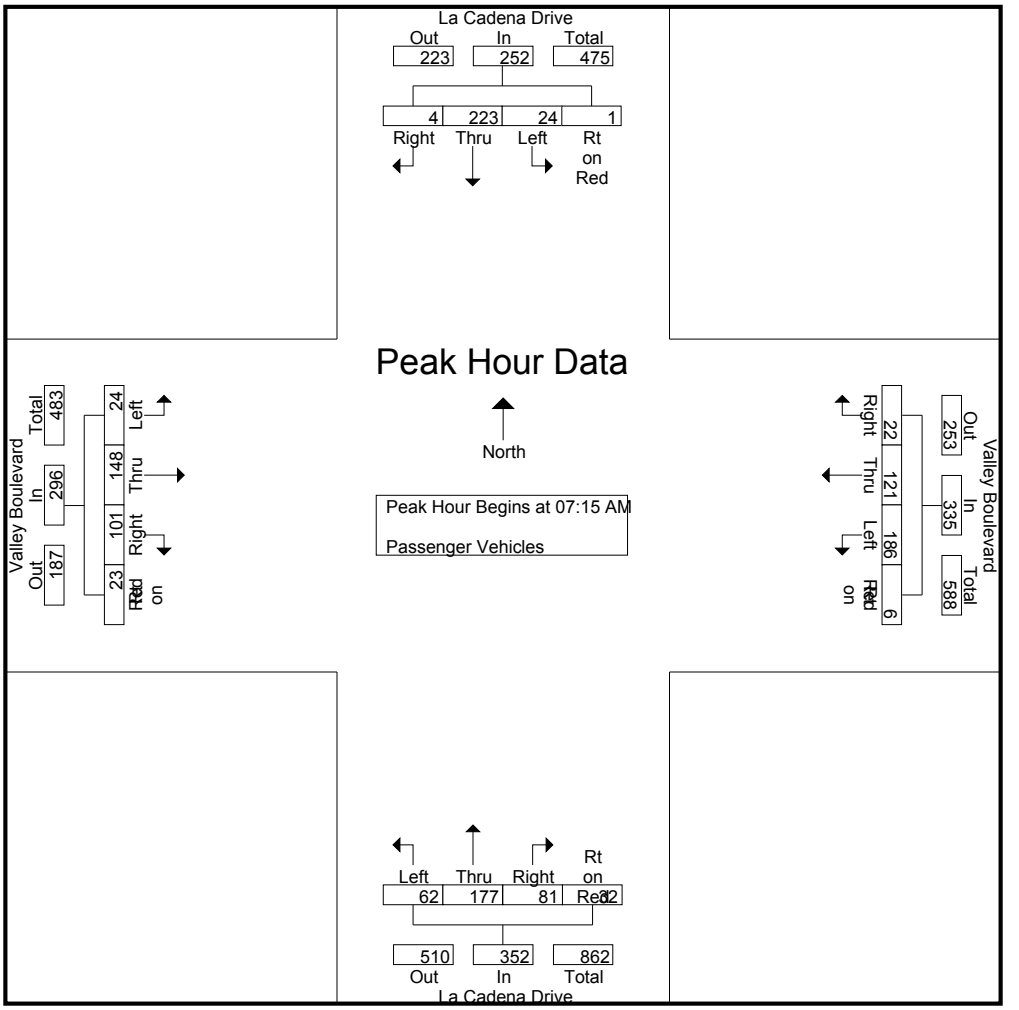
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:00 AM	4	45	5	0	54	28	30	4	1	63	7	36	9	0	52	3	14	10	9	36	205
07:15 AM	3	48	0	0	51	39	32	4	0	75	19	40	13	6	78	5	29	27	5	66	270
07:30 AM	6	71	1	0	78	52	28	4	1	85	14	50	30	10	104	8	33	26	7	74	341
07:45 AM	1	57	0	1	59	43	31	4	2	80	17	47	20	11	95	5	42	27	4	78	312
Total	14	221	6	1	242	162	121	16	4	303	57	173	72	27	329	21	118	90	25	254	1128
08:00 AM	14	47	3	0	64	52	30	10	3	95	12	40	18	5	75	6	44	21	7	78	312
08:15 AM	5	23	1	2	31	31	32	3	2	68	13	19	14	6	52	1	22	12	3	38	189
08:30 AM	5	32	5	0	42	31	34	5	4	74	12	30	11	13	66	9	42	15	8	74	256
08:45 AM	6	29	1	2	38	33	44	4	0	81	15	27	10	10	62	9	44	12	5	70	251
Total	30	131	10	4	175	147	140	22	9	318	52	116	53	34	255	25	152	60	23	260	1008
Grand Total	44	352	16	5	417	309	261	38	13	621	109	289	125	61	584	46	270	150	48	514	2136
Apprch %	10.6	84.4	3.8	1.2		49.8	42	6.1	2.1		18.7	49.5	21.4	10.4		8.9	52.5	29.2	9.3		
Total %	2.1	16.5	0.7	0.2	19.5	14.5	12.2	1.8	0.6	29.1	5.1	13.5	5.9	2.9	27.3	2.2	12.6	7	2.2	24.1	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	3	48	0	0	51	39	**32**	4	0	75	**19**	40	13	6	78	5	29	**27**	5	66	270
07:30 AM	6	**71**	1	0	**78**	**52**	28	4	1	85	14	**50**	**30**	10	**104**	**8**	33	26	**7**	74	**341**
07:45 AM	1	57	0	**1**	59	43	31	4	2	80	17	47	20	**11**	95	5	42	27	4	**78**	312
08:00 AM	**14**	47	**3**	0	64	52	30	**10**	**3**	**95**	12	40	18	5	75	6	**44**	21	7	78	312
Total Volume	24	223	4	1	252	186	121	22	6	335	62	177	81	32	352	24	148	101	23	296	1235
% App. Total	9.5	88.5	1.6	0.4		55.5	36.1	6.6	1.8		17.6	50.3	23	9.1		8.1	50	34.1	7.8		
PHF	.429	.785	.333	.250	.808	.894	.945	.550	.500	.882	.816	.885	.675	.727	.846	.750	.841	.935	.821	.949	.905

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM					07:15 AM					07:15 AM					07:15 AM				
+0 mins.	3	48	0	0	51	39	**32**	4	0	75	**19**	40	13	6	78	5	29	**27**	5	66
+15 mins.	6	**71**	1	0	**78**	**52**	28	4	1	85	14	**50**	**30**	10	**104**	**8**	33	26	**7**	74
+30 mins.	1	57	0	**1**	59	43	31	4	2	80	17	47	20	**11**	95	5	42	27	4	**78**
+45 mins.	**14**	47	**3**	0	64	52	30	**10**	**3**	**95**	12	40	18	5	75	6	**44**	21	7	78
Total Volume	24	223	4	1	252	186	121	22	6	335	62	177	81	32	352	24	148	101	23	296
% App. Total	9.5	88.5	1.6	0.4		55.5	36.1	6.6	1.8		17.6	50.3	23	9.1		8.1	50	34.1	7.8	
PHF	.429	.785	.333	.250	.808	.894	.945	.550	.500	.882	.816	.885	.675	.727	.846	.750	.841	.935	.821	.949

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 1

Groups Printed- Large 2 Axle Vehicles

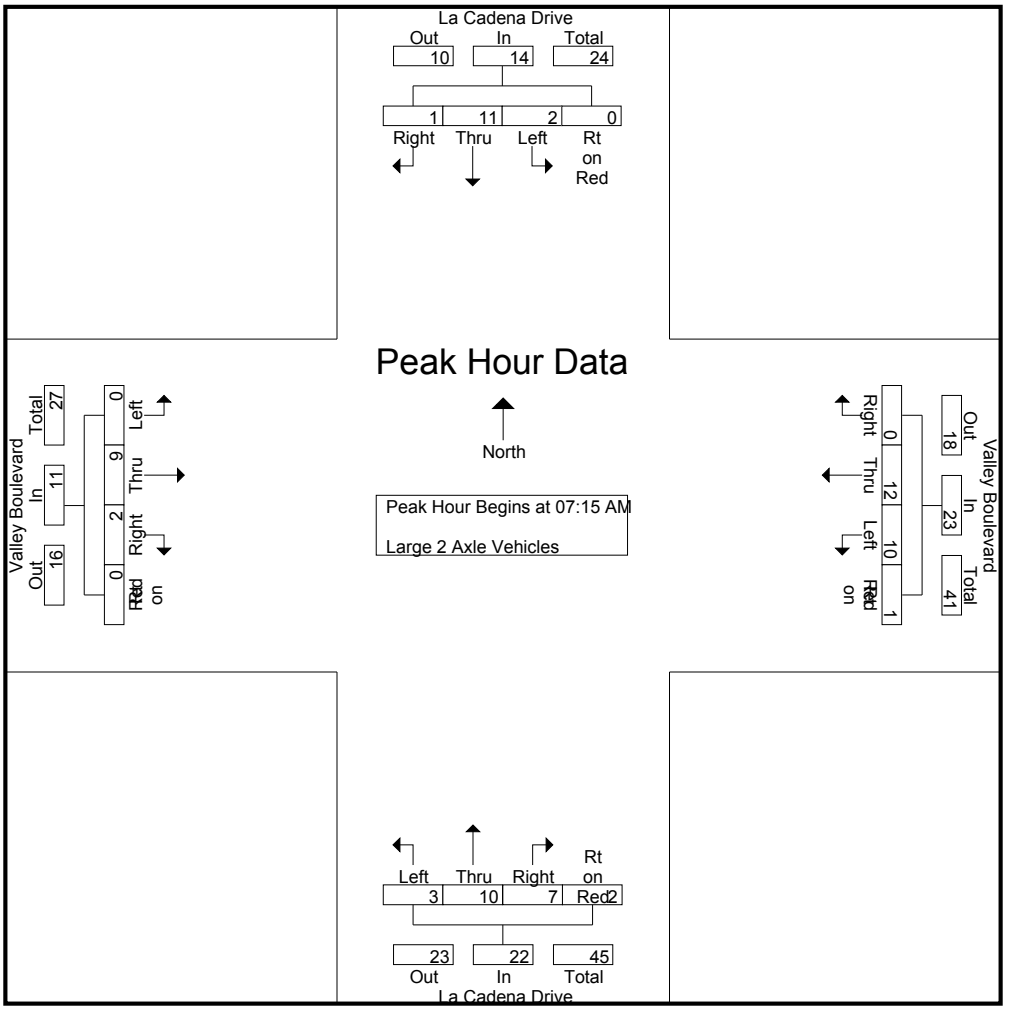
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:00 AM	0	2	0	0	2	2	2	0	0	4	2	3	2	0	7	0	1	0	1	2	15
07:15 AM	0	3	0	0	3	2	1	0	1	4	0	4	2	2	8	0	2	0	0	2	17
07:30 AM	0	0	1	0	1	3	3	0	0	6	2	3	2	0	7	0	2	1	0	3	17
07:45 AM	0	3	0	0	3	1	3	0	0	4	0	1	1	0	2	0	4	0	0	4	13
Total	0	8	1	0	9	8	9	0	1	18	4	11	7	2	24	0	9	1	1	11	62
08:00 AM	2	5	0	0	7	4	5	0	0	9	1	2	2	0	5	0	1	1	0	2	23
08:15 AM	1	1	0	0	2	3	1	0	0	4	1	0	2	0	3	0	2	1	0	3	12
08:30 AM	1	0	1	0	2	1	4	0	0	5	1	1	1	1	4	0	1	2	0	3	14
08:45 AM	1	3	0	0	4	2	6	0	1	9	0	0	0	1	1	0	2	1	0	3	17
Total	5	9	1	0	15	10	16	0	1	27	3	3	5	2	13	0	6	5	0	11	66
Grand Total	5	17	2	0	24	18	25	0	2	45	7	14	12	4	37	0	15	6	1	22	128
Apprch %	20.8	70.8	8.3	0		40	55.6	0	4.4		18.9	37.8	32.4	10.8		0	68.2	27.3	4.5		
Total %	3.9	13.3	1.6	0	18.8	14.1	19.5	0	1.6	35.2	5.5	10.9	9.4	3.1	28.9	0	11.7	4.7	0.8	17.2	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	3	0	0	3	2	1	0	**1**	4	0	**4**	**2**	**2**	**8**	0	2	0	0	2	17
07:30 AM	0	0	**1**	0	1	3	3	0	0	6	**2**	3	2	0	7	0	2	**1**	0	3	17
07:45 AM	0	3	0	0	3	1	3	0	0	4	0	1	1	0	2	0	**4**	0	0	**4**	13
08:00 AM	**2**	**5**	0	0	**7**	**4**	**5**	0	0	**9**	1	2	2	0	5	0	1	1	0	2	**23**
Total Volume	2	11	1	0	14	10	12	0	1	23	3	10	7	2	22	0	9	2	0	11	70
% App. Total	14.3	78.6	7.1	0		43.5	52.2	0	4.3		13.6	45.5	31.8	9.1		0	81.8	18.2	0		
PHF	.250	.550	.250	.000	.500	.625	.600	.000	.250	.639	.375	.625	.875	.250	.688	.000	.563	.500	.000	.688	.761

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City of Colton
N/S: La Cadena Drive
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Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM					07:15 AM					07:15 AM					07:15 AM				
+0 mins.	0	3	0	0	3	2	1	0	**1**	4	0	**4**	**2**	**2**	**8**	0	2	0	0	2
+15 mins.	0	0	**1**	0	1	3	3	0	0	6	**2**	3	2	0	7	0	2	**1**	0	3
+30 mins.	0	3	0	0	3	1	3	0	0	4	0	1	1	0	2	0	**4**	0	0	**4**
+45 mins.	**2**	**5**	0	0	**7**	**4**	**5**	0	0	**9**	1	2	2	0	5	0	1	1	0	2
Total Volume	2	11	1	0	14	10	12	0	1	23	3	10	7	2	22	0	9	2	0	11
% App. Total	14.3	78.6	7.1	0		43.5	52.2	0	4.3		13.6	45.5	31.8	9.1		0	81.8	18.2	0	
PHF	.250	.550	.250	.000	.500	.625	.600	.000	.250	.639	.375	.625	.875	.250	.688	.000	.563	.500	.000	.688

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 1

Groups Printed- 3 Axle Vehicles

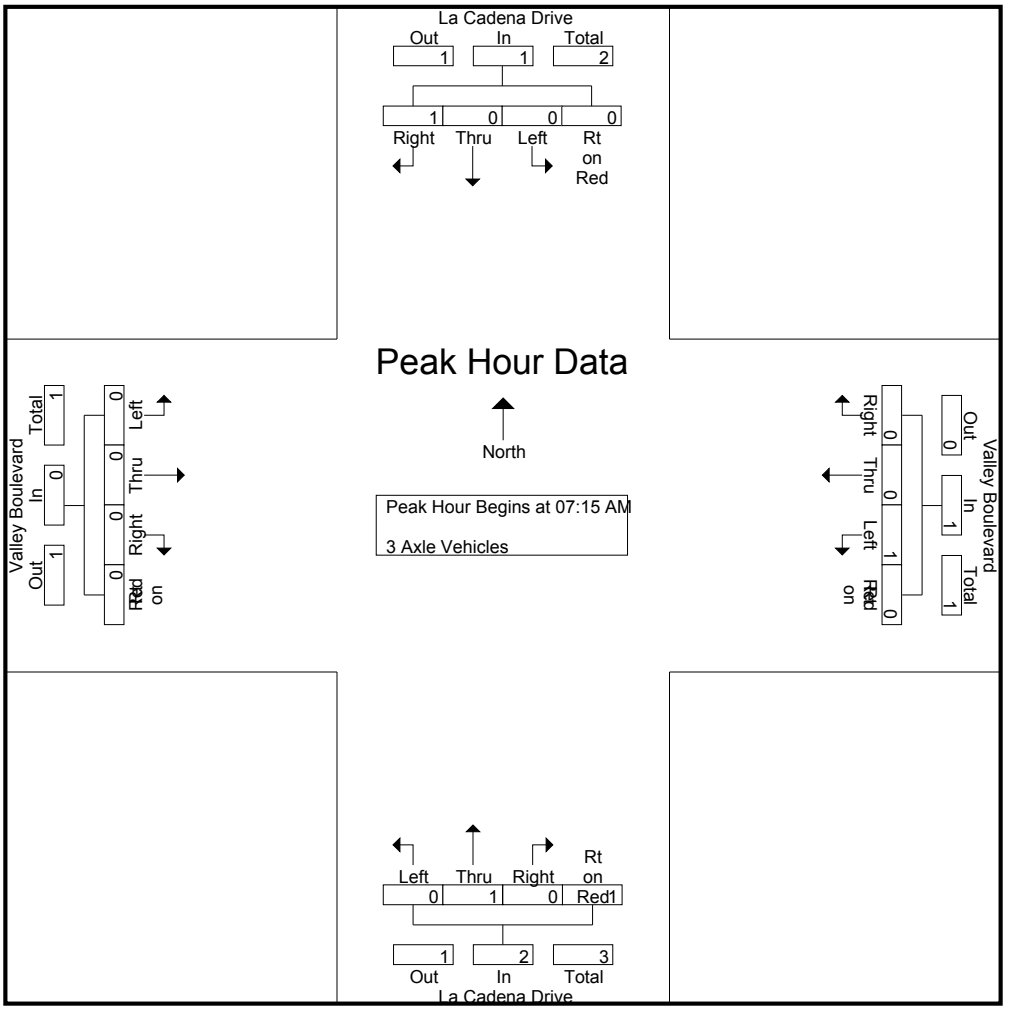
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	2
07:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	1	0	0	0	1	0	1	1	1	3	0	0	0	0	0	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
08:30 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	3	0	0	0	3	0	0	1	0	1	0	0	1	0	1	5
Grand Total	0	0	1	0	1	4	0	0	0	4	0	1	2	1	4	0	0	1	0	1	10
Apprch %	0	0	100	0		100	0	0	0		0	25	50	25		0	0	100	0		
Total %	0	0	10	0	10	40	0	0	0	40	0	10	20	10	40	0	0	10	0	10	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	**1**	1	0	0	0	0	0	**2**
07:45 AM	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	1	1	0	0	0	1	0	1	0	1	2	0	0	0	0	0	4
% App. Total	0	0	100	0		100	0	0	0		0	50	0	50		0	0	0	0		
PHF	.000	.000	.250	.000	.250	.250	.000	.000	.000	.250	.000	.250	.000	.250	.500	.000	.000	.000	.000	.000	.500

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

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

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City of Colton
N/S: La Cadena Drive
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Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 1

Groups Printed- 4 Axle Trucks

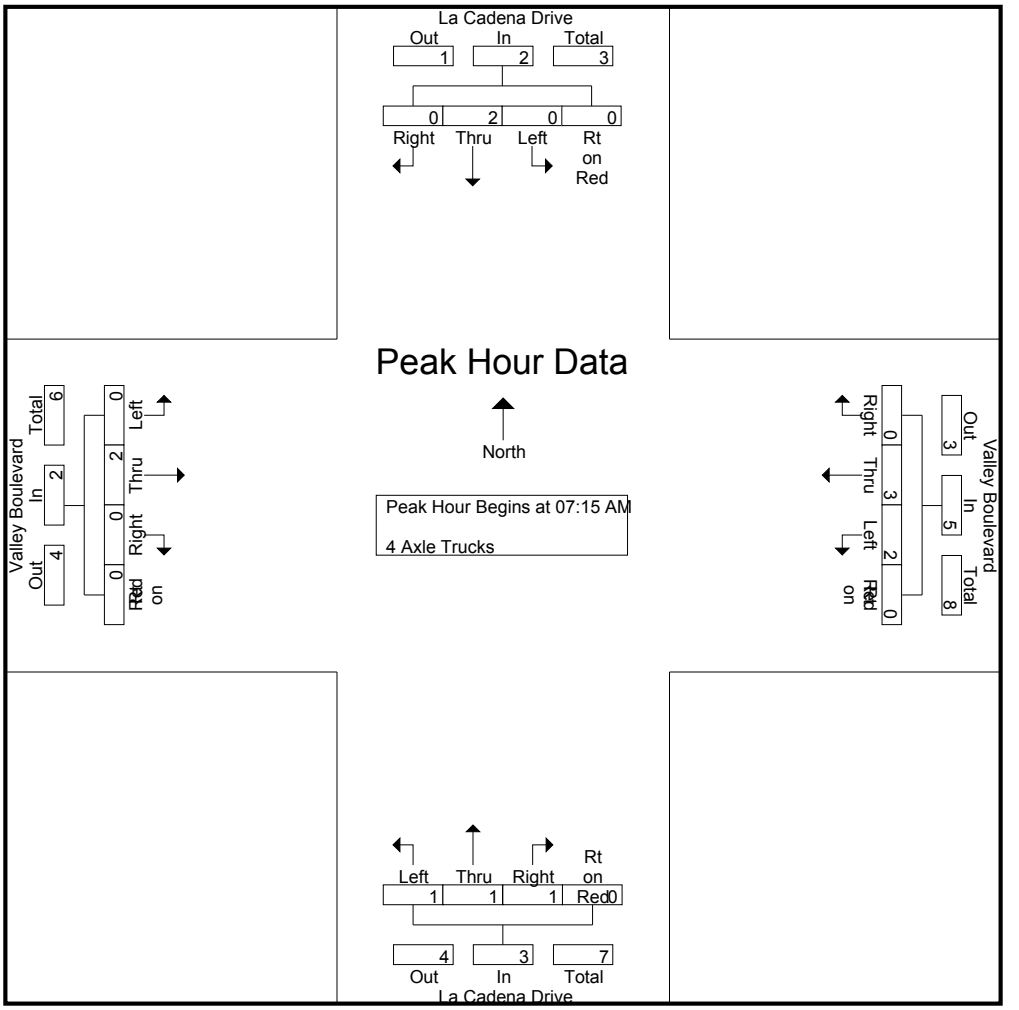
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:00 AM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	2	0	0	2	4
07:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	0	3	2	2	0	0	4	1	0	0	0	1	0	2	0	0	2	10
08:00 AM	0	0	0	0	0	1	1	0	0	2	0	1	1	0	2	0	0	0	0	0	4
08:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	1	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	1	1	0	0	2	2	1	2	0	5	0	1	1	0	2	0	1	0	0	1	10
Grand Total	1	4	0	0	5	4	3	2	0	9	1	1	1	0	3	0	3	0	0	3	20
Apprch %	20	80	0	0		44.4	33.3	22.2	0		33.3	33.3	33.3	0		0	100	0	0		
Total %	5	20	0	0	25	20	15	10	0	45	5	5	5	0	15	0	15	0	0	15	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	**1**	0	0	0	1	**1**	0	0	0	1	0	**2**	0	0	**2**	**4**
07:45 AM	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	1	1	0	0	2	0	**1**	**1**	0	**2**	0	0	0	0	0	4
Total Volume	0	2	0	0	2	2	3	0	0	5	1	1	1	0	3	0	2	0	0	2	12
% App. Total	0	100	0	0		40	60	0	0		33.3	33.3	33.3	0		0	100	0	0		
PHF	.000	.250	.000	.000	.250	.500	.375	.000	.000	.625	.250	.250	.250	.000	.375	.000	.250	.000	.000	.250	.750

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAAM
Site Code : 11100000
Start Date : 10/29/2013
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM					07:15 AM					07:15 AM					07:15 AM				
+0 mins.	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**1**	0	0	0	1	**1**	0	0	0	1	0	**2**	0	0	**2**
+30 mins.	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	1	0	0	2	0	**1**	**1**	0	**2**	0	0	0	0	0
Total Volume	0	2	0	0	2	2	3	0	0	5	1	1	1	0	3	0	2	0	0	2
% App. Total	0	100	0	0		40	60	0	0		33.3	33.3	33.3	0		0	100	0	0	
PHF	.000	.250	.000	.000	.250	.500	.375	.000	.000	.625	.250	.250	.250	.000	.375	.000	.250	.000	.000	.250

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAPM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 1

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

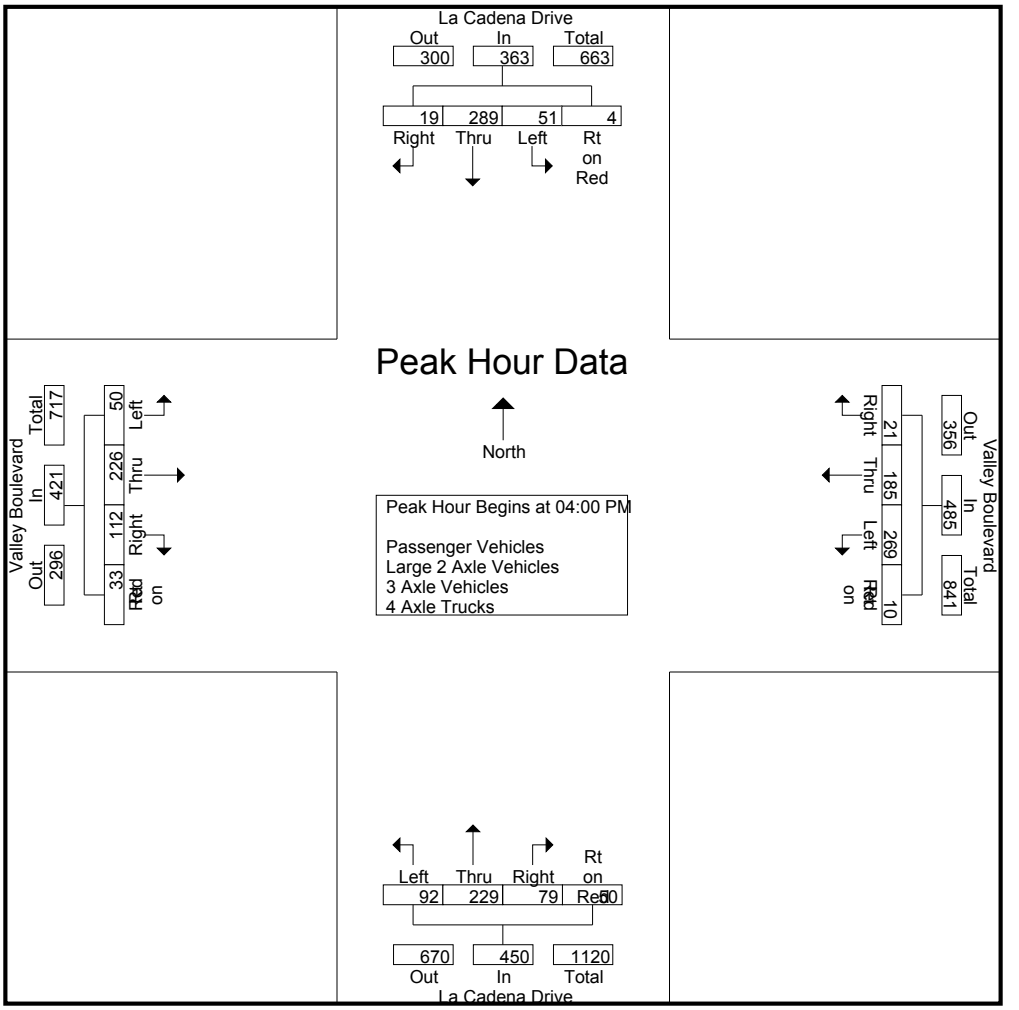
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:00 PM	12	79	6	1	98	63	45	9	5	122	27	68	22	0	117	24	82	38	7	151	488
04:15 PM	12	69	3	2	86	68	57	3	0	128	14	50	24	21	109	10	46	30	5	91	414
04:30 PM	14	62	5	1	82	71	43	4	4	122	29	57	17	17	120	11	50	29	9	99	423
04:45 PM	13	79	5	0	97	67	40	5	1	113	22	54	16	12	104	5	48	15	12	80	394
Total	51	289	19	4	363	269	185	21	10	485	92	229	79	50	450	50	226	112	33	421	1719
05:00 PM	15	82	9	1	107	58	42	6	1	107	15	76	21	19	131	8	55	23	6	92	437
05:15 PM	7	70	5	1	83	71	58	9	1	139	25	51	24	25	125	16	31	16	15	78	425
05:30 PM	10	58	9	2	79	87	46	5	1	139	26	71	26	13	136	10	47	14	10	81	435
05:45 PM	7	65	2	0	74	74	40	6	2	122	27	62	21	20	130	13	35	8	15	71	397
Total	39	275	25	4	343	290	186	26	5	507	93	260	92	77	522	47	168	61	46	322	1694
Grand Total	90	564	44	8	706	559	371	47	15	992	185	489	171	127	972	97	394	173	79	743	3413
Apprch %	12.7	79.9	6.2	1.1		56.4	37.4	4.7	1.5		19	50.3	17.6	13.1		13.1	53	23.3	10.6		
Total %	2.6	16.5	1.3	0.2	20.7	16.4	10.9	1.4	0.4	29.1	5.4	14.3	5	3.7	28.5	2.8	11.5	5.1	2.3	21.8	
Passenger Vehicles																					
% Passenger Vehicles	96.7	98.2	100	87.5	98	96.6	95.7	100	100	96.5	99.5	98.2	97.1	99.2	98.4	100	96.7	97.1	100	97.6	97.6
Large 2 Axle Vehicles																					
% Large 2 Axle Vehicles	2.2	1.1	0	0	1.1	2.3	3.2	0	0	2.5	0.5	1.8	2.9	0.8	1.6	0	3	1.7	0	2	1.9
3 Axle Vehicles	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	6
% 3 Axle Vehicles	0	0.2	0	0	0.1	0	0.5	0	0	0.2	0	0	0	0	0	0	0.3	1.2	0	0.4	0.2
4 Axle Trucks	1	3	0	1	5	6	2	0	0	8	0	0	0	0	0	0	0	0	0	0	13
% 4 Axle Trucks	1.1	0.5	0	12.5	0.7	1.1	0.5	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0.4

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	12	**79**	**6**	1	**98**	63	45	**9**	**5**	122	27	**68**	22	0	117	**24**	**82**	**38**	7	**151**	**488**
04:15 PM	12	69	3	**2**	86	68	**57**	3	0	**128**	14	50	**24**	**21**	109	10	46	30	5	91	414
04:30 PM	**14**	62	5	1	82	**71**	43	4	4	122	**29**	57	17	17	**120**	11	50	29	9	99	423
04:45 PM	13	79	5	0	97	67	40	5	1	113	22	54	16	12	104	5	48	15	**12**	80	394
Total Volume	51	289	19	4	363	269	185	21	10	485	92	229	79	50	450	50	226	112	33	421	1719
% App. Total	14	79.6	5.2	1.1		55.5	38.1	4.3	2.1		20.4	50.9	17.6	11.1		11.9	53.7	26.6	7.8		
PHF	.911	.915	.792	.500	.926	.947	.811	.583	.500	.947	.793	.842	.823	.595	.938	.521	.689	.737	.688	.697	.881

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAPM
Site Code : 11100000
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM					05:00 PM					05:00 PM					04:00 PM				
+0 mins.	12	69	3	**2**	86	58	42	6	1	107	15	**76**	21	19	131	**24**	**82**	**38**	7	**151**
+15 mins.	14	62	5	1	82	71	**58**	**9**	1	**139**	25	51	24	**25**	125	10	46	30	5	91
+30 mins.	13	79	5	0	97	**87**	46	5	1	139	26	71	**26**	13	**136**	11	50	29	9	99
+45 mins.	**15**	**82**	**9**	1	**107**	74	40	6	**2**	122	**27**	62	21	20	130	5	48	15	**12**	80
Total Volume	54	292	22	4	372	290	186	26	5	507	93	260	92	77	522	50	226	112	33	421
% App. Total	14.5	78.5	5.9	1.1		57.2	36.7	5.1	1		17.8	49.8	17.6	14.8		11.9	53.7	26.6	7.8	
PHF	.900	.890	.611	.500	.869	.833	.802	.722	.625	.912	.861	.855	.885	.770	.960	.521	.689	.737	.688	.697

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Groups Printed- Passenger Vehicles

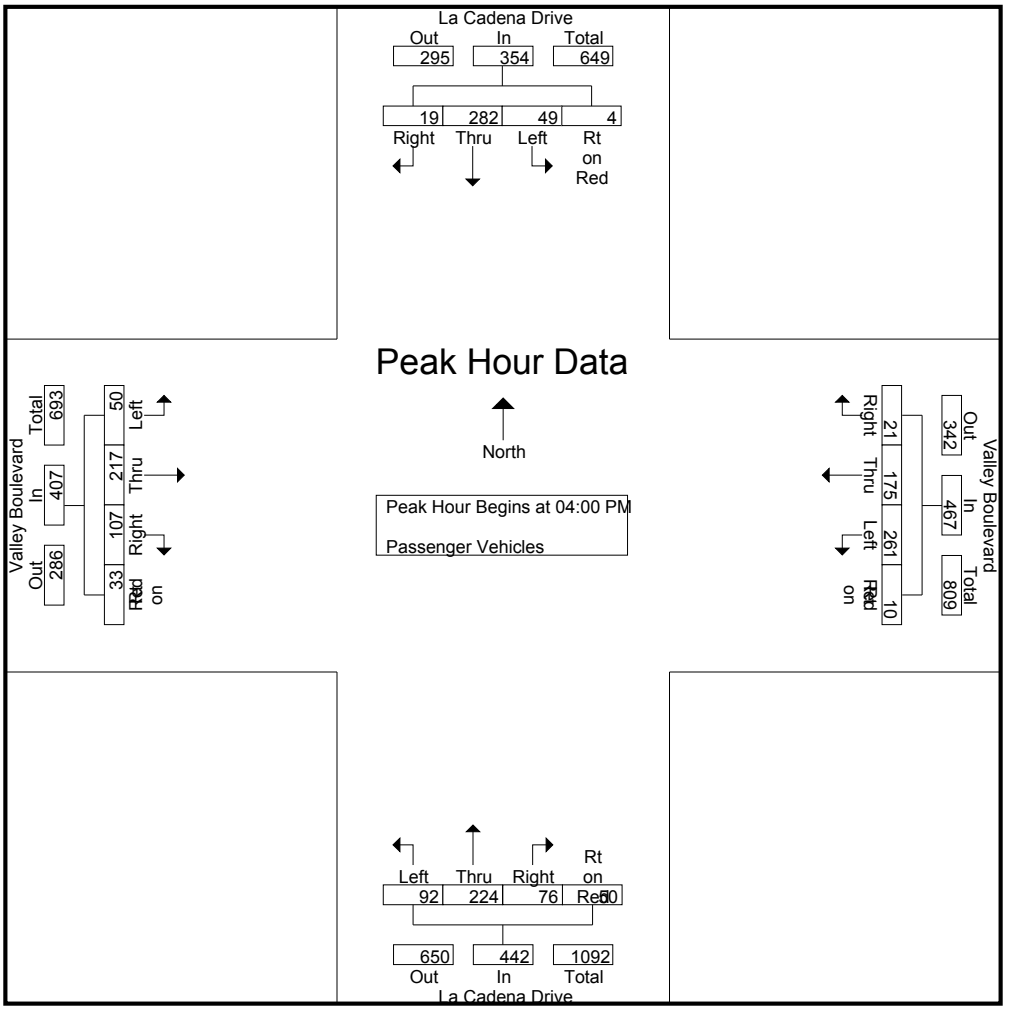
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:00 PM	12	75	6	1	94	62	43	9	5	119	27	66	21	0	114	24	77	36	7	144	471
04:15 PM	11	67	3	2	83	67	55	3	0	125	14	48	23	21	106	10	44	27	5	86	400
04:30 PM	13	62	5	1	81	68	39	4	4	115	29	57	17	17	120	11	49	29	9	98	414
04:45 PM	13	78	5	0	96	64	38	5	1	108	22	53	15	12	102	5	47	15	12	79	385
Total	49	282	19	4	354	261	175	21	10	467	92	224	76	50	442	50	217	107	33	407	1670
05:00 PM	15	82	9	0	106	56	40	6	1	103	15	74	21	19	129	8	54	23	6	91	429
05:15 PM	7	68	5	1	81	66	57	9	1	133	25	51	23	25	124	16	30	16	15	77	415
05:30 PM	10	58	9	2	79	83	45	5	1	134	25	70	26	12	133	10	46	14	10	80	426
05:45 PM	6	64	2	0	72	74	38	6	2	120	27	61	20	20	128	13	34	8	15	70	390
Total	38	272	25	3	338	279	180	26	5	490	92	256	90	76	514	47	164	61	46	318	1660
Grand Total	87	554	44	7	692	540	355	47	15	957	184	480	166	126	956	97	381	168	79	725	3330
Apprch %	12.6	80.1	6.4	1		56.4	37.1	4.9	1.6		19.2	50.2	17.4	13.2		13.4	52.6	23.2	10.9		
Total %	2.6	16.6	1.3	0.2	20.8	16.2	10.7	1.4	0.5	28.7	5.5	14.4	5	3.8	28.7	2.9	11.4	5	2.4	21.8	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	12	75	**6**	1	94	62	43	**9**	**5**	119	27	**66**	21	0	114	**24**	**77**	**36**	7	**144**	**471**
04:15 PM	11	67	3	**2**	83	67	**55**	3	0	**125**	14	48	**23**	**21**	106	10	44	27	5	86	400
04:30 PM	**13**	62	5	1	81	**68**	39	4	4	115	**29**	57	17	17	**120**	11	49	29	9	98	414
04:45 PM	13	**78**	5	0	**96**	64	38	5	1	108	22	53	15	12	102	5	47	15	**12**	79	385
Total Volume	49	282	19	4	354	261	175	21	10	467	92	224	76	50	442	50	217	107	33	407	1670
% App. Total	13.8	79.7	5.4	1.1		55.9	37.5	4.5	2.1		20.8	50.7	17.2	11.3		12.3	53.3	26.3	8.1		
PHF	.942	.904	.792	.500	.922	.960	.795	.583	.500	.934	.793	.848	.826	.595	.921	.521	.705	.743	.688	.707	.886

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Site Code : 11100000
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM					04:00 PM					04:00 PM					04:00 PM				
+0 mins.	12	75	**6**	1	94	62	43	**9**	**5**	119	27	**66**	21	0	114	**24**	**77**	**36**	7	**144**
+15 mins.	11	67	3	**2**	83	67	**55**	3	0	**125**	14	48	**23**	**21**	106	10	44	27	5	86
+30 mins.	**13**	62	5	1	81	**68**	39	4	4	115	**29**	57	17	17	**120**	11	49	29	9	98
+45 mins.	13	**78**	5	0	**96**	64	38	5	1	108	22	53	15	12	102	5	47	15	**12**	79
Total Volume	49	282	19	4	354	261	175	21	10	467	92	224	76	50	442	50	217	107	33	407
% App. Total	13.8	79.7	5.4	1.1		55.9	37.5	4.5	2.1		20.8	50.7	17.2	11.3		12.3	53.3	26.3	8.1	
PHF	.942	.904	.792	.500	.922	.960	.795	.583	.500	.934	.793	.848	.826	.595	.921	.521	.705	.743	.688	.707

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Groups Printed- Large 2 Axle Vehicles

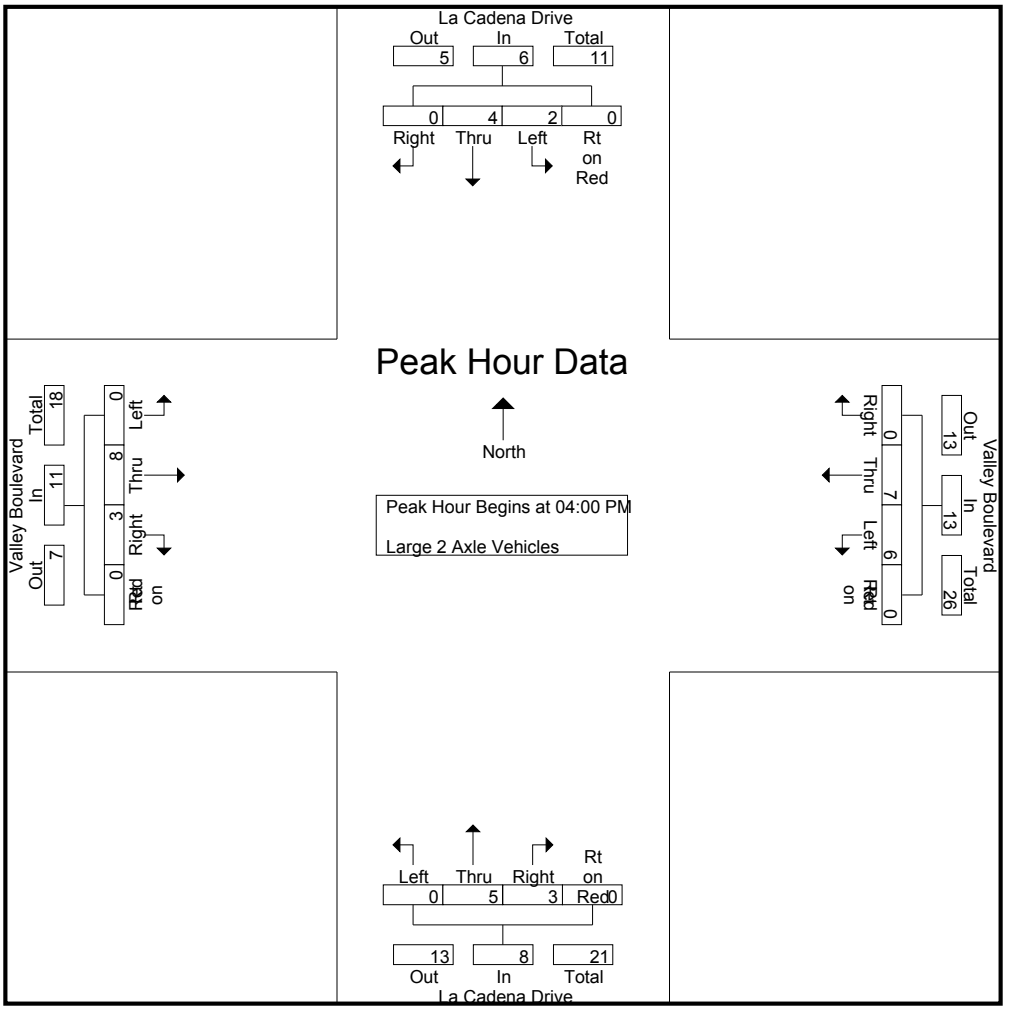
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:00 PM	0	2	0	0	2	1	1	0	0	2	0	2	1	0	3	0	5	1	0	6	13
04:15 PM	1	1	0	0	2	1	1	0	0	2	0	2	1	0	3	0	1	2	0	3	10
04:30 PM	1	0	0	0	1	3	3	0	0	6	0	0	0	0	0	0	1	0	0	1	8
04:45 PM	0	1	0	0	1	1	2	0	0	3	0	1	1	0	2	0	1	0	0	1	7
Total	2	4	0	0	6	6	7	0	0	13	0	5	3	0	8	0	8	3	0	11	38
05:00 PM	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	1	0	0	1	5
05:15 PM	0	1	0	0	1	4	1	0	0	5	0	0	1	0	1	0	1	0	0	1	8
05:30 PM	0	0	0	0	0	3	1	0	0	4	1	1	0	1	3	0	1	0	0	1	8
05:45 PM	0	1	0	0	1	0	1	0	0	1	0	1	1	0	2	0	1	0	0	1	5
Total	0	2	0	0	2	7	5	0	0	12	1	4	2	1	8	0	4	0	0	4	26
Grand Total	2	6	0	0	8	13	12	0	0	25	1	9	5	1	16	0	12	3	0	15	64
Apprch %	25	75	0	0		52	48	0	0		6.2	56.2	31.2	6.2		0	80	20	0		
Total %	3.1	9.4	0	0	12.5	20.3	18.8	0	0	39.1	1.6	14.1	7.8	1.6	25	0	18.8	4.7	0	23.4	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	**2**	0	0	**2**	1	1	0	0	2	0	**2**	**1**	0	**3**	0	**5**	1	0	**6**	**13**
04:15 PM	**1**	1	0	0	2	1	1	0	0	2	0	2	1	0	3	0	1	**2**	0	3	10
04:30 PM	1	0	0	0	1	**3**	**3**	0	0	**6**	0	0	0	0	0	0	1	0	0	1	8
04:45 PM	0	1	0	0	1	1	2	0	0	3	0	1	1	0	2	0	1	0	0	1	7
Total Volume	2	4	0	0	6	6	7	0	0	13	0	5	3	0	8	0	8	3	0	11	38
% App. Total	33.3	66.7	0	0		46.2	53.8	0	0		0	62.5	37.5	0		0	72.7	27.3	0		
PHF	.500	.500	.000	.000	.750	.500	.583	.000	.000	.542	.000	.625	.750	.000	.667	.000	.400	.375	.000	.458	.731

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

	04:00 PM					04:00 PM					04:00 PM					04:00 PM				
+0 mins.	0	**2**	0	0	**2**	1	1	0	0	2	0	**2**	**1**	0	**3**	0	**5**	1	0	**6**
+15 mins.	**1**	1	0	0	2	1	1	0	0	2	0	2	1	0	3	0	1	**2**	0	3
+30 mins.	1	0	0	0	1	**3**	**3**	0	0	**6**	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	1	0	0	1	1	2	0	0	3	0	1	1	0	2	0	1	0	0	1
Total Volume	2	4	0	0	6	6	7	0	0	13	0	5	3	0	8	0	8	3	0	11
% App. Total	33.3	66.7	0	0		46.2	53.8	0	0		0	62.5	37.5	0		0	72.7	27.3	0	
PHF	.500	.500	.000	.000	.750	.500	.583	.000	.000	.542	.000	.625	.750	.000	.667	.000	.400	.375	.000	.458

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Groups Printed- 3 Axle Vehicles

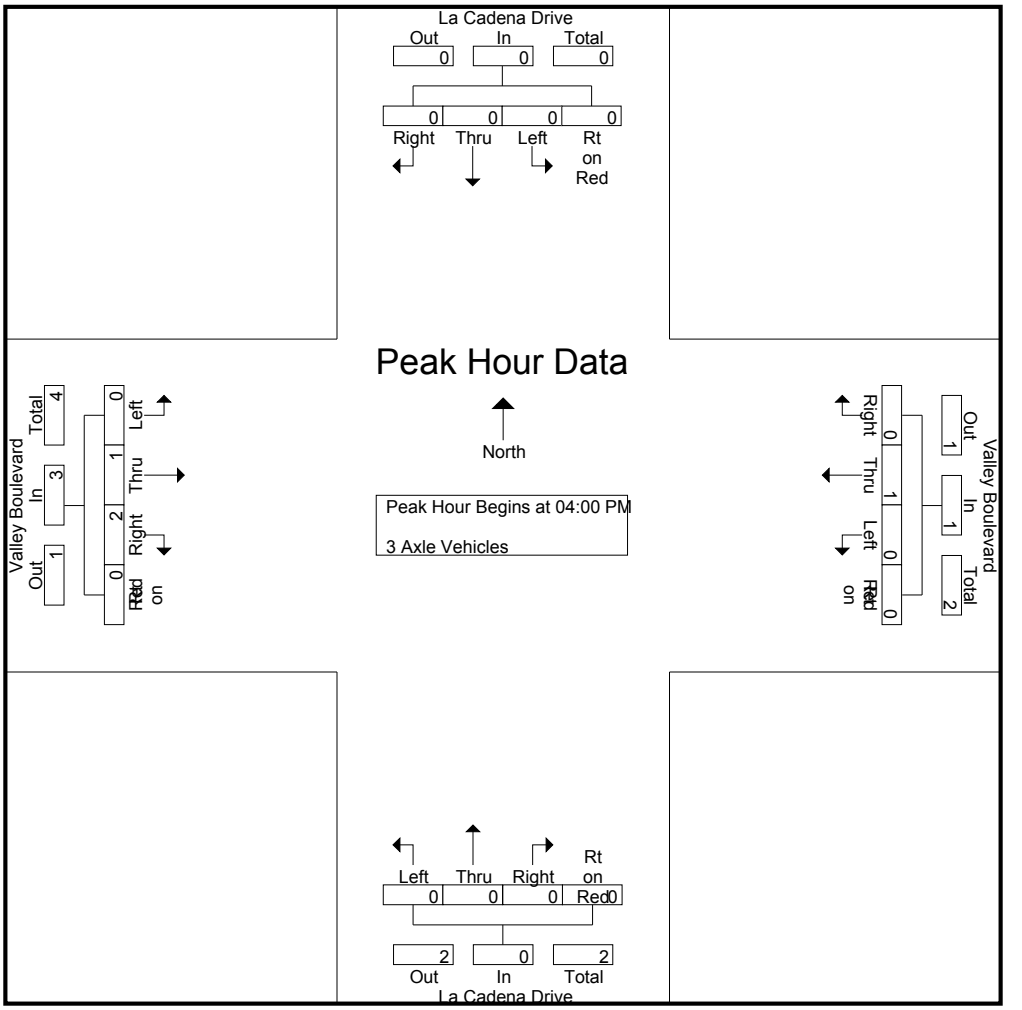
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	2	0	3	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	6
Apprch %	0	100	0	0		0	100	0	0		0	0	0	0		0	33.3	66.7	0		
Total %	0	16.7	0	0	16.7	0	33.3	0	0	33.3	0	0	0	0	0	0	16.7	33.3	0	50	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	1	0	**2**	**2**
04:30 PM	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	2	0	3	4
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	33.3	66.7	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.250	.500	.000	.375	.500

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

City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAPM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 2



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

	04:00 PM					04:00 PM					04:00 PM					04:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	1	0	**2**
+30 mins.	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	2	0	3
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	33.3	66.7	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.250	.500	.000	.375

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAPM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 1

Groups Printed- 4 Axle Trucks

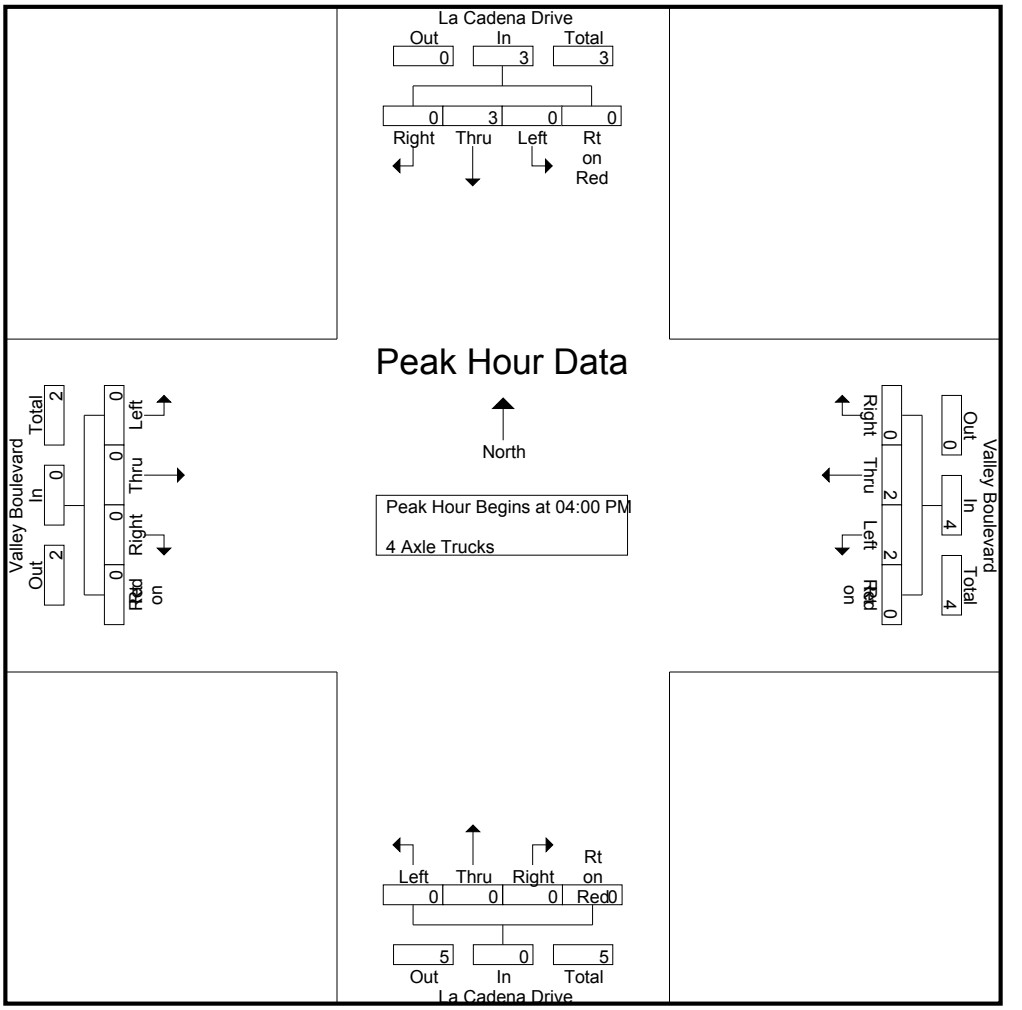
	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:00 PM	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	0	3	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	7
05:00 PM	0	0	0	1	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	2	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
Grand Total	1	3	0	1	5	6	2	0	0	8	0	0	0	0	0	0	0	0	0	0	13
Apprch %	20	60	0	20		75	25	0	0		0	0	0	0		0	0	0	0		
Total %	7.7	23.1	0	7.7	38.5	46.2	15.4	0	0	61.5	0	0	0	0	0	0	0	0	0	0	

	La Cadena Drive Southbound					Valley Boulevard Westbound					La Cadena Drive Northbound					Valley Boulevard Eastbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	**2**	0	0	**2**	0	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0	**3**
04:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	3	0	0	3	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	7
% App. Total	0	100	0	0		50	50	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.375	.000	.000	.375	.250	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.583

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City of Colton
N/S: La Cadena Drive
E/W: Valley Boulevard
Weather: Sunny

File Name : COLLCVAPM
Site Code : 11100000
Start Date : 10/29/2013
Page No : 2



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

	04:00 PM					04:00 PM					04:00 PM					04:00 PM				
+0 mins.	0	**2**	0	0	**2**	0	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	0	0	3	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0		50	50	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.375	.000	.000	.375	.250	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010

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

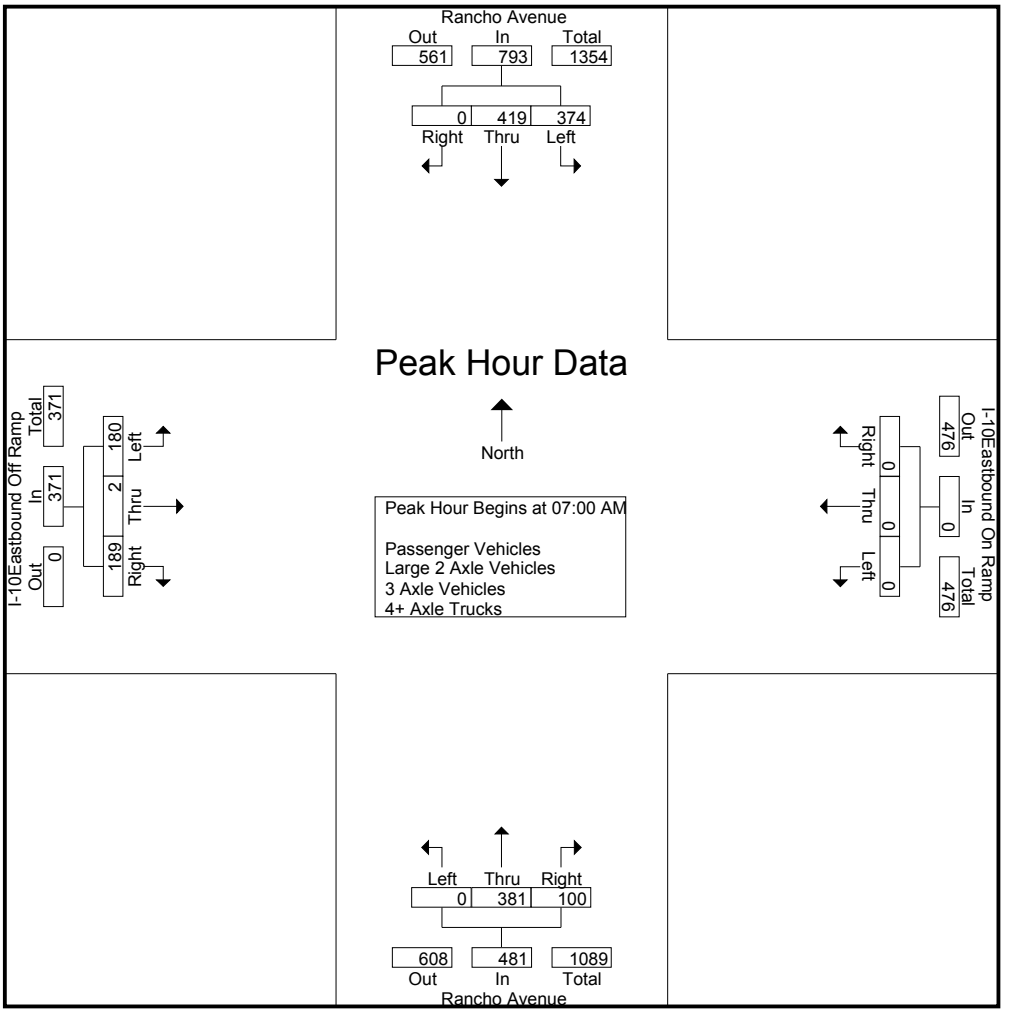
	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	87	86	0	173	0	0	0	0	0	104	17	121	51	1	30	82	376
07:15 AM	92	96	0	188	0	0	0	0	0	118	22	140	39	0	47	86	414
07:30 AM	105	120	0	225	0	0	0	0	0	84	29	113	39	0	57	96	434
07:45 AM	90	117	0	207	0	0	0	0	0	75	32	107	51	1	55	107	421
Total	374	419	0	793	0	0	0	0	0	381	100	481	180	2	189	371	1645
08:00 AM	88	70	0	158	0	0	0	0	0	71	25	96	41	0	34	75	329
08:15 AM	53	68	0	121	0	0	0	0	0	65	21	86	44	2	36	82	289
08:30 AM	69	53	0	122	0	0	0	0	0	53	16	69	41	0	22	63	254
08:45 AM	79	59	0	138	0	0	0	0	0	66	11	77	52	0	33	85	300
Total	289	250	0	539	0	0	0	0	0	255	73	328	178	2	125	305	1172
Grand Total	663	669	0	1332	0	0	0	0	0	636	173	809	358	4	314	676	2817
Apprch %	49.8	50.2	0		0	0	0		0	78.6	21.4		53	0.6	46.4		
Total %	23.5	23.7	0	47.3	0	0	0	0	0	22.6	6.1	28.7	12.7	0.1	11.1	24	
Passenger Vehicles	651	651	0	1302	0	0	0	0	0	613	149	762	321	3	305	629	2693
% Passenger Vehicles	98.2	97.3	0	97.7	0	0	0	0	0	96.4	86.1	94.2	89.7	75	97.1	93	95.6
Large 2 Axle Vehicles	7	3	0	10	0	0	0	0	0	12	12	24	30	1	3	34	68
% Large 2 Axle Vehicles	1.1	0.4	0	0.8	0	0	0	0	0	1.9	6.9	3	8.4	25	1	5	2.4
3 Axle Vehicles	3	0	0	3	0	0	0	0	0	0	0	0	4	0	0	4	7
% 3 Axle Vehicles	0.5	0	0	0.2	0	0	0	0	0	0	0	0	1.1	0	0	0.6	0.2
4+ Axle Trucks	2	15	0	17	0	0	0	0	0	11	12	23	3	0	6	9	49
% 4+ Axle Trucks	0.3	2.2	0	1.3	0	0	0	0	0	1.7	6.9	2.8	0.8	0	1.9	1.3	1.7

	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	87	86	0	173	0	0	0	0	0	104	17	121	**51**	**1**	30	82	376
07:15 AM	92	96	0	188	0	0	0	0	0	**118**	22	**140**	39	0	47	86	414
07:30 AM	**105**	**120**	0	**225**	0	0	0	0	0	84	29	113	39	0	**57**	96	**434**
07:45 AM	90	117	0	207	0	0	0	0	0	75	**32**	107	51	1	55	**107**	421
Total Volume	374	419	0	793	0	0	0	0	0	381	100	481	180	2	189	371	1645
% App. Total	47.2	52.8	0		0	0	0		0	79.2	20.8		48.5	0.5	50.9		
PHF	.890	.873	.000	.881	.000	.000	.000	.000	.000	.807	.781	.859	.882	.500	.829	.867	.948

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				**07:00 AM**				**07:00 AM**				**07:00 AM**			
+0 mins.	**87**	**86**	**0**	**173**	**0**	**0**	**0**	**0**	**0**	**104**	**17**	**121**	51	1	30	82
+15 mins.	92	96	0	188	0	0	0	0	0	118	22	140	39	0	47	86
+30 mins.	**105**	**120**	0	**225**	0	0	0	0	0	84	29	113	39	0	**57**	96
+45 mins.	90	117	0	207	0	0	0	0	0	75	**32**	107	51	1	55	**107**
Total Volume	374	419	0	793	0	0	0	0	0	381	100	481	180	2	189	371
% App. Total	47.2	52.8	0		0	0	0		0	79.2	20.8		48.5	0.5	50.9	
PHF	.890	.873	.000	.881	.000	.000	.000	.000	.000	.807	.781	.859	.882	.500	.829	.867

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010

Groups Printed- Passenger Vehicles

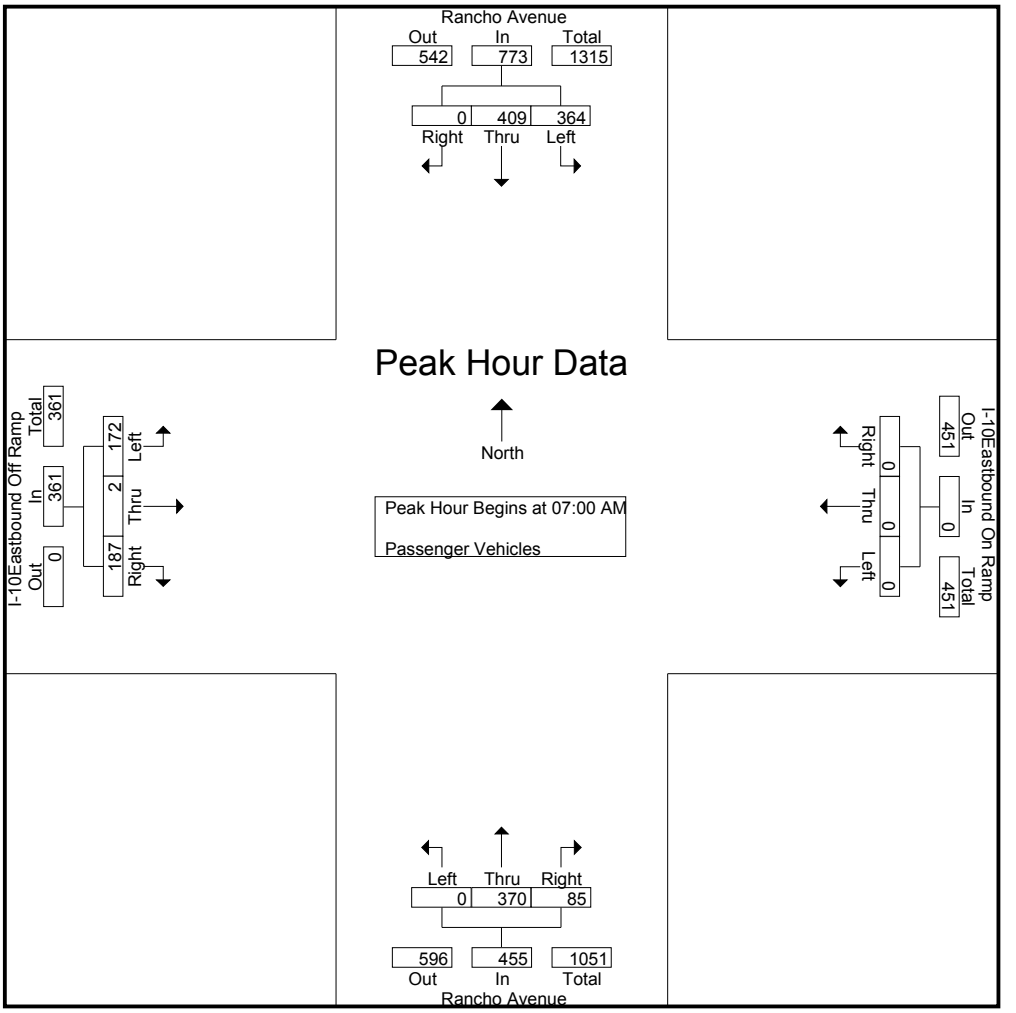
	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	84	83	0	167	0	0	0	0	0	103	15	118	50	1	30	81	366
07:15 AM	90	95	0	185	0	0	0	0	0	115	18	133	37	0	47	84	402
07:30 AM	104	115	0	219	0	0	0	0	0	78	24	102	39	0	56	95	416
07:45 AM	86	116	0	202	0	0	0	0	0	74	28	102	46	1	54	101	405
Total	364	409	0	773	0	0	0	0	0	370	85	455	172	2	187	361	1589
08:00 AM	88	70	0	158	0	0	0	0	0	66	23	89	24	0	31	55	302
08:15 AM	52	67	0	119	0	0	0	0	0	61	18	79	42	1	33	76	274
08:30 AM	68	51	0	119	0	0	0	0	0	51	14	65	39	0	22	61	245
08:45 AM	79	54	0	133	0	0	0	0	0	65	9	74	44	0	32	76	283
Total	287	242	0	529	0	0	0	0	0	243	64	307	149	1	118	268	1104
Grand Total	651	651	0	1302	0	0	0	0	0	613	149	762	321	3	305	629	2693
Apprch %	50	50	0		0	0	0		0	80.4	19.6		51	0.5	48.5		
Total %	24.2	24.2	0	48.3	0	0	0	0	0	22.8	5.5	28.3	11.9	0.1	11.3	23.4	

	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	84	83	0	167	0	0	0	0	0	103	15	118	**50**	**1**	30	81	366
07:15 AM	90	95	0	185	0	0	0	0	0	**115**	18	**133**	37	0	47	84	402
07:30 AM	**104**	115	0	**219**	0	0	0	0	0	78	24	102	39	0	**56**	95	**416**
07:45 AM	86	**116**	0	202	0	0	0	0	0	74	**28**	102	46	1	54	**101**	405
Total Volume	364	409	0	773	0	0	0	0	0	370	85	455	172	2	187	361	1589
% App. Total	47.1	52.9	0		0	0	0		0	81.3	18.7		47.6	0.6	51.8		
PHF	.875	.881	.000	.882	.000	.000	.000	.000	.000	.804	.759	.855	.860	.500	.835	.894	.955

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	84	83	0	167	0	0	0	0	0	103	15	118	**50**	**1**	30	81
+15 mins.	90	95	0	185	0	0	0	0	0	**115**	18	**133**	37	0	47	84
+30 mins.	**104**	115	0	**219**	0	0	0	0	0	78	24	102	39	0	**56**	95
+45 mins.	86	**116**	0	202	0	0	0	0	0	74	**28**	102	46	1	54	**101**
Total Volume	364	409	0	773	0	0	0	0	0	370	85	455	172	2	187	361
% App. Total	47.1	52.9	0		0	0	0		0	81.3	18.7		47.6	0.6	51.8	
PHF	.875	.881	.000	.882	.000	.000	.000	.000	.000	.804	.759	.855	.860	.500	.835	.894

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 1

Groups Printed- Large 2 Axle Vehicles

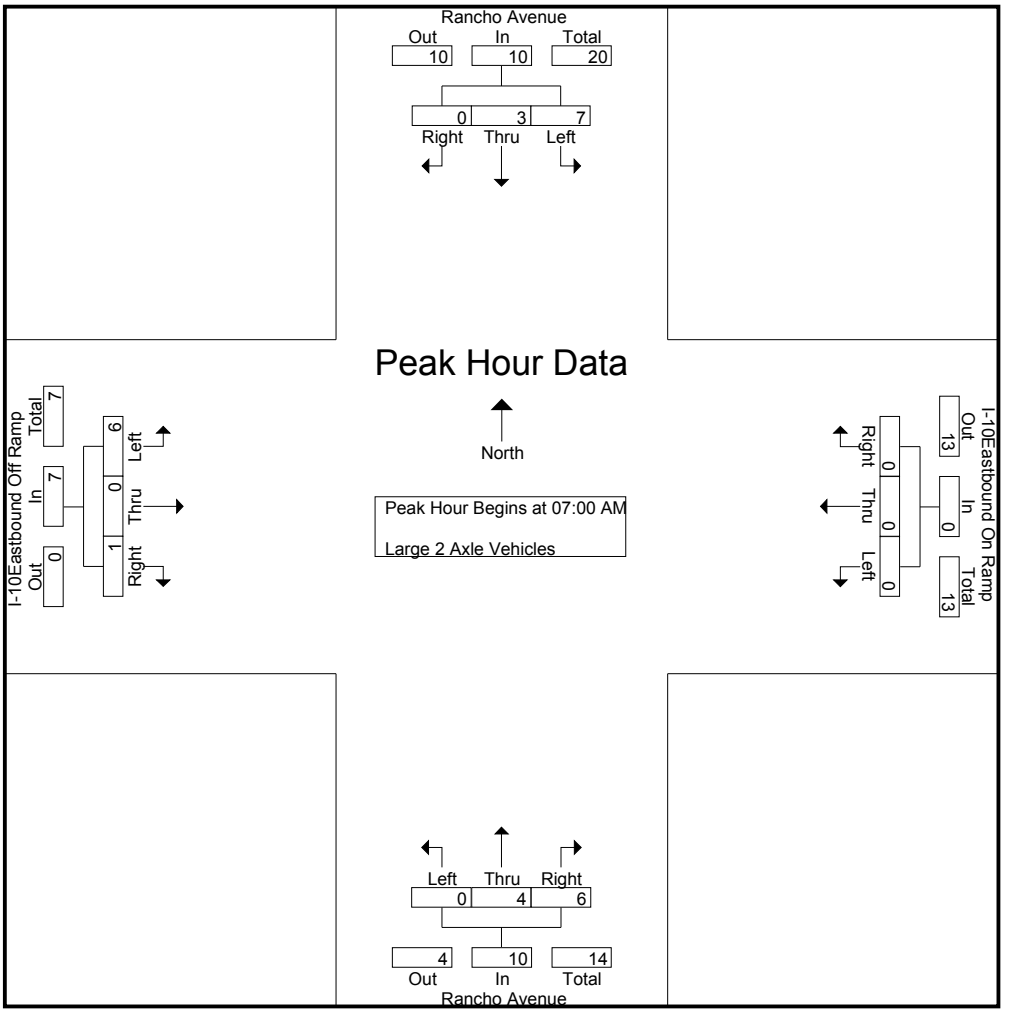
	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	2	0	5	0	0	0	0	0	0	1	1	1	0	0	1	7
07:15 AM	2	0	0	2	0	0	0	0	0	1	2	3	1	0	0	1	6
07:30 AM	1	0	0	1	0	0	0	0	0	2	3	5	0	0	1	1	7
07:45 AM	1	1	0	2	0	0	0	0	0	1	0	1	4	0	0	4	7
Total	7	3	0	10	0	0	0	0	0	4	6	10	6	0	1	7	27
08:00 AM	0	0	0	0	0	0	0	0	0	4	1	5	16	0	0	16	21
08:15 AM	0	0	0	0	0	0	0	0	0	3	3	6	2	1	1	4	10
08:30 AM	0	0	0	0	0	0	0	0	0	1	2	3	1	0	0	1	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	1	6	6
Total	0	0	0	0	0	0	0	0	0	8	6	14	24	1	2	27	41
Grand Total	7	3	0	10	0	0	0	0	0	12	12	24	30	1	3	34	68
Apprch %	70	30	0		0	0	0		0	50	50		88.2	2.9	8.8		
Total %	10.3	4.4	0	14.7	0	0	0	0	0	17.6	17.6	35.3	44.1	1.5	4.4	50	

	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**3**	**2**	0	**5**	0	0	0	0	0	0	1	1	1	0	0	1	**7**
07:15 AM	2	0	0	2	0	0	0	0	0	1	2	3	1	0	0	1	6
07:30 AM	1	0	0	1	0	0	0	0	0	**2**	**3**	**5**	0	0	**1**	1	7
07:45 AM	1	1	0	2	0	0	0	0	0	1	0	1	**4**	0	0	**4**	7
Total Volume	7	3	0	10	0	0	0	0	0	4	6	10	6	0	1	7	27
% App. Total	70	30	0		0	0	0		0	40	60		85.7	0	14.3		
PHF	.583	.375	.000	.500	.000	.000	.000	.000	.000	.500	.500	.500	.375	.000	.250	.438	.964

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				**07:00 AM**				**07:00 AM**				**07:00 AM**			
+0 mins.	3	2	0	5	0	0	0	0	0	0	1	1	1	0	0	1
+15 mins.	2	0	0	2	0	0	0	0	0	1	2	3	1	0	0	1
+30 mins.	1	0	0	1	0	0	0	0	0	2	**3**	**5**	0	0	**1**	1
+45 mins.	1	1	0	2	0	0	0	0	0	1	0	1	**4**	0	0	**4**
Total Volume	7	3	0	10	0	0	0	0	0	4	6	10	6	0	1	7
% App. Total	70	30	0		0	0	0		0	40	60		85.7	0	14.3	
PHF	.583	.375	.000	.500	.000	.000	.000	.000	.000	.500	.500	.500	.375	.000	.250	.438

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 1

Groups Printed- 3 Axle Vehicles

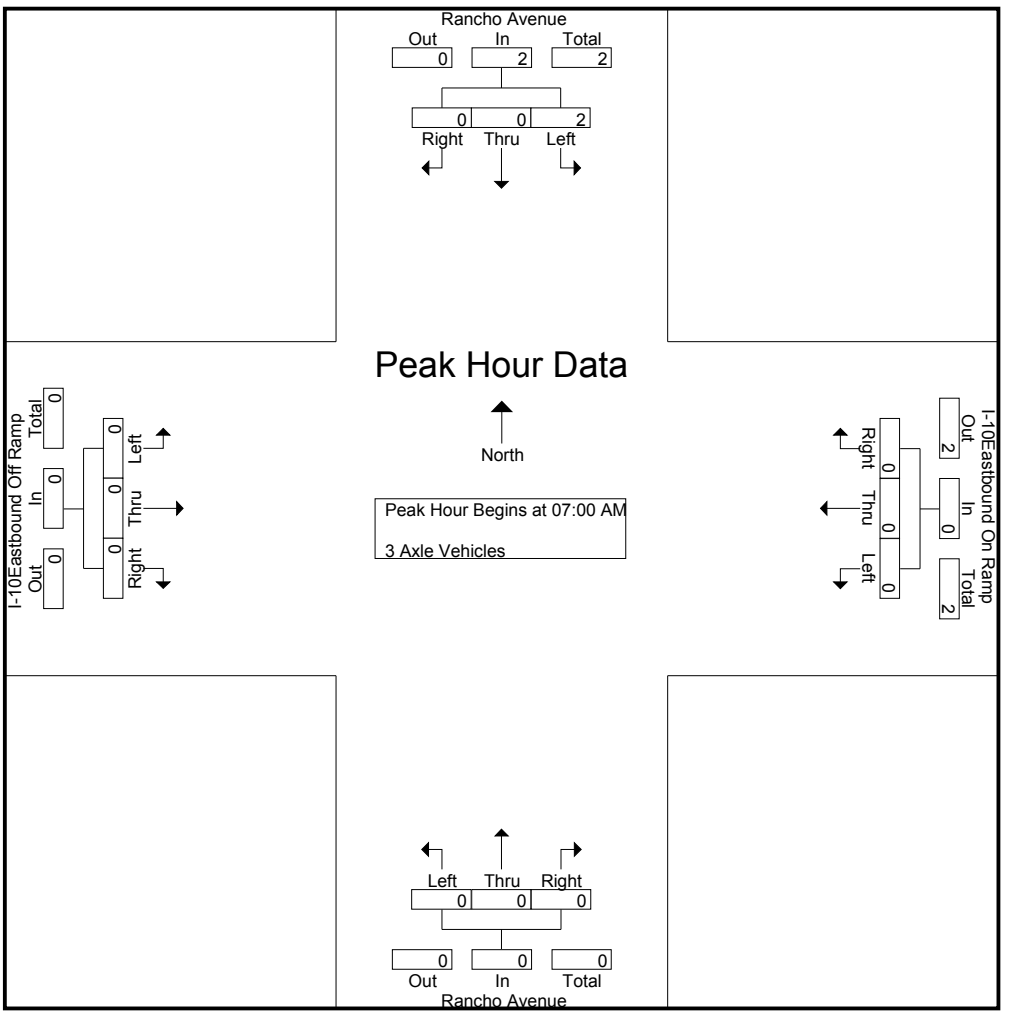
	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Total	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	4	5
Grand Total	3	0	0	3	0	0	0	0	0	0	0	0	4	0	0	4	7
Apprch %	100	0	0		0	0	0		0	0	0		100	0	0		
Total %	42.9	0	0	42.9	0	0	0	0	0	0	0	0	57.1	0	0	57.1	

	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total Volume	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	100	0	0		0	0	0		0	0	0		0	0	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	100	0	0		0	0	0		0	0	0		0	0	0	
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 1

Groups Printed- 4+ Axle Trucks

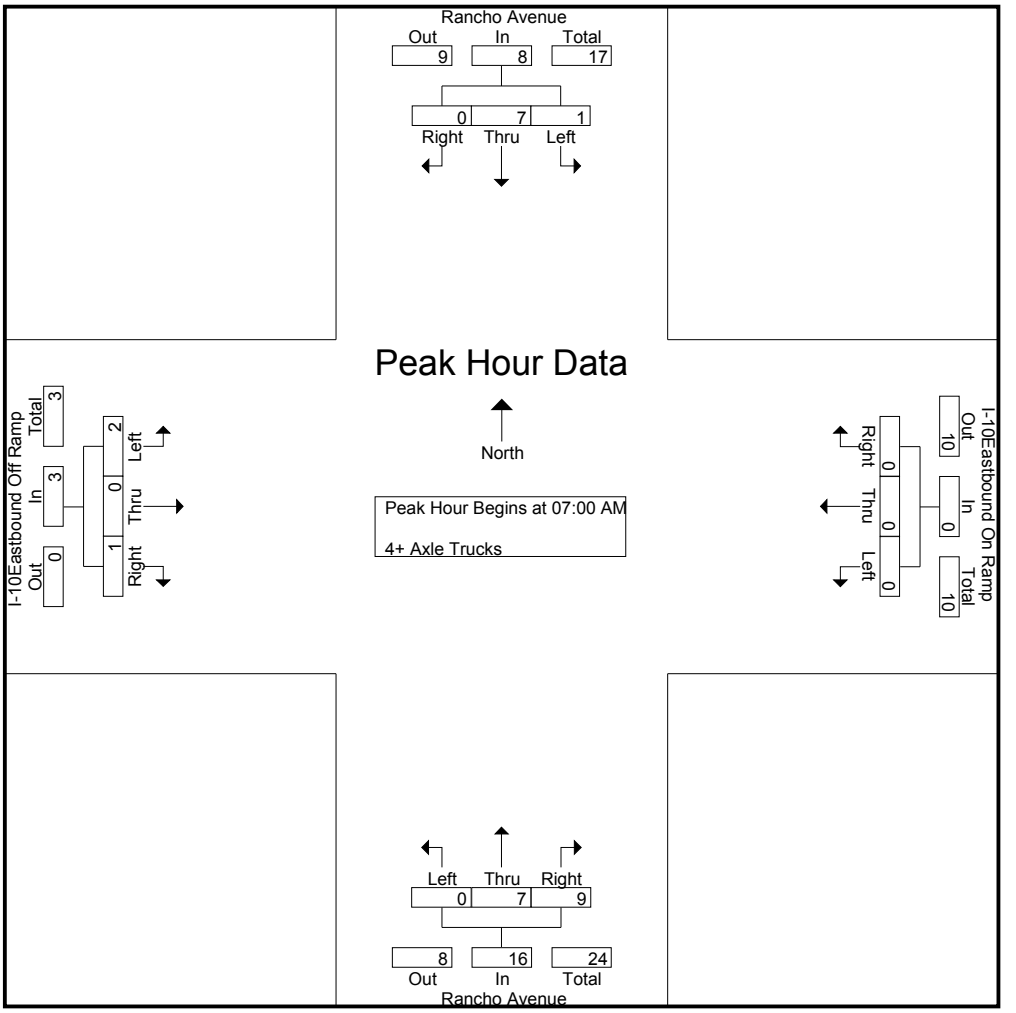
	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	1	1	2	0	0	0	0	3
07:15 AM	0	1	0	1	0	0	0	0	0	2	2	4	1	0	0	1	6
07:30 AM	0	5	0	5	0	0	0	0	0	4	2	6	0	0	0	0	11
07:45 AM	1	0	0	1	0	0	0	0	0	0	4	4	1	0	1	2	7
Total	1	7	0	8	0	0	0	0	0	7	9	16	2	0	1	3	27
08:00 AM	0	0	0	0	0	0	0	0	0	1	1	2	1	0	3	4	6
08:15 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	2	2	4
08:30 AM	1	2	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
08:45 AM	0	5	0	5	0	0	0	0	0	1	2	3	0	0	0	0	8
Total	1	8	0	9	0	0	0	0	0	4	3	7	1	0	5	6	22
Grand Total	2	15	0	17	0	0	0	0	0	11	12	23	3	0	6	9	49
Apprch %	11.8	88.2	0		0	0	0		0	47.8	52.2		33.3	0	66.7		
Total %	4.1	30.6	0	34.7	0	0	0	0	0	22.4	24.5	46.9	6.1	0	12.2	18.4	

	Rancho Avenue Southbound				I-10Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	0	1	0	0	0	0	0	1	1	2	0	0	0	0	3
07:15 AM	0	1	0	1	0	0	0	0	0	2	2	4	**1**	0	0	1	6
07:30 AM	0	**5**	0	**5**	0	0	0	0	0	**4**	2	**6**	0	0	0	0	**11**
07:45 AM	**1**	0	0	1	0	0	0	0	0	0	**4**	4	1	0	**1**	**2**	7
Total Volume	1	7	0	8	0	0	0	0	0	7	9	16	2	0	1	3	27
% App. Total	12.5	87.5	0		0	0	0		0	43.8	56.2		66.7	0	33.3		
PHF	.250	.350	.000	.400	.000	.000	.000	.000	.000	.438	.563	.667	.500	.000	.250	.375	.614

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EAM
Site Code : 10245156
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	1	0	1	0	0	0	0	0	1	1	2	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	2	2	4	**1**	0	0	1
+30 mins.	0	**5**	0	**5**	0	0	0	0	0	**4**	2	**6**	0	0	0	0
+45 mins.	**1**	0	0	1	0	0	0	0	0	0	**4**	4	1	0	**1**	**2**
Total Volume	1	7	0	8	0	0	0	0	0	7	9	16	2	0	1	3
% App. Total	12.5	87.5	0		0	0	0		0	43.8	56.2		66.7	0	33.3	
PHF	.250	.350	.000	.400	.000	.000	.000	.000	.000	.438	.563	.667	.500	.000	.250	.375

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 1

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

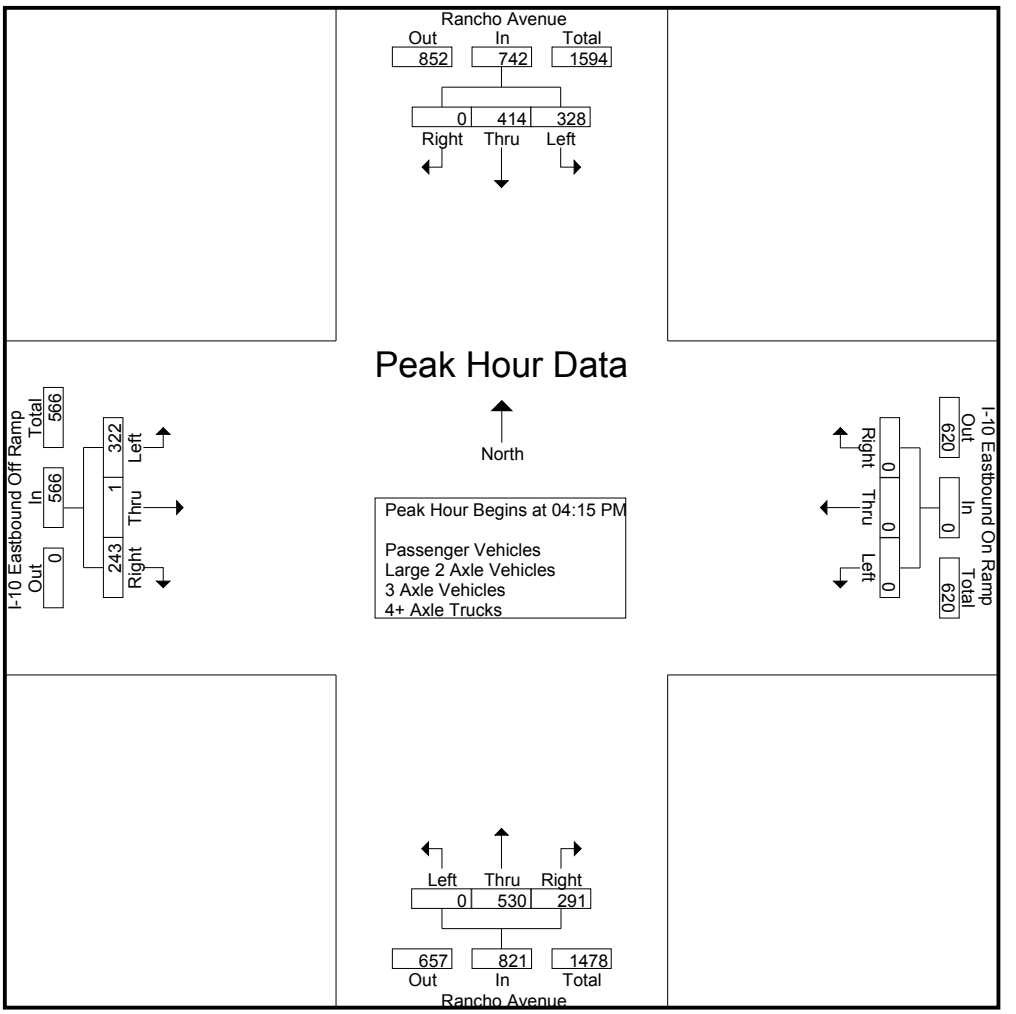
	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	78	115	0	193	0	0	0	0	0	111	64	175	81	0	58	139	507
04:15 PM	79	104	0	183	0	0	0	0	0	125	68	193	109	1	55	165	541
04:30 PM	80	115	0	195	0	0	0	0	0	131	84	215	62	0	65	127	537
04:45 PM	85	84	0	169	0	0	0	0	0	136	83	219	83	0	52	135	523
Total	322	418	0	740	0	0	0	0	0	503	299	802	335	1	230	566	2108
05:00 PM	84	111	0	195	0	0	0	0	0	138	56	194	68	0	71	139	528
05:15 PM	75	82	0	157	0	0	0	0	0	136	74	210	84	1	62	147	514
05:30 PM	84	96	0	180	0	0	0	0	0	156	64	220	61	0	54	115	515
05:45 PM	76	105	0	181	0	0	0	0	0	113	43	156	67	1	55	123	460
Total	319	394	0	713	0	0	0	0	0	543	237	780	280	2	242	524	2017
Grand Total	641	812	0	1453	0	0	0	0	0	1046	536	1582	615	3	472	1090	4125
Apprch %	44.1	55.9	0		0	0	0		0	66.1	33.9		56.4	0.3	43.3		
Total %	15.5	19.7	0	35.2	0	0	0	0	0	25.4	13	38.4	14.9	0.1	11.4	26.4	
Passenger Vehicles	638	787	0	1425	0	0	0	0	0	1018	509	1527	600	2	450	1052	4004
% Passenger Vehicles	99.5	96.9	0	98.1	0	0	0	0	0	97.3	95	96.5	97.6	66.7	95.3	96.5	97.1
Large 2 Axle Vehicles	3	6	0	9	0	0	0	0	0	7	9	16	12	1	13	26	51
% Large 2 Axle Vehicles	0.5	0.7	0	0.6	0	0	0	0	0	0.7	1.7	1	2	33.3	2.8	2.4	1.2
3 Axle Vehicles	0	4	0	4	0	0	0	0	0	2	7	9	0	0	2	2	15
% 3 Axle Vehicles	0	0.5	0	0.3	0	0	0	0	0	0.2	1.3	0.6	0	0	0.4	0.2	0.4
4+ Axle Trucks	0	15	0	15	0	0	0	0	0	19	11	30	3	0	7	10	55
% 4+ Axle Trucks	0	1.8	0	1	0	0	0	0	0	1.8	2.1	1.9	0.5	0	1.5	0.9	1.3

	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	79	104	0	183	0	0	0	0	0	125	68	193	**109**	**1**	55	**165**	**541**
04:30 PM	80	**115**	0	**195**	0	0	0	0	0	131	**84**	215	62	0	65	127	537
04:45 PM	**85**	84	0	169	0	0	0	0	0	136	83	**219**	83	0	52	135	523
05:00 PM	84	111	0	195	0	0	0	0	0	**138**	56	194	68	0	**71**	139	528
Total Volume	328	414	0	742	0	0	0	0	0	530	291	821	322	1	243	566	2129
% App. Total	44.2	55.8	0		0	0	0		0	64.6	35.4		56.9	0.2	42.9		
PHF	.965	.900	.000	.951	.000	.000	.000	.000	.000	.960	.866	.937	.739	.250	.856	.858	.984

Counts Unlimited Inc.
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(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:45 PM				04:00 PM			
+0 mins.	79	104	0	183	0	0	0	0	0	136	**83**	219	81	0	58	139
+15 mins.	80	**115**	0	**195**	0	0	0	0	0	138	56	194	**109**	**1**	55	**165**
+30 mins.	**85**	84	0	169	0	0	0	0	0	136	74	210	62	0	**65**	127
+45 mins.	84	111	0	195	0	0	0	0	0	**156**	64	**220**	83	0	52	135
Total Volume	328	414	0	742	0	0	0	0	0	566	277	843	335	1	230	566
% App. Total	44.2	55.8	0		0	0	0		0	67.1	32.9		59.2	0.2	40.6	
PHF	.965	.900	.000	.951	.000	.000	.000	.000	.000	.907	.834	.958	.768	.250	.885	.858

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 1

Groups Printed- Passenger Vehicles

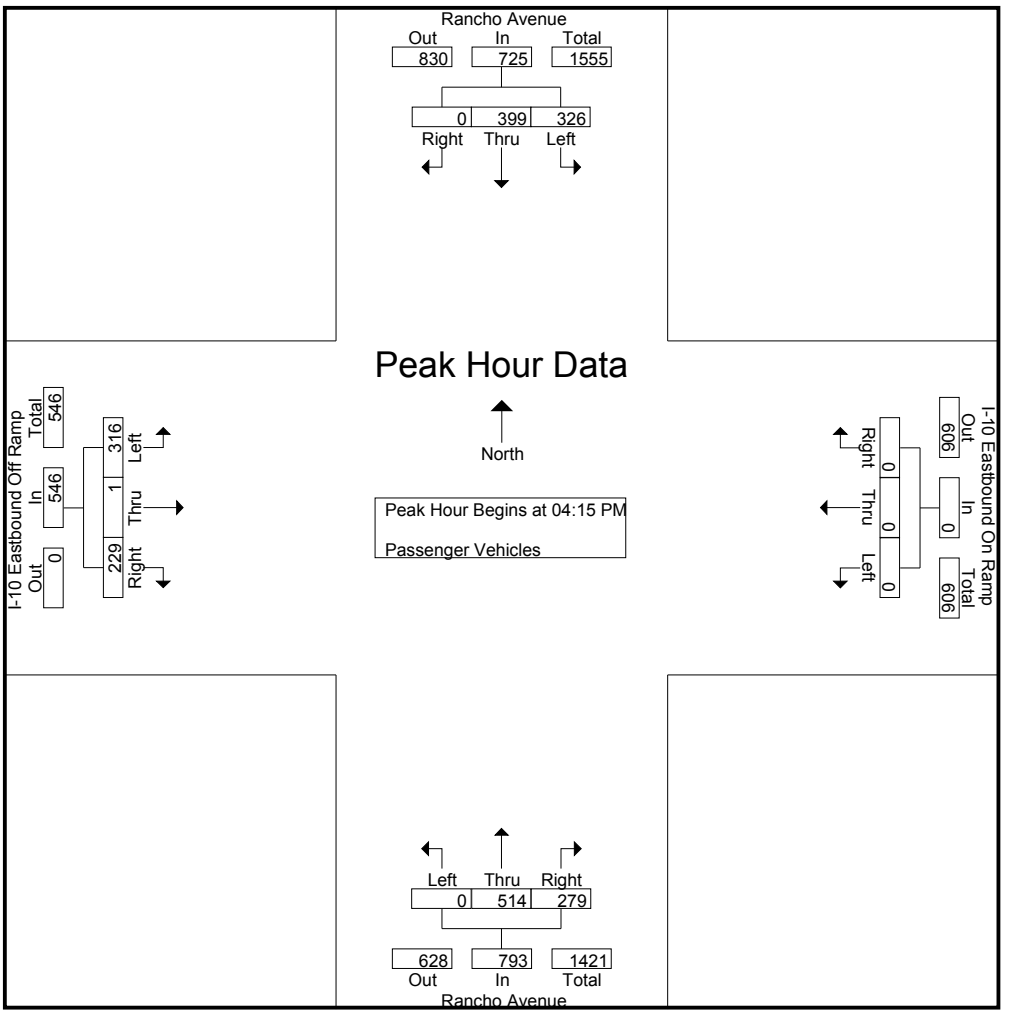
	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	78	111	0	189	0	0	0	0	0	110	57	167	78	0	55	133	489
04:15 PM	79	101	0	180	0	0	0	0	0	120	66	186	106	1	52	159	525
04:30 PM	79	111	0	190	0	0	0	0	0	128	80	208	62	0	62	124	522
04:45 PM	84	79	0	163	0	0	0	0	0	131	79	210	82	0	49	131	504
Total	320	402	0	722	0	0	0	0	0	489	282	771	328	1	218	547	2040
05:00 PM	84	108	0	192	0	0	0	0	0	135	54	189	66	0	66	132	513
05:15 PM	75	81	0	156	0	0	0	0	0	133	70	203	80	1	61	142	501
05:30 PM	83	95	0	178	0	0	0	0	0	153	63	216	59	0	51	110	504
05:45 PM	76	101	0	177	0	0	0	0	0	108	40	148	67	0	54	121	446
Total	318	385	0	703	0	0	0	0	0	529	227	756	272	1	232	505	1964
Grand Total	638	787	0	1425	0	0	0	0	0	1018	509	1527	600	2	450	1052	4004
Apprch %	44.8	55.2	0		0	0	0		0	66.7	33.3		57	0.2	42.8		
Total %	15.9	19.7	0	35.6	0	0	0	0	0	25.4	12.7	38.1	15	0	11.2	26.3	

	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	79	101	0	180	0	0	0	0	0	120	66	186	**106**	**1**	52	**159**	**525**
04:30 PM	79	**111**	0	190	0	0	0	0	0	128	**80**	208	62	0	62	124	522
04:45 PM	**84**	79	0	163	0	0	0	0	0	131	79	**210**	82	0	49	131	504
05:00 PM	84	108	0	**192**	0	0	0	0	0	**135**	54	189	66	0	**66**	132	513
Total Volume	326	399	0	725	0	0	0	0	0	514	279	793	316	1	229	546	2064
% App. Total	45	55	0		0	0	0		0	64.8	35.2		57.9	0.2	41.9		
PHF	.970	.899	.000	.944	.000	.000	.000	.000	.000	.952	.872	.944	.745	.250	.867	.858	.983

Counts Unlimited Inc.
PO Box 1178
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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	79	101	0	180	0	0	0	0	0	120	66	186	**106**	**1**	52	**159**
+15 mins.	79	**111**	0	190	0	0	0	0	0	128	**80**	208	62	0	62	124
+30 mins.	**84**	79	0	163	0	0	0	0	0	131	79	**210**	82	0	49	131
+45 mins.	84	108	0	**192**	0	0	0	0	0	**135**	54	189	66	0	**66**	132
Total Volume	326	399	0	725	0	0	0	0	0	514	279	793	316	1	229	546
% App. Total	45	55	0		0	0	0		0	64.8	35.2		57.9	0.2	41.9	
PHF	.970	.899	.000	.944	.000	.000	.000	.000	.000	.952	.872	.944	.745	.250	.867	.858

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 1

Groups Printed- Large 2 Axle Vehicles

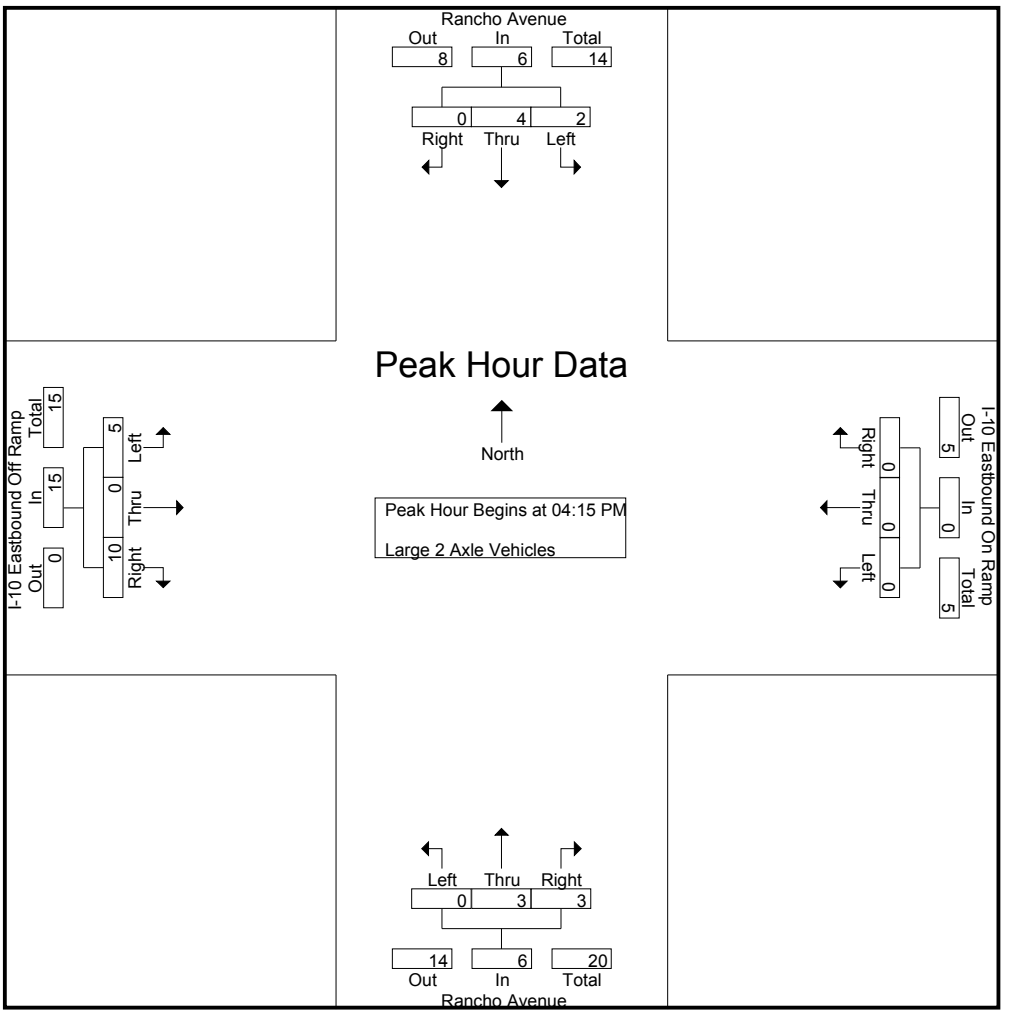
	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	4	4	3	0	1	4	8
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	3	0	2	5	6
04:30 PM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	3	3	5
04:45 PM	1	2	0	3	0	0	0	0	0	3	2	5	1	0	1	2	10
Total	2	4	0	6	0	0	0	0	0	3	6	9	7	0	7	14	29
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	4	5	6
05:15 PM	0	1	0	1	0	0	0	0	0	2	0	2	3	0	0	3	6
05:30 PM	1	0	0	1	0	0	0	0	0	0	1	1	1	0	1	2	4
05:45 PM	0	1	0	1	0	0	0	0	0	2	1	3	0	1	1	2	6
Total	1	2	0	3	0	0	0	0	0	4	3	7	5	1	6	12	22
Grand Total	3	6	0	9	0	0	0	0	0	7	9	16	12	1	13	26	51
Apprch %	33.3	66.7	0		0	0	0		0	43.8	56.2		46.2	3.8	50		
Total %	5.9	11.8	0	17.6	0	0	0	0	0	13.7	17.6	31.4	23.5	2	25.5	51	

	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	**3**	0	2	**5**	6
04:30 PM	**1**	1	0	2	0	0	0	0	0	0	0	0	0	0	3	3	5
04:45 PM	1	**2**	0	**3**	0	0	0	0	0	**3**	**2**	**5**	1	0	1	2	**10**
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	**4**	5	6
Total Volume	2	4	0	6	0	0	0	0	0	3	3	6	5	0	10	15	27
% App. Total	33.3	66.7	0		0	0	0		0	50	50		33.3	0	66.7		
PHF	.500	.500	.000	.500	.000	.000	.000	.000	.000	.250	.375	.300	.417	.000	.625	.750	.675

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	**3**	0	2	**5**
+15 mins.	**1**	1	0	2	0	0	0	0	0	0	0	0	0	0	3	3
+30 mins.	1	**2**	0	**3**	0	0	0	0	0	**3**	**2**	**5**	1	0	1	2
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	1	0	**4**	5
Total Volume	2	4	0	6	0	0	0	0	0	3	3	6	5	0	10	15
% App. Total	33.3	66.7	0		0	0	0		0	50	50		33.3	0	66.7	
PHF	.500	.500	.000	.500	.000	.000	.000	.000	.000	.250	.375	.300	.417	.000	.625	.750

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(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010

Groups Printed- 3 Axle Vehicles

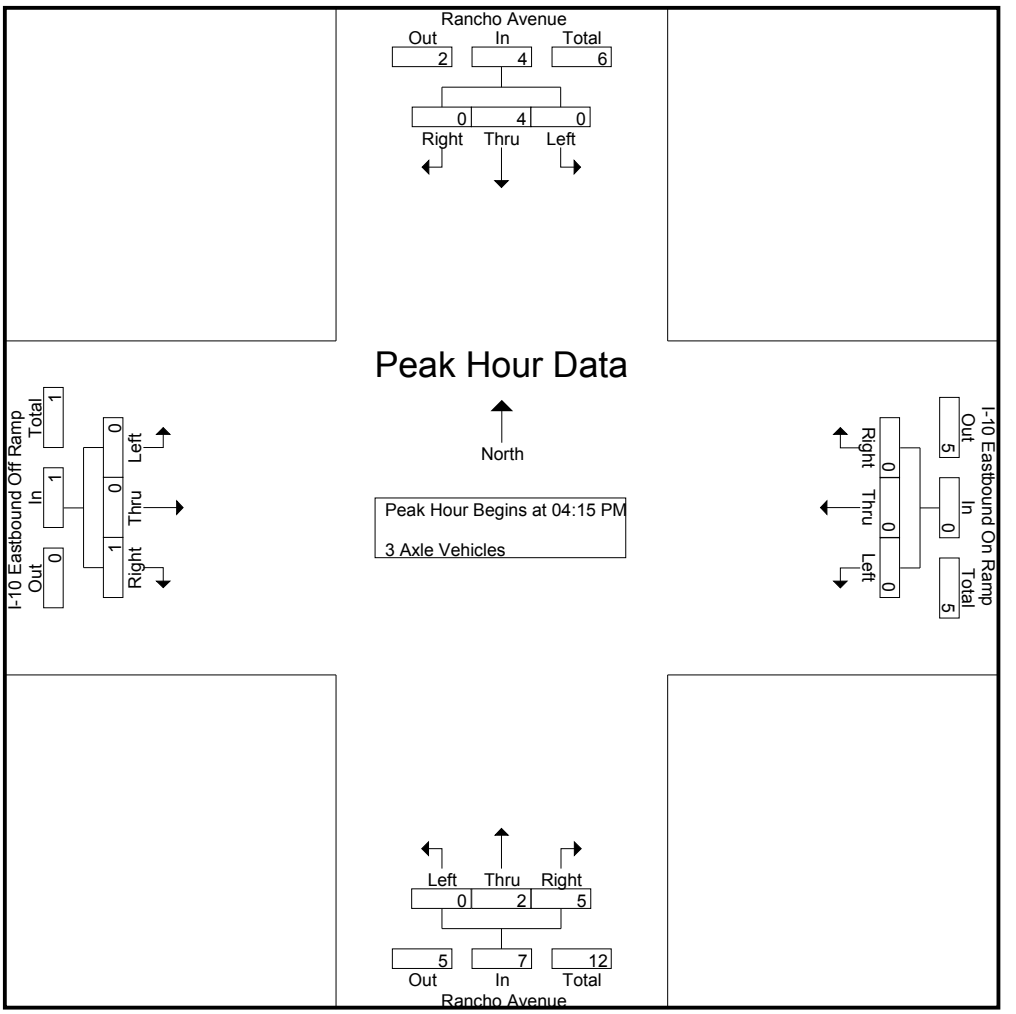
	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
04:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	1	1	6
04:30 PM	0	1	0	1	0	0	0	0	0	1	1	2	0	0	0	0	3
04:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	4	0	4	0	0	0	0	0	2	5	7	0	0	1	1	12
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	2	2	0	0	1	1	3
Grand Total	0	4	0	4	0	0	0	0	0	2	7	9	0	0	2	2	15
Apprch %	0	100	0		0	0	0		0	22.2	77.8		0	0	100		
Total %	0	26.7	0	26.7	0	0	0	0	0	13.3	46.7	60	0	0	13.3	13.3	

	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**2**	0	**2**	0	0	0	0	0	**1**	**2**	**3**	0	0	**1**	**1**	**6**
04:30 PM	0	1	0	1	0	0	0	0	0	1	1	2	0	0	0	0	3
04:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Volume	0	4	0	4	0	0	0	0	0	2	5	7	0	0	1	1	12
% App. Total	0	100	0		0	0	0		0	28.6	71.4		0	0	100		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.625	.583	.000	.000	.250	.250	.500

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Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**2**	0	**2**	0	0	0	0	0	**1**	**2**	**3**	0	0	**1**	**1**
+15 mins.	0	1	0	1	0	0	0	0	0	1	1	2	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	4	0	4	0	0	0	0	0	2	5	7	0	0	1	1
% App. Total	0	100	0		0	0	0		0	28.6	71.4		0	0	100	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.625	.583	.000	.000	.250	.250

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 1

Groups Printed- 4+ Axle Trucks

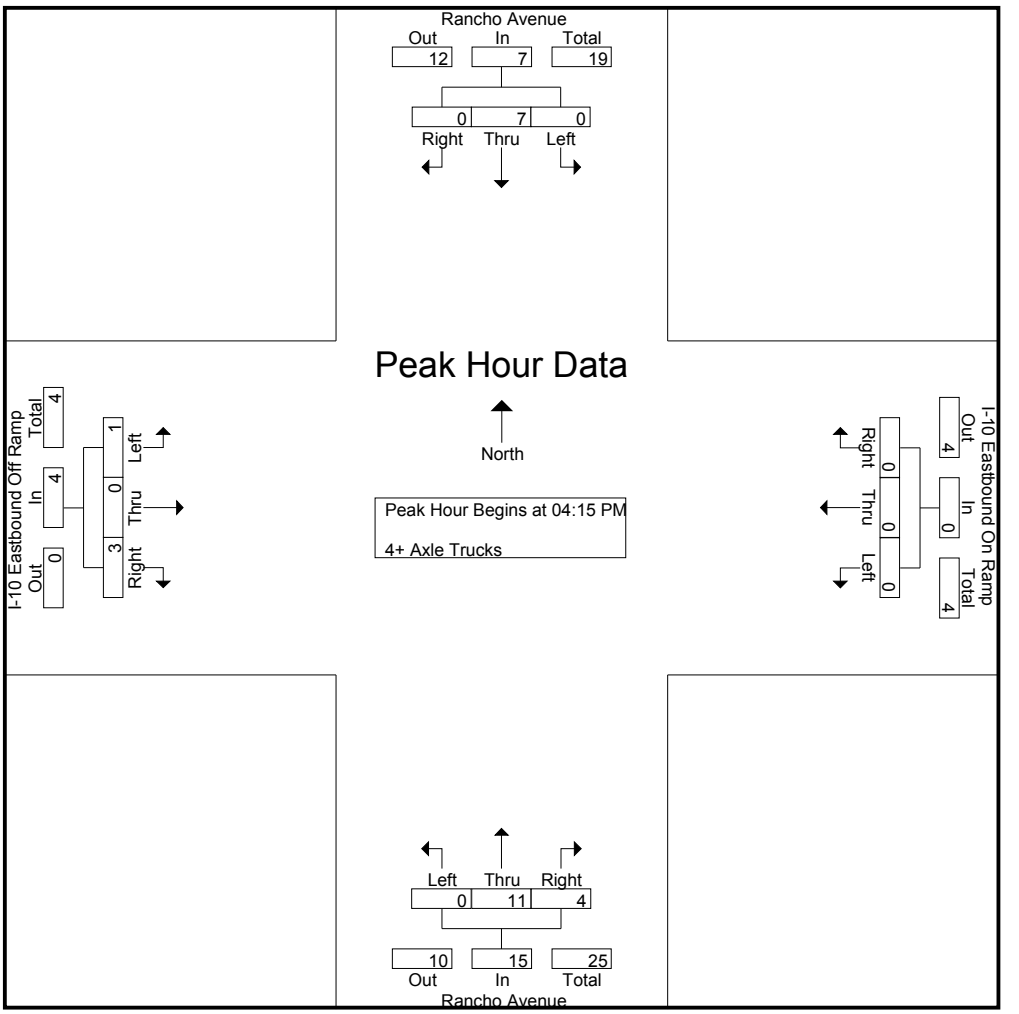
	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	4	0	4	0	0	0	0	0	1	2	3	0	0	2	2	9
04:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
04:30 PM	0	2	0	2	0	0	0	0	0	2	3	5	0	0	0	0	7
04:45 PM	0	2	0	2	0	0	0	0	0	2	1	3	0	0	2	2	7
Total	0	8	0	8	0	0	0	0	0	9	6	15	0	0	4	4	27
05:00 PM	0	3	0	3	0	0	0	0	0	3	0	3	1	0	1	2	8
05:15 PM	0	0	0	0	0	0	0	0	0	1	4	5	1	0	1	2	7
05:30 PM	0	1	0	1	0	0	0	0	0	3	0	3	1	0	1	2	6
05:45 PM	0	3	0	3	0	0	0	0	0	3	1	4	0	0	0	0	7
Total	0	7	0	7	0	0	0	0	0	10	5	15	3	0	3	6	28
Grand Total	0	15	0	15	0	0	0	0	0	19	11	30	3	0	7	10	55
Apprch %	0	100	0		0	0	0		0	63.3	36.7		30	0	70		
Total %	0	27.3	0	27.3	0	0	0	0	0	34.5	20	54.5	5.5	0	12.7	18.2	

	Rancho Avenue Southbound				I-10 Eastbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	**4**	0	4	0	0	0	0	4
04:30 PM	0	2	0	2	0	0	0	0	0	2	**3**	**5**	0	0	0	0	7
04:45 PM	0	2	0	2	0	0	0	0	0	2	1	3	0	0	**2**	**2**	7
05:00 PM	0	**3**	0	**3**	0	0	0	0	0	3	0	3	**1**	0	1	2	**8**
Total Volume	0	7	0	7	0	0	0	0	0	11	4	15	1	0	3	4	26
% App. Total	0	100	0		0	0	0		0	73.3	26.7		25	0	75		
PHF	.000	.583	.000	.583	.000	.000	.000	.000	.000	.688	.333	.750	.250	.000	.375	.500	.813

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PO Box 1178
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(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Eastbound Ramps
Weather: Sunny

File Name : COLRA10EPM
Site Code : 1024556
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	**4**	0	4	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	2	**3**	**5**	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	2	1	3	0	0	**2**	**2**
+45 mins.	0	**3**	0	**3**	0	0	0	0	0	3	0	3	**1**	0	1	2
Total Volume	0	7	0	7	0	0	0	0	0	11	4	15	1	0	3	4
% App. Total	0	100	0		0	0	0		0	73.3	26.7		25	0	75	
PHF	.000	.583	.000	.583	.000	.000	.000	.000	.000	.688	.333	.750	.250	.000	.375	.500

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Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

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

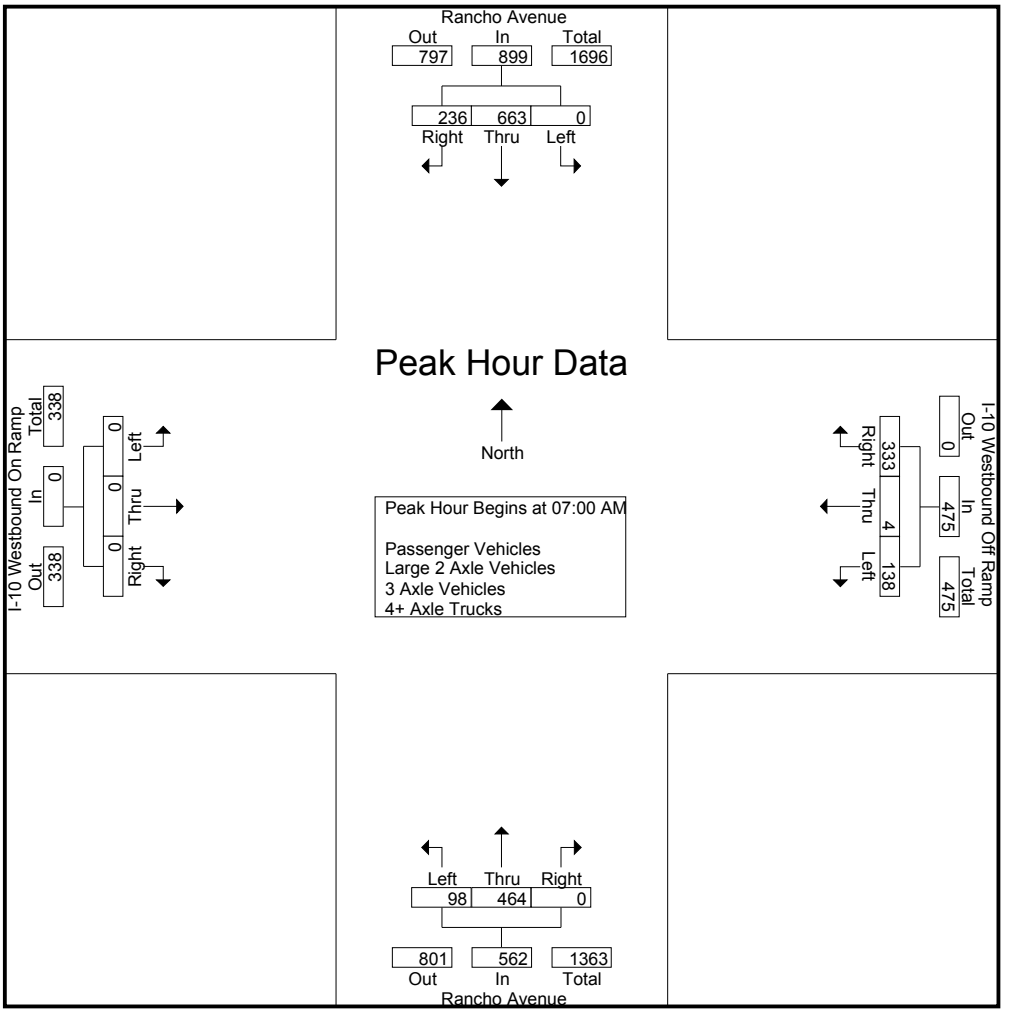
	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	147	51	198	27	2	101	130	14	124	0	138	0	0	0	0	466
07:15 AM	0	172	56	228	24	2	100	126	16	162	0	178	0	0	0	0	532
07:30 AM	0	183	65	248	43	0	74	117	33	92	0	125	0	0	0	0	490
07:45 AM	0	161	64	225	44	0	58	102	35	86	0	121	0	0	0	0	448
Total	0	663	236	899	138	4	333	475	98	464	0	562	0	0	0	0	1936
08:00 AM	0	132	41	173	27	0	50	77	29	90	0	119	0	0	0	0	369
08:15 AM	0	108	49	157	16	1	58	75	32	73	0	105	0	0	0	0	337
08:30 AM	0	106	51	157	16	0	59	75	21	76	0	97	0	0	0	0	329
08:45 AM	0	118	46	164	17	0	49	66	23	97	0	120	0	0	0	0	350
Total	0	464	187	651	76	1	216	293	105	336	0	441	0	0	0	0	1385
Grand Total	0	1127	423	1550	214	5	549	768	203	800	0	1003	0	0	0	0	3321
Apprch %	0	72.7	27.3		27.9	0.7	71.5		20.2	79.8	0		0	0	0		
Total %	0	33.9	12.7	46.7	6.4	0.2	16.5	23.1	6.1	24.1	0	30.2	0	0	0	0	
Passenger Vehicles	0	1106	405	1511	190	5	535	730	183	749	0	932	0	0	0	0	3173
% Passenger Vehicles	0	98.1	95.7	97.5	88.8	100	97.4	95.1	90.1	93.6	0	92.9	0	0	0	0	95.5
Large 2 Axle Vehicles	0	17	14	31	8	0	11	19	9	44	0	53	0	0	0	0	103
% Large 2 Axle Vehicles	0	1.5	3.3	2	3.7	0	2	2.5	4.4	5.5	0	5.3	0	0	0	0	3.1
3 Axle Vehicles	0	3	3	6	2	0	2	4	1	4	0	5	0	0	0	0	15
% 3 Axle Vehicles	0	0.3	0.7	0.4	0.9	0	0.4	0.5	0.5	0.5	0	0.5	0	0	0	0	0.5
4+ Axle Trucks	0	1	1	2	14	0	1	15	10	3	0	13	0	0	0	0	30
% 4+ Axle Trucks	0	0.1	0.2	0.1	6.5	0	0.2	2	4.9	0.4	0	1.3	0	0	0	0	0.9

	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	147	51	198	27	**2**	**101**	**130**	14	124	0	138	0	0	0	0	466
07:15 AM	0	172	56	228	24	2	100	126	16	**162**	0	**178**	0	0	0	0	**532**
07:30 AM	0	**183**	**65**	**248**	43	0	74	117	33	92	0	125	0	0	0	0	490
07:45 AM	0	161	64	225	**44**	0	58	102	**35**	86	0	121	0	0	0	0	448
Total Volume	0	663	236	899	138	4	333	475	98	464	0	562	0	0	0	0	1936
% App. Total	0	73.7	26.3		29.1	0.8	70.1		17.4	82.6	0		0	0	0		
PHF	.000	.906	.908	.906	.784	.500	.824	.913	.700	.716	.000	.789	.000	.000	.000	.000	.910

Counts Unlimited Inc.
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(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				**07:00 AM**				**07:00 AM**				**07:00 AM**			
+0 mins.	**0**	**147**	**51**	**198**	**27**	2	101	130	14	124	0	138	0	0	0	0
+15 mins.	0	172	56	228	24	2	100	126	16	162	0	**178**	0	0	0	0
+30 mins.	0	**183**	**65**	**248**	43	0	74	117	33	92	0	125	0	0	0	0
+45 mins.	0	161	64	225	**44**	0	58	102	**35**	86	0	121	0	0	0	0
Total Volume	0	663	236	899	138	4	333	475	98	464	0	562	0	0	0	0
% App. Total	0	73.7	26.3		29.1	0.8	70.1		17.4	82.6	0		0	0	0	
PHF	.000	.906	.908	.906	.784	.500	.824	.913	.700	.716	.000	.789	.000	.000	.000	.000

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City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- Passenger Vehicles

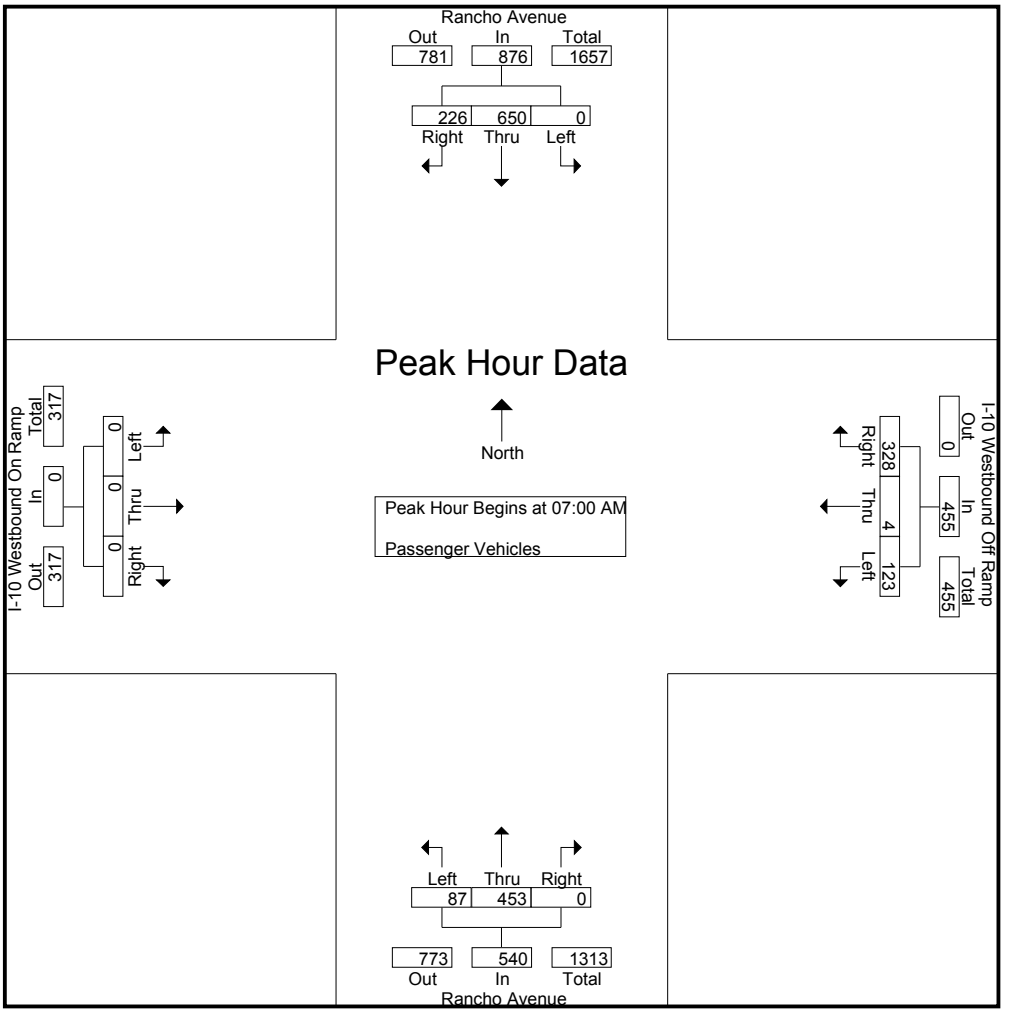
	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	142	49	191	25	2	101	128	13	123	0	136	0	0	0	0	455
07:15 AM	0	169	55	224	21	2	98	121	13	159	0	172	0	0	0	0	517
07:30 AM	0	182	61	243	36	0	72	108	27	91	0	118	0	0	0	0	469
07:45 AM	0	157	61	218	41	0	57	98	34	80	0	114	0	0	0	0	430
Total	0	650	226	876	123	4	328	455	87	453	0	540	0	0	0	0	1871
08:00 AM	0	131	40	171	27	0	46	73	26	68	0	94	0	0	0	0	338
08:15 AM	0	108	47	155	15	1	54	70	30	67	0	97	0	0	0	0	322
08:30 AM	0	105	48	153	13	0	58	71	18	72	0	90	0	0	0	0	314
08:45 AM	0	112	44	156	12	0	49	61	22	89	0	111	0	0	0	0	328
Total	0	456	179	635	67	1	207	275	96	296	0	392	0	0	0	0	1302
Grand Total	0	1106	405	1511	190	5	535	730	183	749	0	932	0	0	0	0	3173
Apprch %	0	73.2	26.8		26	0.7	73.3		19.6	80.4	0		0	0	0		
Total %	0	34.9	12.8	47.6	6	0.2	16.9	23	5.8	23.6	0	29.4	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	142	49	191	25	**2**	**101**	**128**	13	123	0	136	0	0	0	0	455
07:15 AM	0	169	55	224	21	2	98	121	13	**159**	0	**172**	0	0	0	0	**517**
07:30 AM	0	**182**	**61**	**243**	36	0	72	108	27	91	0	118	0	0	0	0	469
07:45 AM	0	157	61	218	**41**	0	57	98	**34**	80	0	114	0	0	0	0	430
Total Volume	0	650	226	876	123	4	328	455	87	453	0	540	0	0	0	0	1871
% App. Total	0	74.2	25.8		27	0.9	72.1		16.1	83.9	0		0	0	0		
PHF	.000	.893	.926	.901	.750	.500	.812	.889	.640	.712	.000	.785	.000	.000	.000	.000	.905

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	142	49	191	25	**2**	**101**	**128**	13	123	0	136	0	0	0	0
+15 mins.	0	169	55	224	21	2	98	121	13	**159**	0	**172**	0	0	0	0
+30 mins.	0	**182**	**61**	**243**	36	0	72	108	27	91	0	118	0	0	0	0
+45 mins.	0	157	61	218	**41**	0	57	98	**34**	80	0	114	0	0	0	0
Total Volume	0	650	226	876	123	4	328	455	87	453	0	540	0	0	0	0
% App. Total	0	74.2	25.8		27	0.9	72.1		16.1	83.9	0		0	0	0	
PHF	.000	.893	.926	.901	.750	.500	.812	.889	.640	.712	.000	.785	.000	.000	.000	.000

Counts Unlimited Inc.
PO Box 1178
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City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- Large 2 Axle Vehicles

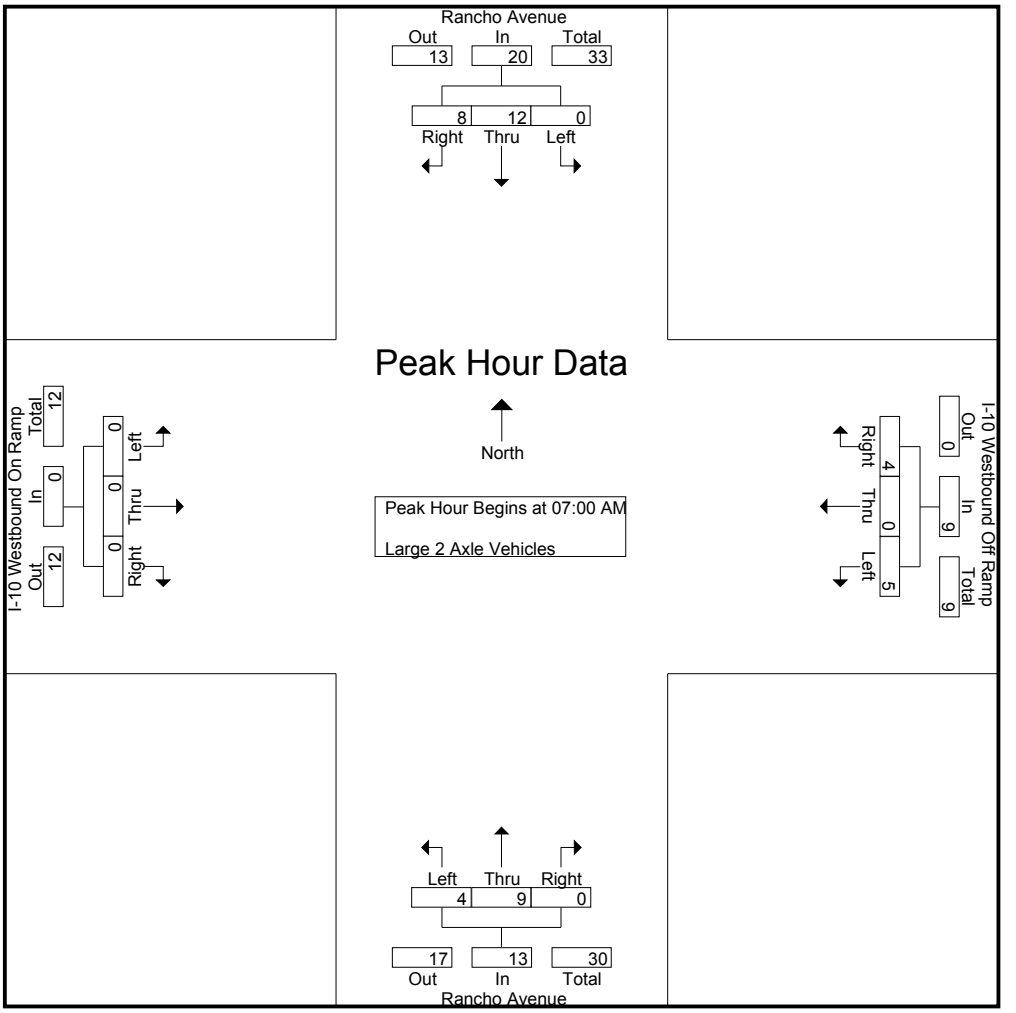
	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	5	2	7	1	0	0	1	0	1	0	1	0	0	0	0	9
07:15 AM	0	3	1	4	1	0	2	3	1	2	0	3	0	0	0	0	10
07:30 AM	0	1	4	5	0	0	1	1	2	1	0	3	0	0	0	0	9
07:45 AM	0	3	1	4	3	0	1	4	1	5	0	6	0	0	0	0	14
Total	0	12	8	20	5	0	4	9	4	9	0	13	0	0	0	0	42
08:00 AM	0	1	1	2	0	0	3	3	2	21	0	23	0	0	0	0	28
08:15 AM	0	0	1	1	0	0	3	3	1	6	0	7	0	0	0	0	11
08:30 AM	0	0	2	2	3	0	1	4	2	3	0	5	0	0	0	0	11
08:45 AM	0	4	2	6	0	0	0	0	0	5	0	5	0	0	0	0	11
Total	0	5	6	11	3	0	7	10	5	35	0	40	0	0	0	0	61
Grand Total	0	17	14	31	8	0	11	19	9	44	0	53	0	0	0	0	103
Apprch %	0	54.8	45.2		42.1	0	57.9		17	83	0		0	0	0		
Total %	0	16.5	13.6	30.1	7.8	0	10.7	18.4	8.7	42.7	0	51.5	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**5**	2	**7**	1	0	0	1	0	1	0	1	0	0	0	0	9
07:15 AM	0	3	1	4	1	0	**2**	3	1	2	0	3	0	0	0	0	10
07:30 AM	0	1	**4**	5	0	0	1	1	**2**	1	0	3	0	0	0	0	9
07:45 AM	0	3	1	4	**3**	0	1	**4**	1	**5**	0	**6**	0	0	0	0	**14**
Total Volume	0	12	8	20	5	0	4	9	4	9	0	13	0	0	0	0	42
% App. Total	0	60	40		55.6	0	44.4		30.8	69.2	0		0	0	0		
PHF	.000	.600	.500	.714	.417	.000	.500	.563	.500	.450	.000	.542	.000	.000	.000	.000	.750

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				**07:00 AM**				**07:00 AM**				**07:00 AM**			
+0 mins.	**0**	5	2	7	1	0	0	1	0	1	0	1	0	0	0	0
+15 mins.	0	3	1	4	1	0	2	3	1	2	0	3	0	0	0	0
+30 mins.	0	1	4	5	0	0	1	1	**2**	1	0	3	0	0	0	0
+45 mins.	0	3	1	4	**3**	0	1	**4**	1	**5**	0	**6**	0	0	0	0
Total Volume	0	12	8	20	5	0	4	9	4	9	0	13	0	0	0	0
% App. Total	0	60	40		55.6	0	44.4		30.8	69.2	0		0	0	0	
PHF	.000	.600	.500	.714	.417	.000	.500	.563	.500	.450	.000	.542	.000	.000	.000	.000

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- 3 Axle Vehicles

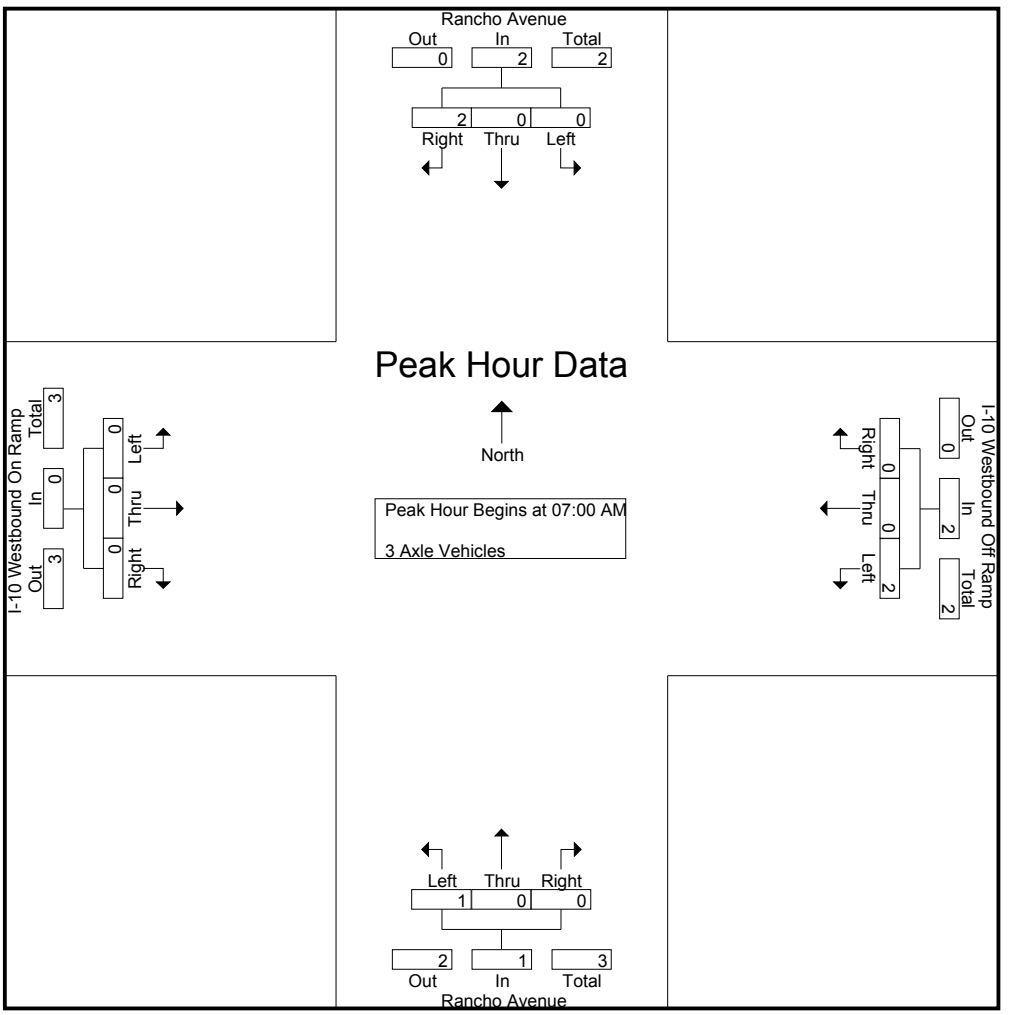
	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	2	0	0	2	1	0	0	1	0	0	0	0	3
07:45 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	2	2	2	0	0	2	1	0	0	1	0	0	0	0	5
08:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
08:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:45 AM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
Total	0	3	1	4	0	0	2	2	0	4	0	4	0	0	0	0	10
Grand Total	0	3	3	6	2	0	2	4	1	4	0	5	0	0	0	0	15
Apprch %	0	50	50		50	0	50		20	80	0		0	0	0		
Total %	0	20	20	40	13.3	0	13.3	26.7	6.7	26.7	0	33.3	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	**2**	0	0	**2**	**1**	0	0	**1**	0	0	0	0	**3**
07:45 AM	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	2	2	2	0	0	2	1	0	0	1	0	0	0	0	5
% App. Total	0	0	100		100	0	0		100	0	0		0	0	0		
PHF	.000	.000	.250	.250	.250	.000	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.417

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

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

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Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- 4+ Axle Trucks

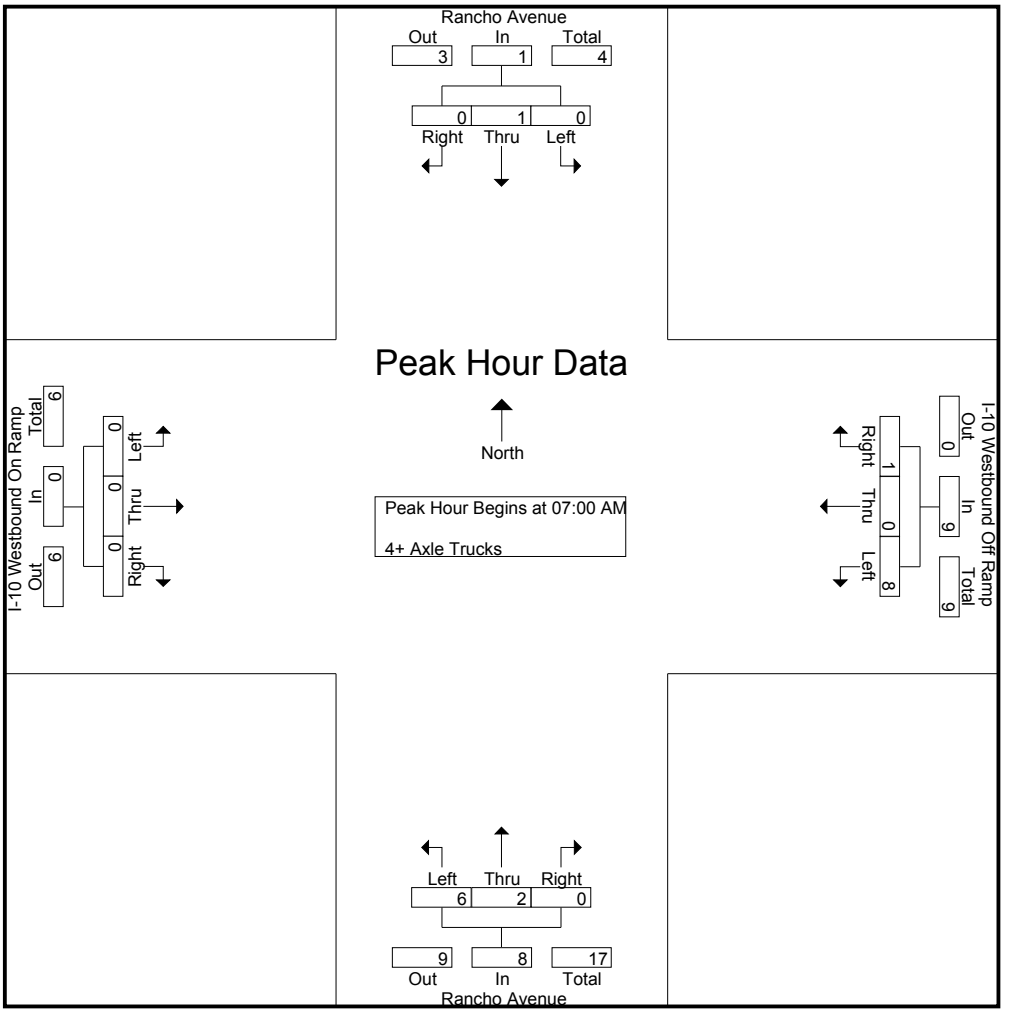
	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
07:15 AM	0	0	0	0	2	0	0	2	2	1	0	3	0	0	0	0	5
07:30 AM	0	0	0	0	5	0	1	6	3	0	0	3	0	0	0	0	9
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	1	0	1	8	0	1	9	6	2	0	8	0	0	0	0	18
08:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
08:15 AM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
08:30 AM	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	2
08:45 AM	0	0	0	0	5	0	0	5	1	0	0	1	0	0	0	0	6
Total	0	0	1	1	6	0	0	6	4	1	0	5	0	0	0	0	12
Grand Total	0	1	1	2	14	0	1	15	10	3	0	13	0	0	0	0	30
Apprch %	0	50	50		93.3	0	6.7		76.9	23.1	0		0	0	0		
Total %	0	3.3	3.3	6.7	46.7	0	3.3	50	33.3	10	0	43.3	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound Off Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
07:15 AM	0	0	0	0	2	0	0	2	2	**1**	0	**3**	0	0	0	0	5
07:30 AM	0	0	0	0	**5**	0	**1**	**6**	**3**	0	0	3	0	0	0	0	**9**
07:45 AM	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	1	0	1	8	0	1	9	6	2	0	8	0	0	0	0	18
% App. Total	0	100	0		88.9	0	11.1		75	25	0		0	0	0		
PHF	.000	.250	.000	.250	.400	.000	.250	.375	.500	.500	.000	.667	.000	.000	.000	.000	.500

Counts Unlimited Inc.
PO Box 1178
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City of Colton
N/S: Rancho Avenue
E/W: I-10 Westound Ramps
Weather: Sunny

File Name : COLRA10WAM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0
+15 mins.	0	0	0	0	2	0	0	2	2	**1**	0	**3**	0	0	0	0
+30 mins.	0	0	0	0	**5**	0	**1**	**6**	**3**	0	0	3	0	0	0	0
+45 mins.	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	1	0	1	8	0	1	9	6	2	0	8	0	0	0	0
% App. Total	0	100	0		88.9	0	11.1		75	25	0		0	0	0	
PHF	.000	.250	.000	.250	.400	.000	.250	.375	.500	.500	.000	.667	.000	.000	.000	.000

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(951) 268-6268

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

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

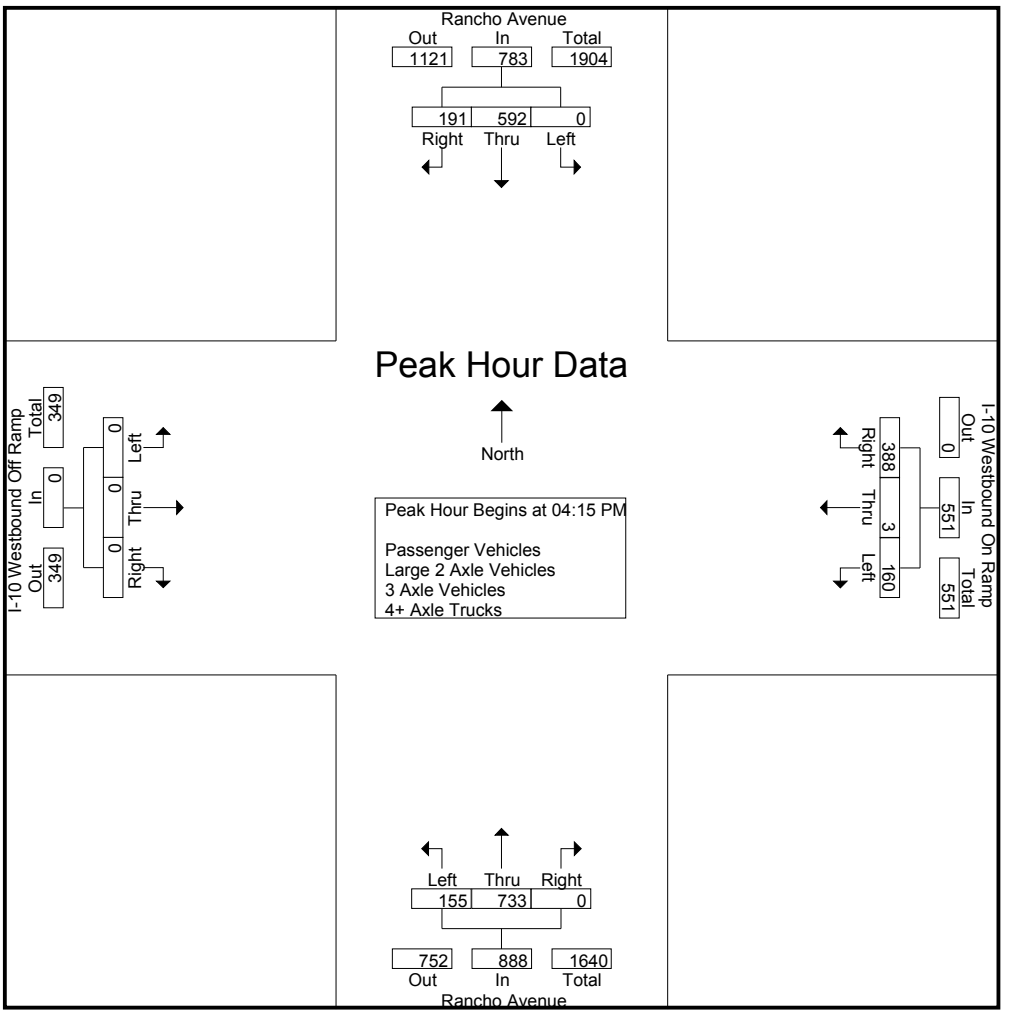
	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	174	44	218	27	0	75	102	28	168	0	196	0	0	0	0	516
04:15 PM	0	147	40	187	37	2	79	118	51	189	0	240	0	0	0	0	545
04:30 PM	0	161	53	214	43	1	104	148	32	167	0	199	0	0	0	0	561
04:45 PM	0	136	48	184	35	0	105	140	35	195	0	230	0	0	0	0	554
Total	0	618	185	803	142	3	363	508	146	719	0	865	0	0	0	0	2176
05:00 PM	0	148	50	198	45	0	100	145	37	182	0	219	0	0	0	0	562
05:15 PM	0	128	51	179	43	1	86	130	34	178	0	212	0	0	0	0	521
05:30 PM	0	151	43	194	33	1	72	106	45	183	0	228	0	0	0	0	528
05:45 PM	0	140	49	189	36	0	104	140	23	154	0	177	0	0	0	0	506
Total	0	567	193	760	157	2	362	521	139	697	0	836	0	0	0	0	2117
Grand Total	0	1185	378	1563	299	5	725	1029	285	1416	0	1701	0	0	0	0	4293
Apprch %	0	75.8	24.2		29.1	0.5	70.5		16.8	83.2	0		0	0	0		
Total %	0	27.6	8.8	36.4	7	0.1	16.9	24	6.6	33	0	39.6	0	0	0	0	
Passenger Vehicles	0	1167	369	1536	268	5	711	984	260	1385	0	1645	0	0	0	0	4165
% Passenger Vehicles	0	98.5	97.6	98.3	89.6	100	98.1	95.6	91.2	97.8	0	96.7	0	0	0	0	97
Large 2 Axle Vehicles	0	13	3	16	13	0	14	27	7	25	0	32	0	0	0	0	75
% Large 2 Axle Vehicles	0	1.1	0.8	1	4.3	0	1.9	2.6	2.5	1.8	0	1.9	0	0	0	0	1.7
3 Axle Vehicles	0	4	2	6	4	0	0	4	2	1	0	3	0	0	0	0	13
% 3 Axle Vehicles	0	0.3	0.5	0.4	1.3	0	0	0.4	0.7	0.1	0	0.2	0	0	0	0	0.3
4+ Axle Trucks	0	1	4	5	14	0	0	14	16	5	0	21	0	0	0	0	40
% 4+ Axle Trucks	0	0.1	1.1	0.3	4.7	0	0	1.4	5.6	0.4	0	1.2	0	0	0	0	0.9

	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	147	40	187	37	**2**	79	118	**51**	189	0	**240**	0	0	0	0	545
04:30 PM	0	**161**	**53**	**214**	43	1	104	**148**	32	167	0	199	0	0	0	0	561
04:45 PM	0	136	48	184	35	0	**105**	140	35	**195**	0	230	0	0	0	0	554
05:00 PM	0	148	50	198	**45**	0	100	145	37	182	0	219	0	0	0	0	**562**
Total Volume	0	592	191	783	160	3	388	551	155	733	0	888	0	0	0	0	2222
% App. Total	0	75.6	24.4		29	0.5	70.4		17.5	82.5	0		0	0	0		
PHF	.000	.919	.901	.915	.889	.375	.924	.931	.760	.940	.000	.925	.000	.000	.000	.000	.988

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	147	40	187	37	**2**	79	118	**51**	189	0	**240**	0	0	0	0
+15 mins.	0	**161**	**53**	**214**	43	1	104	**148**	32	167	0	199	0	0	0	0
+30 mins.	0	136	48	184	35	0	**105**	140	35	**195**	0	230	0	0	0	0
+45 mins.	0	148	50	198	**45**	0	100	145	37	182	0	219	0	0	0	0
Total Volume	0	592	191	783	160	3	388	551	155	733	0	888	0	0	0	0
% App. Total	0	75.6	24.4		29	0.5	70.4		17.5	82.5	0		0	0	0	
PHF	.000	.919	.901	.915	.889	.375	.924	.931	.760	.940	.000	.925	.000	.000	.000	.000

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- Passenger Vehicles

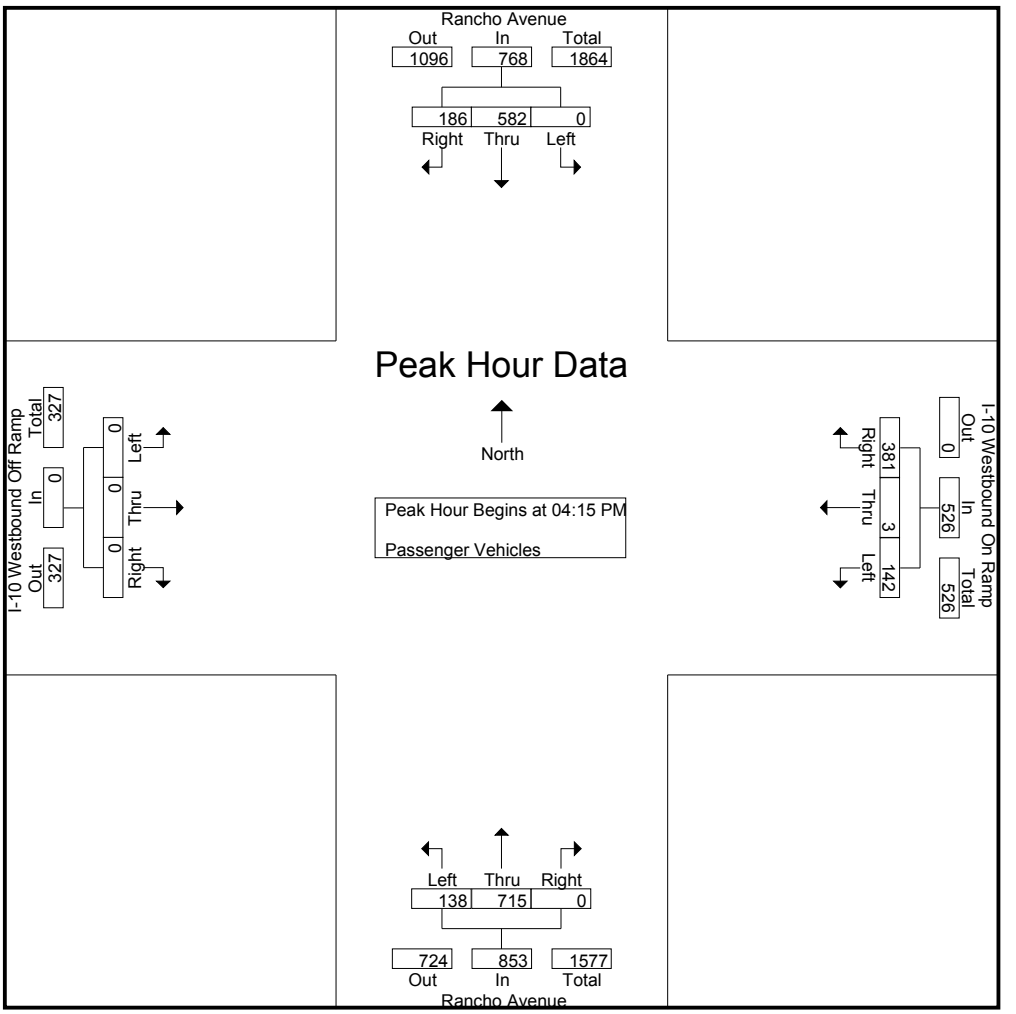
	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	172	44	216	21	0	73	94	26	164	0	190	0	0	0	0	500
04:15 PM	0	144	39	183	31	2	77	110	44	186	0	230	0	0	0	0	523
04:30 PM	0	160	50	210	39	1	101	141	29	162	0	191	0	0	0	0	542
04:45 PM	0	132	47	179	31	0	103	134	32	190	0	222	0	0	0	0	535
Total	0	608	180	788	122	3	354	479	131	702	0	833	0	0	0	0	2100
05:00 PM	0	146	50	196	41	0	100	141	33	177	0	210	0	0	0	0	547
05:15 PM	0	126	50	176	42	1	85	128	33	173	0	206	0	0	0	0	510
05:30 PM	0	148	41	189	29	1	70	100	43	179	0	222	0	0	0	0	511
05:45 PM	0	139	48	187	34	0	102	136	20	154	0	174	0	0	0	0	497
Total	0	559	189	748	146	2	357	505	129	683	0	812	0	0	0	0	2065
Grand Total	0	1167	369	1536	268	5	711	984	260	1385	0	1645	0	0	0	0	4165
Apprch %	0	76	24		27.2	0.5	72.3		15.8	84.2	0		0	0	0		
Total %	0	28	8.9	36.9	6.4	0.1	17.1	23.6	6.2	33.3	0	39.5	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	144	39	183	31	**2**	77	110	**44**	186	0	**230**	0	0	0	0	523
04:30 PM	0	**160**	**50**	**210**	39	1	101	**141**	29	162	0	191	0	0	0	0	542
04:45 PM	0	132	47	179	31	0	**103**	134	32	**190**	0	222	0	0	0	0	535
05:00 PM	0	146	50	196	**41**	0	100	141	33	177	0	210	0	0	0	0	**547**
Total Volume	0	582	186	768	142	3	381	526	138	715	0	853	0	0	0	0	2147
% App. Total	0	75.8	24.2		27	0.6	72.4		16.2	83.8	0		0	0	0		
PHF	.000	.909	.930	.914	.866	.375	.925	.933	.784	.941	.000	.927	.000	.000	.000	.000	.981

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	144	39	183	31	**2**	77	110	**44**	186	0	**230**	0	0	0	0
+15 mins.	0	**160**	**50**	**210**	39	1	101	**141**	29	162	0	191	0	0	0	0
+30 mins.	0	132	47	179	31	0	**103**	134	32	**190**	0	222	0	0	0	0
+45 mins.	0	146	50	196	**41**	0	100	141	33	177	0	210	0	0	0	0
Total Volume	0	582	186	768	142	3	381	526	138	715	0	853	0	0	0	0
% App. Total	0	75.8	24.2		27	0.6	72.4		16.2	83.8	0		0	0	0	
PHF	.000	.909	.930	.914	.866	.375	.925	.933	.784	.941	.000	.927	.000	.000	.000	.000

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- Large 2 Axle Vehicles

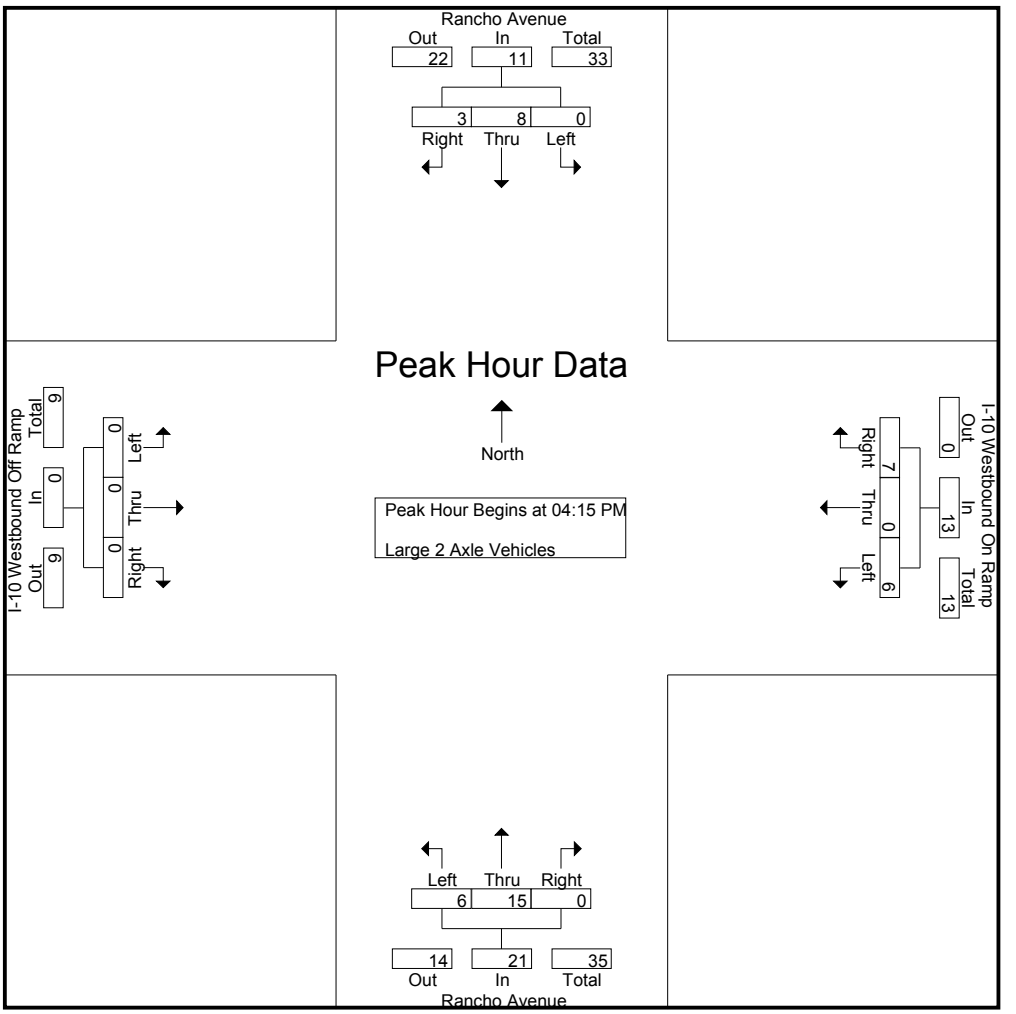
	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	0	1	3	0	2	5	0	4	0	4	0	0	0	0	10
04:15 PM	0	3	1	4	3	0	2	5	2	2	0	4	0	0	0	0	13
04:30 PM	0	1	1	2	2	0	3	5	1	4	0	5	0	0	0	0	12
04:45 PM	0	4	1	5	1	0	2	3	1	5	0	6	0	0	0	0	14
Total	0	9	3	12	9	0	9	18	4	15	0	19	0	0	0	0	49
05:00 PM	0	0	0	0	0	0	0	0	2	4	0	6	0	0	0	0	6
05:15 PM	0	2	0	2	1	0	1	2	0	4	0	4	0	0	0	0	8
05:30 PM	0	2	0	2	3	0	2	5	0	2	0	2	0	0	0	0	9
05:45 PM	0	0	0	0	0	0	2	2	1	0	0	1	0	0	0	0	3
Total	0	4	0	4	4	0	5	9	3	10	0	13	0	0	0	0	26
Grand Total	0	13	3	16	13	0	14	27	7	25	0	32	0	0	0	0	75
Apprch %	0	81.2	18.8		48.1	0	51.9		21.9	78.1	0		0	0	0		
Total %	0	17.3	4	21.3	17.3	0	18.7	36	9.3	33.3	0	42.7	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	3	**1**	4	**3**	0	2	**5**	**2**	2	0	4	0	0	0	0	13
04:30 PM	0	1	1	2	2	0	**3**	5	1	4	0	5	0	0	0	0	12
04:45 PM	0	**4**	1	**5**	1	0	2	3	1	**5**	0	**6**	0	0	0	0	**14**
05:00 PM	0	0	0	0	0	0	0	0	2	4	0	6	0	0	0	0	6
Total Volume	0	8	3	11	6	0	7	13	6	15	0	21	0	0	0	0	45
% App. Total	0	72.7	27.3		46.2	0	53.8		28.6	71.4	0		0	0	0		
PHF	.000	.500	.750	.550	.500	.000	.583	.650	.750	.750	.000	.875	.000	.000	.000	.000	.804

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	3	**1**	4	**3**	0	2	**5**	**2**	2	0	4	0	0	0	0
+15 mins.	0	1	1	2	2	0	**3**	5	1	4	0	5	0	0	0	0
+30 mins.	0	**4**	1	**5**	1	0	2	3	1	**5**	0	**6**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	2	4	0	6	0	0	0	0
Total Volume	0	8	3	11	6	0	7	13	6	15	0	21	0	0	0	0
% App. Total	0	72.7	27.3		46.2	0	53.8		28.6	71.4	0		0	0	0	
PHF	.000	.500	.750	.550	.500	.000	.583	.650	.750	.750	.000	.875	.000	.000	.000	.000

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- 3 Axle Vehicles

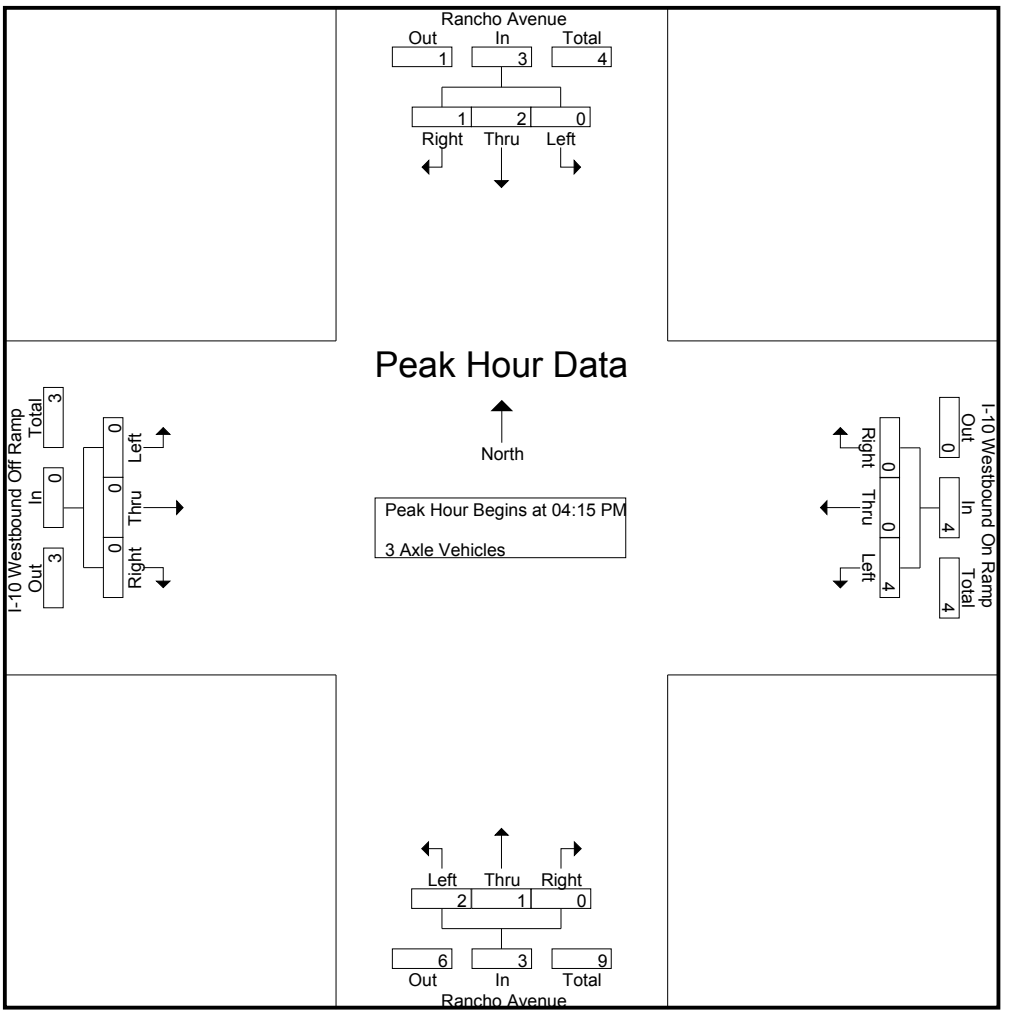
	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	2	0	0	2	2	0	0	2	0	0	0	0	4
04:30 PM	0	0	1	1	1	0	0	1	0	1	0	1	0	0	0	0	3
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	1	2	4	0	0	4	2	1	0	3	0	0	0	0	9
05:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Grand Total	0	4	2	6	4	0	0	4	2	1	0	3	0	0	0	0	13
Apprch %	0	66.7	33.3		100	0	0		66.7	33.3	0		0	0	0		
Total %	0	30.8	15.4	46.2	30.8	0	0	30.8	15.4	7.7	0	23.1	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	**2**	0	0	**2**	**2**	0	0	**2**	0	0	0	0	**4**
04:30 PM	0	0	**1**	1	1	0	0	1	0	**1**	0	1	0	0	0	0	3
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	2	1	3	4	0	0	4	2	1	0	3	0	0	0	0	10
% App. Total	0	66.7	33.3		100	0	0		66.7	33.3	0		0	0	0		
PHF	.000	.250	.250	.375	.500	.000	.000	.500	.250	.250	.000	.375	.000	.000	.000	.000	.625

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	**2**	0	0	**2**	**2**	0	0	**2**	0	0	0	0
+15 mins.	0	0	**1**	1	1	0	0	1	0	**1**	0	1	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	1	3	4	0	0	4	2	1	0	3	0	0	0	0
% App. Total	0	66.7	33.3		100	0	0		66.7	33.3	0		0	0	0	
PHF	.000	.250	.250	.375	.500	.000	.000	.500	.250	.250	.000	.375	.000	.000	.000	.000

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 1

Groups Printed- 4+ Axle Trucks

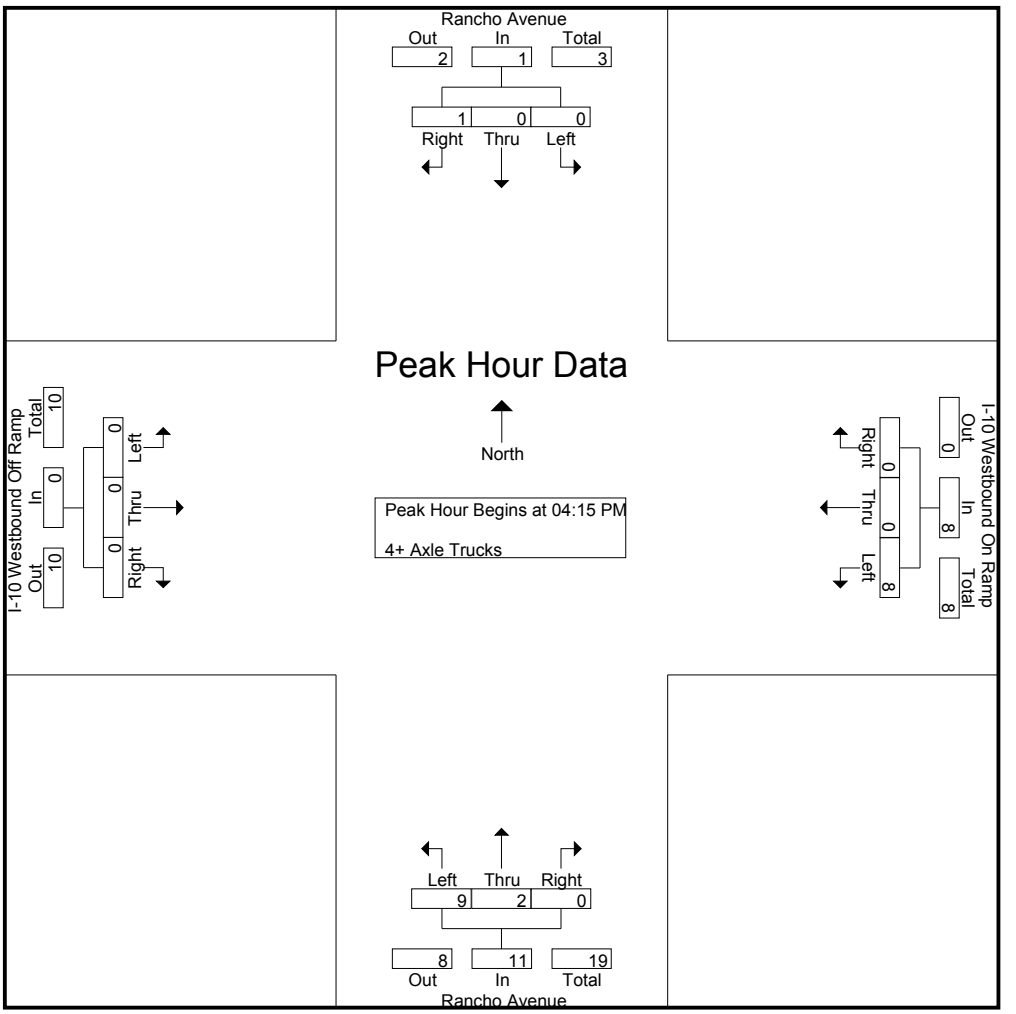
	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	3	0	0	3	2	0	0	2	0	0	0	0	5
04:15 PM	0	0	0	0	1	0	0	1	3	1	0	4	0	0	0	0	5
04:30 PM	0	0	1	1	1	0	0	1	2	0	0	2	0	0	0	0	4
04:45 PM	0	0	0	0	2	0	0	2	2	0	0	2	0	0	0	0	4
Total	0	0	1	1	7	0	0	7	9	1	0	10	0	0	0	0	18
05:00 PM	0	0	0	0	4	0	0	4	2	1	0	3	0	0	0	0	7
05:15 PM	0	0	1	1	0	0	0	0	1	1	0	2	0	0	0	0	3
05:30 PM	0	0	1	1	1	0	0	1	2	2	0	4	0	0	0	0	6
05:45 PM	0	1	1	2	2	0	0	2	2	0	0	2	0	0	0	0	6
Total	0	1	3	4	7	0	0	7	7	4	0	11	0	0	0	0	22
Grand Total	0	1	4	5	14	0	0	14	16	5	0	21	0	0	0	0	40
Apprch %	0	20	80		100	0	0		76.2	23.8	0		0	0	0		
Total %	0	2.5	10	12.5	35	0	0	35	40	12.5	0	52.5	0	0	0	0	

	Rancho Avenue Southbound				I-10 Westbound On Ramp Westbound				Rancho Avenue Northbound				I-10 Westbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	1	0	0	1	**3**	**1**	0	**4**	0	0	0	0	5
04:30 PM	0	0	**1**	**1**	1	0	0	1	2	0	0	2	0	0	0	0	4
04:45 PM	0	0	0	0	2	0	0	2	2	0	0	2	0	0	0	0	4
05:00 PM	0	0	0	0	**4**	0	0	**4**	2	1	0	3	0	0	0	0	**7**
Total Volume	0	0	1	1	8	0	0	8	9	2	0	11	0	0	0	0	20
% App. Total	0	0	100		100	0	0		81.8	18.2	0		0	0	0		
PHF	.000	.000	.250	.250	.500	.000	.000	.500	.750	.500	.000	.688	.000	.000	.000	.000	.714

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

City of Colton
N/S: Rancho Avenue
E/W: I-10 Westbound Ramps
Weather: Sunny

File Name : COLRA10WPM
Site Code : 10245051
Start Date : 11/18/2010
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	1	0	0	1	**3**	**1**	0	**4**	0	0	0	0
+15 mins.	0	0	**1**	**1**	1	0	0	1	2	0	0	2	0	0	0	0
+30 mins.	0	0	0	0	2	0	0	2	2	0	0	2	0	0	0	0
+45 mins.	0	0	0	0	**4**	0	0	**4**	2	1	0	3	0	0	0	0
Total Volume	0	0	1	1	8	0	0	8	9	2	0	11	0	0	0	0
% App. Total	0	0	100		100	0	0		81.8	18.2	0		0	0	0	
PHF	.000	.000	.250	.250	.500	.000	.000	.500	.750	.500	.000	.688	.000	.000	.000	.000

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

City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 1

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

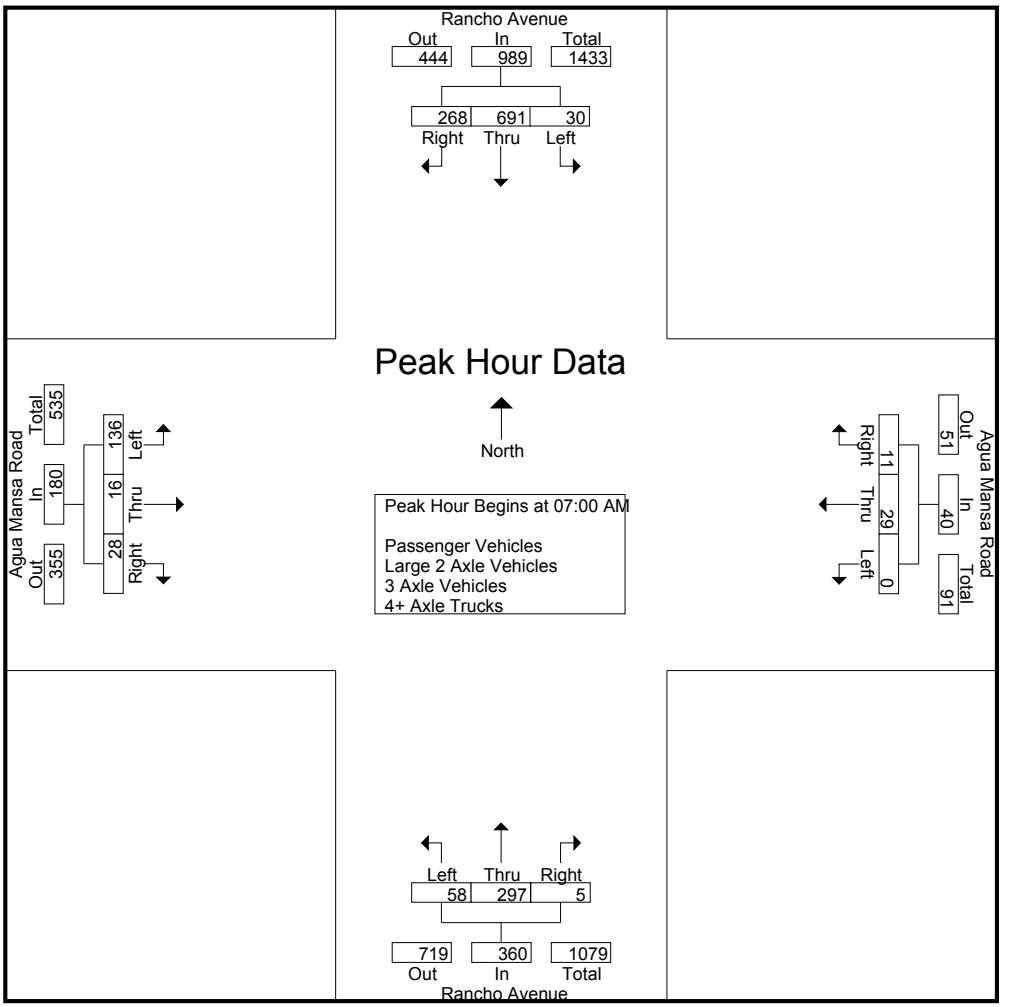
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	146	44	191	0	5	3	8	10	80	2	92	26	2	5	33	324
07:15 AM	6	161	66	233	0	6	3	9	13	63	0	76	33	4	8	45	363
07:30 AM	6	189	80	275	0	6	1	7	18	93	2	113	37	4	4	45	440
07:45 AM	17	195	78	290	0	12	4	16	17	61	1	79	40	6	11	57	442
Total	30	691	268	989	0	29	11	40	58	297	5	360	136	16	28	180	1569
08:00 AM	15	118	47	180	3	7	18	28	14	45	3	62	26	8	12	46	316
08:15 AM	14	121	42	177	0	4	8	12	8	38	5	51	22	2	9	33	273
08:30 AM	13	125	33	171	6	9	30	45	8	50	0	58	44	4	6	54	328
08:45 AM	5	94	21	120	1	4	3	8	6	38	1	45	29	2	8	39	212
Total	47	458	143	648	10	24	59	93	36	171	9	216	121	16	35	172	1129
Grand Total	77	1149	411	1637	10	53	70	133	94	468	14	576	257	32	63	352	2698
Apprch %	4.7	70.2	25.1		7.5	39.8	52.6		16.3	81.2	2.4		73	9.1	17.9		
Total %	2.9	42.6	15.2	60.7	0.4	2	2.6	4.9	3.5	17.3	0.5	21.3	9.5	1.2	2.3	13	
Passenger Vehicles	75	1104	374	1553	10	51	68	129	83	434	14	531	213	31	52	296	2509
% Passenger Vehicles	97.4	96.1	91	94.9	100	96.2	97.1	97	88.3	92.7	100	92.2	82.9	96.9	82.5	84.1	93
Large 2 Axle Vehicles	2	18	4	24	0	1	2	3	3	14	0	17	11	1	4	16	60
% Large 2 Axle Vehicles	2.6	1.6	1	1.5	0	1.9	2.9	2.3	3.2	3	0	3	4.3	3.1	6.3	4.5	2.2
3 Axle Vehicles	0	3	14	17	0	1	0	1	3	6	0	9	17	0	2	19	46
% 3 Axle Vehicles	0	0.3	3.4	1	0	1.9	0	0.8	3.2	1.3	0	1.6	6.6	0	3.2	5.4	1.7
4+ Axle Trucks	0	24	19	43	0	0	0	0	5	14	0	19	16	0	5	21	83
% 4+ Axle Trucks	0	2.1	4.6	2.6	0	0	0	0	5.3	3	0	3.3	6.2	0	7.9	6	3.1

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	146	44	191	0	5	3	8	10	80	**2**	92	26	2	5	33	324
07:15 AM	6	161	66	233	0	6	3	9	13	63	0	76	33	4	8	45	363
07:30 AM	6	189	**80**	275	0	6	1	7	**18**	**93**	2	**113**	37	4	4	45	440
07:45 AM	**17**	**195**	78	**290**	0	**12**	**4**	**16**	17	61	1	79	**40**	**6**	**11**	**57**	**442**
Total Volume	30	691	268	989	0	29	11	40	58	297	5	360	136	16	28	180	1569
% App. Total	3	69.9	27.1		0	72.5	27.5		16.1	82.5	1.4		75.6	8.9	15.6		
PHF	.441	.886	.838	.853	.000	.604	.688	.625	.806	.798	.625	.796	.850	.667	.636	.789	.887

Counts Unlimited, Inc.
PO Box 1178
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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 2



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

	07:00 AM				07:45 AM				07:00 AM				07:15 AM			
+0 mins.	1	146	44	191	0	**12**	4	16	10	80	**2**	92	33	4	8	45
+15 mins.	6	161	66	233	3	7	18	28	13	63	0	76	37	4	4	45
+30 mins.	6	189	**80**	275	0	4	8	12	**18**	**93**	2	**113**	**40**	6	11	**57**
+45 mins.	**17**	**195**	78	**290**	**6**	9	**30**	**45**	17	61	1	79	26	**8**	**12**	46
Total Volume	30	691	268	989	9	32	60	101	58	297	5	360	136	22	35	193
% App. Total	3	69.9	27.1		8.9	31.7	59.4		16.1	82.5	1.4		70.5	11.4	18.1	
PHF	.441	.886	.838	.853	.375	.667	.500	.561	.806	.798	.625	.796	.850	.688	.729	.846

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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 1

Groups Printed- Passenger Vehicles

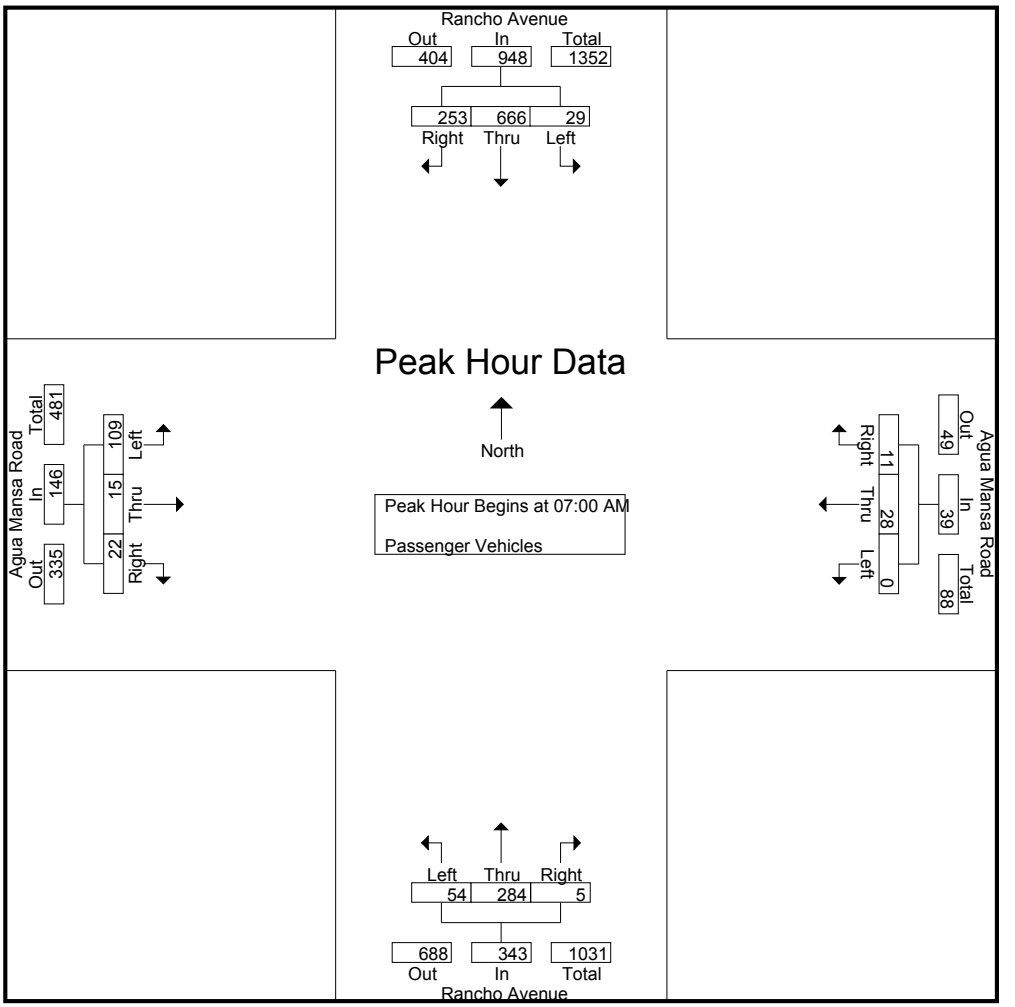
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	139	39	179	0	5	3	8	10	77	2	89	20	2	5	27	303
07:15 AM	6	154	63	223	0	6	3	9	11	61	0	72	23	3	6	32	336
07:30 AM	6	184	75	265	0	5	1	6	17	89	2	108	29	4	3	36	415
07:45 AM	16	189	76	281	0	12	4	16	16	57	1	74	37	6	8	51	422
Total	29	666	253	948	0	28	11	39	54	284	5	343	109	15	22	146	1476
08:00 AM	14	111	41	166	3	7	17	27	12	41	3	56	21	8	10	39	288
08:15 AM	14	117	33	164	0	4	7	11	5	36	5	46	20	2	7	29	250
08:30 AM	13	122	29	164	6	8	30	44	7	39	0	46	39	4	6	49	303
08:45 AM	5	88	18	111	1	4	3	8	5	34	1	40	24	2	7	33	192
Total	46	438	121	605	10	23	57	90	29	150	9	188	104	16	30	150	1033
Grand Total	75	1104	374	1553	10	51	68	129	83	434	14	531	213	31	52	296	2509
Apprch %	4.8	71.1	24.1		7.8	39.5	52.7		15.6	81.7	2.6		72	10.5	17.6		
Total %	3	44	14.9	61.9	0.4	2	2.7	5.1	3.3	17.3	0.6	21.2	8.5	1.2	2.1	11.8	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	139	39	179	0	5	3	8	10	77	**2**	89	20	2	5	27	303
07:15 AM	6	154	63	223	0	6	3	9	11	61	0	72	23	3	6	32	336
07:30 AM	6	184	75	265	0	5	1	6	**17**	**89**	2	**108**	29	4	3	36	415
07:45 AM	**16**	**189**	**76**	**281**	0	**12**	**4**	**16**	16	57	1	74	**37**	**6**	**8**	**51**	**422**
Total Volume	29	666	253	948	0	28	11	39	54	284	5	343	109	15	22	146	1476
% App. Total	3.1	70.3	26.7		0	71.8	28.2		15.7	82.8	1.5		74.7	10.3	15.1		
PHF	.453	.881	.832	.843	.000	.583	.688	.609	.794	.798	.625	.794	.736	.625	.688	.716	.874

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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	1	139	39	179	0	5	3	8	10	77	**2**	89	20	2	5	27
+15 mins.	6	154	63	223	0	6	3	9	11	61	0	72	23	3	6	32
+30 mins.	6	184	75	265	0	5	1	6	**17**	**89**	2	**108**	29	4	3	36
+45 mins.	**16**	**189**	**76**	**281**	0	**12**	**4**	**16**	16	57	1	74	**37**	**6**	**8**	**51**
Total Volume	29	666	253	948	0	28	11	39	54	284	5	343	109	15	22	146
% App. Total	3.1	70.3	26.7		0	71.8	28.2		15.7	82.8	1.5		74.7	10.3	15.1	
PHF	.453	.881	.832	.843	.000	.583	.688	.609	.794	.798	.625	.794	.736	.625	.688	.716

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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 1

Groups Printed- Large 2 Axle Vehicles

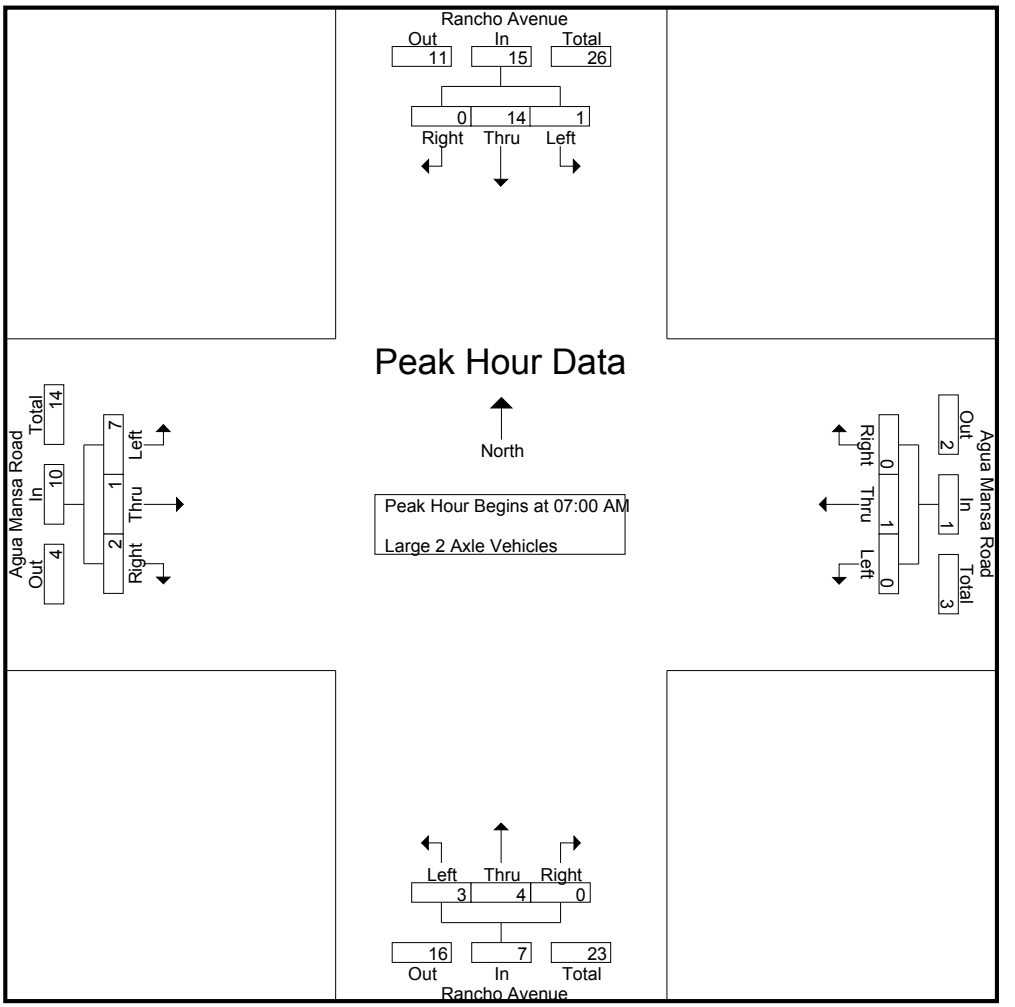
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	0	4	0	0	0	0	0	1	0	1	1	0	0	1	6
07:15 AM	0	3	0	3	0	0	0	0	2	0	0	2	5	1	1	7	12
07:30 AM	0	3	0	3	0	1	0	1	1	1	0	2	1	0	1	2	8
07:45 AM	1	4	0	5	0	0	0	0	0	2	0	2	0	0	0	0	7
Total	1	14	0	15	0	1	0	1	3	4	0	7	7	1	2	10	33
08:00 AM	1	3	1	5	0	0	1	1	0	3	0	3	2	0	0	2	11
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	2	3
08:30 AM	0	0	1	1	0	0	0	0	0	5	0	5	1	0	0	1	7
08:45 AM	0	1	2	3	0	0	0	0	0	2	0	2	1	0	0	1	6
Total	1	4	4	9	0	0	2	2	0	10	0	10	4	0	2	6	27
Grand Total	2	18	4	24	0	1	2	3	3	14	0	17	11	1	4	16	60
Apprch %	8.3	75	16.7		0	33.3	66.7		17.6	82.4	0		68.8	6.2	25		
Total %	3.3	30	6.7	40	0	1.7	3.3	5	5	23.3	0	28.3	18.3	1.7	6.7	26.7	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**4**	0	4	0	0	0	0	0	1	0	1	1	0	0	1	6
07:15 AM	0	3	0	3	0	0	0	0	**2**	0	0	**2**	**5**	**1**	**1**	**7**	**12**
07:30 AM	0	3	0	3	0	**1**	0	**1**	1	1	0	2	1	0	1	2	8
07:45 AM	**1**	4	0	**5**	0	0	0	0	0	**2**	0	2	0	0	0	0	7
Total Volume	1	14	0	15	0	1	0	1	3	4	0	7	7	1	2	10	33
% App. Total	6.7	93.3	0		0	100	0		42.9	57.1	0		70	10	20		
PHF	.250	.875	.000	.750	.000	.250	.000	.250	.375	.500	.000	.875	.350	.250	.500	.357	.688

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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	**4**	0	4	0	0	0	0	0	1	0	1	1	0	0	1
+15 mins.	0	3	0	3	0	0	0	0	**2**	0	0	**2**	**5**	**1**	**1**	**7**
+30 mins.	0	3	0	3	0	**1**	0	**1**	1	1	0	2	1	0	1	2
+45 mins.	**1**	4	0	**5**	0	0	0	0	0	**2**	0	2	0	0	0	0
Total Volume	1	14	0	15	0	1	0	1	3	4	0	7	7	1	2	10
% App. Total	6.7	93.3	0		0	100	0		42.9	57.1	0		70	10	20	
PHF	.250	.875	.000	.750	.000	.250	.000	.250	.375	.500	.000	.875	.350	.250	.500	.357

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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 1

Groups Printed- 3 Axle Vehicles

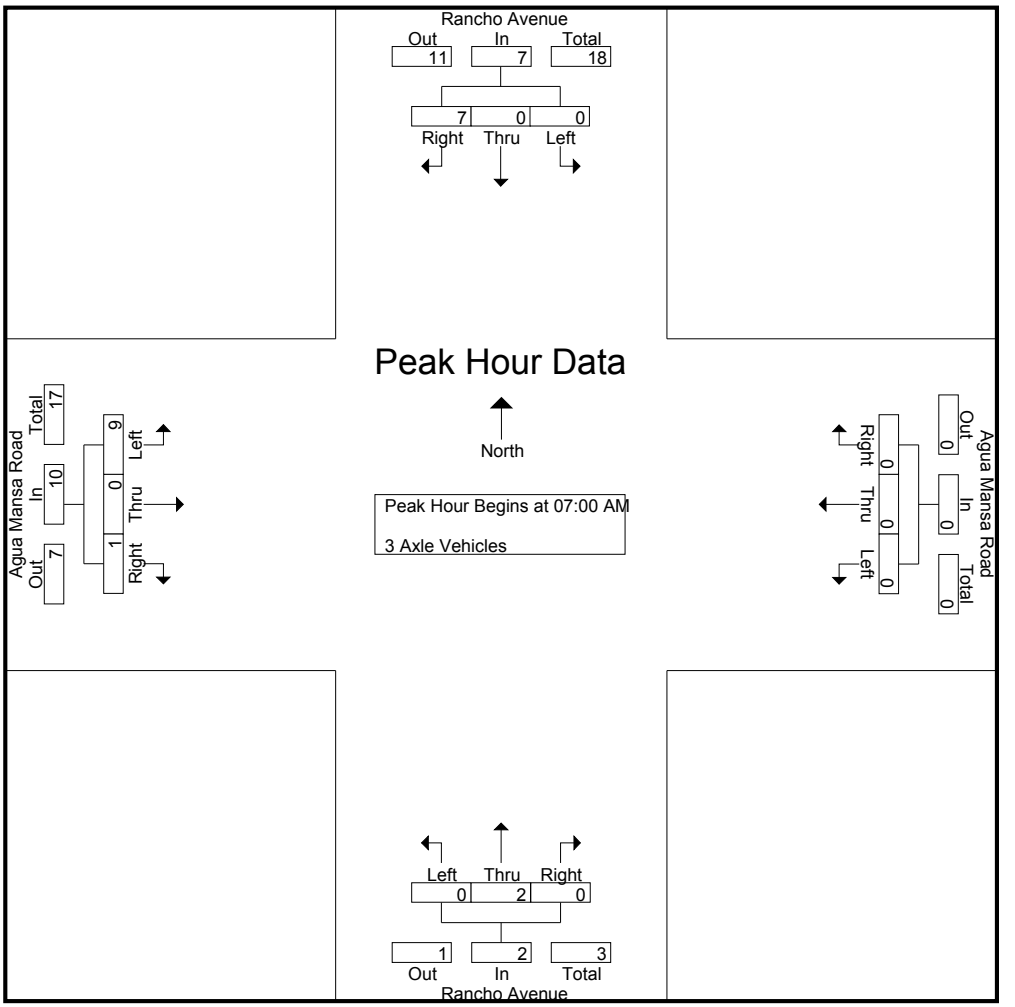
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	3	3	0	0	0	0	0	2	0	2	0	0	0	0	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	3
07:30 AM	0	0	3	3	0	0	0	0	0	0	0	0	5	0	0	5	8
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	7	7	0	0	0	0	0	2	0	2	9	0	1	10	19
08:00 AM	0	0	1	1	0	0	0	0	1	0	0	1	2	0	0	2	4
08:15 AM	0	1	5	6	0	0	0	0	1	1	0	2	1	0	0	1	9
08:30 AM	0	0	0	0	0	1	0	1	1	2	0	3	3	0	0	3	7
08:45 AM	0	2	1	3	0	0	0	0	0	1	0	1	2	0	1	3	7
Total	0	3	7	10	0	1	0	1	3	4	0	7	8	0	1	9	27
Grand Total	0	3	14	17	0	1	0	1	3	6	0	9	17	0	2	19	46
Apprch %	0	17.6	82.4		0	100	0		33.3	66.7	0		89.5	0	10.5		
Total %	0	6.5	30.4	37	0	2.2	0	2.2	6.5	13	0	19.6	37	0	4.3	41.3	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	**3**	**3**	0	0	0	0	0	**2**	0	**2**	0	0	0	0	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	**1**	3	3
07:30 AM	0	0	3	3	0	0	0	0	0	0	0	0	**5**	0	0	**5**	**8**
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2	3
Total Volume	0	0	7	7	0	0	0	0	0	2	0	2	9	0	1	10	19
% App. Total	0	0	100		0	0	0		0	100	0		90	0	10		
PHF	.000	.000	.583	.583	.000	.000	.000	.000	.000	.250	.000	.250	.450	.000	.250	.500	.594

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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	**3**	**3**	0	0	0	0	0	**2**	0	**2**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	**1**	3
+30 mins.	0	0	3	3	0	0	0	0	0	0	0	0	**5**	0	0	**5**
+45 mins.	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2
Total Volume	0	0	7	7	0	0	0	0	0	2	0	2	9	0	1	10
% App. Total	0	0	100		0	0	0		0	100	0		90	0	10	
PHF	.000	.000	.583	.583	.000	.000	.000	.000	.000	.250	.000	.250	.450	.000	.250	.500

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City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 1

Groups Printed- 4+ Axle Trucks

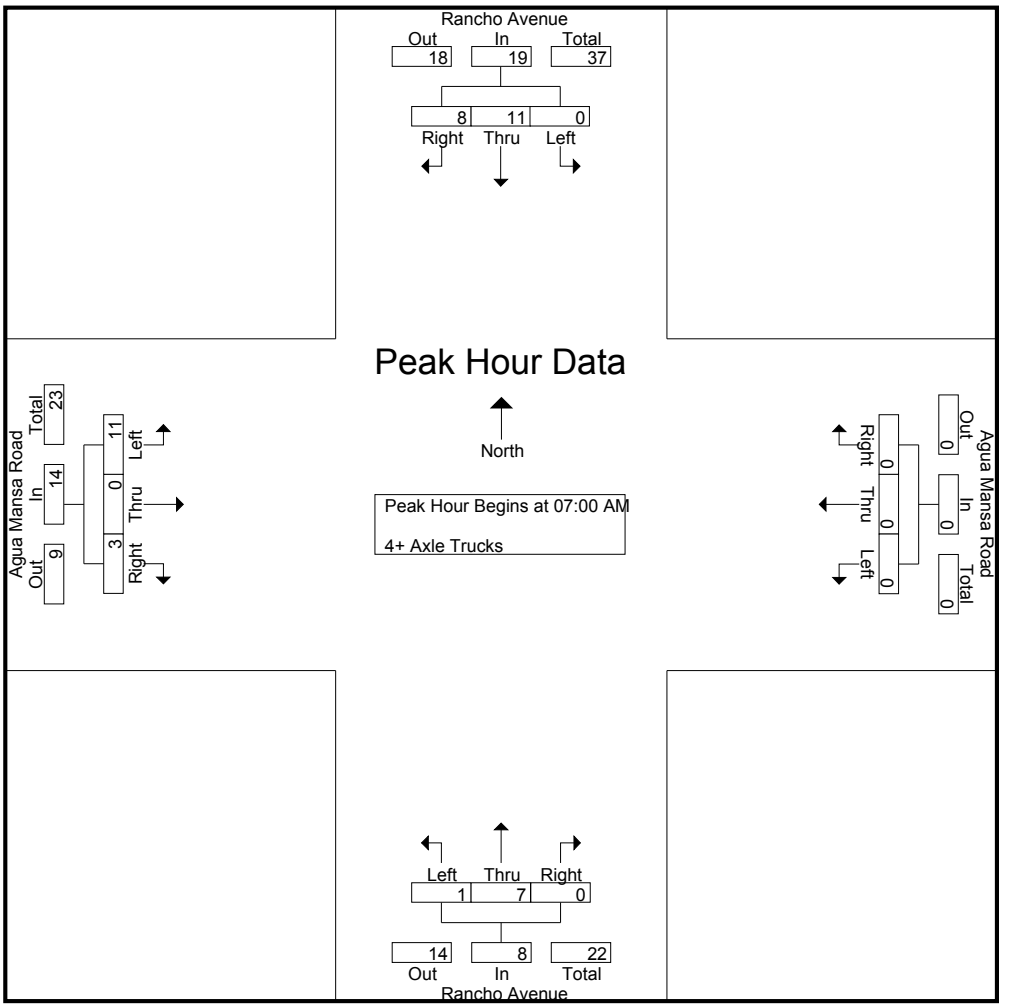
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	2	5	0	0	0	0	0	0	0	0	5	0	0	5	10
07:15 AM	0	4	3	7	0	0	0	0	0	2	0	2	3	0	0	3	12
07:30 AM	0	2	2	4	0	0	0	0	0	3	0	3	2	0	0	2	9
07:45 AM	0	2	1	3	0	0	0	0	1	2	0	3	1	0	3	4	10
Total	0	11	8	19	0	0	0	0	1	7	0	8	11	0	3	14	41
08:00 AM	0	4	4	8	0	0	0	0	1	1	0	2	1	0	2	3	13
08:15 AM	0	3	4	7	0	0	0	0	2	1	0	3	1	0	0	1	11
08:30 AM	0	3	3	6	0	0	0	0	0	4	0	4	1	0	0	1	11
08:45 AM	0	3	0	3	0	0	0	0	1	1	0	2	2	0	0	2	7
Total	0	13	11	24	0	0	0	0	4	7	0	11	5	0	2	7	42
Grand Total	0	24	19	43	0	0	0	0	5	14	0	19	16	0	5	21	83
Apprch %	0	55.8	44.2		0	0	0		26.3	73.7	0		76.2	0	23.8		
Total %	0	28.9	22.9	51.8	0	0	0	0	6	16.9	0	22.9	19.3	0	6	25.3	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	3	2	5	0	0	0	0	0	0	0	0	**5**	0	0	**5**	10
07:15 AM	0	**4**	**3**	**7**	0	0	0	0	0	2	0	2	3	0	0	3	**12**
07:30 AM	0	2	2	4	0	0	0	0	0	**3**	0	**3**	2	0	0	2	9
07:45 AM	0	2	1	3	0	0	0	0	**1**	2	0	3	1	0	**3**	4	10
Total Volume	0	11	8	19	0	0	0	0	1	7	0	8	11	0	3	14	41
% App. Total	0	57.9	42.1		0	0	0		12.5	87.5	0		78.6	0	21.4		
PHF	.000	.688	.667	.679	.000	.000	.000	.000	.250	.583	.000	.667	.550	.000	.250	.700	.854

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City of Colton
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Weather: Clear

File Name : COLRAAMAM
Site Code : 12218122
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	3	2	5	0	0	0	0	0	0	0	0	**5**	0	0	**5**
+15 mins.	0	**4**	**3**	**7**	0	0	0	0	0	2	0	2	3	0	0	3
+30 mins.	0	2	2	4	0	0	0	0	0	**3**	0	**3**	2	0	0	2
+45 mins.	0	2	1	3	0	0	0	0	**1**	2	0	3	1	0	**3**	4
Total Volume	0	11	8	19	0	0	0	0	1	7	0	8	11	0	3	14
% App. Total	0	57.9	42.1		0	0	0		12.5	87.5	0		78.6	0	21.4	
PHF	.000	.688	.667	.679	.000	.000	.000	.000	.250	.583	.000	.667	.550	.000	.250	.700

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City of Colton
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File Name : COLRAAMPM
Site Code : 12218122
Start Date : 2/14/2018
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

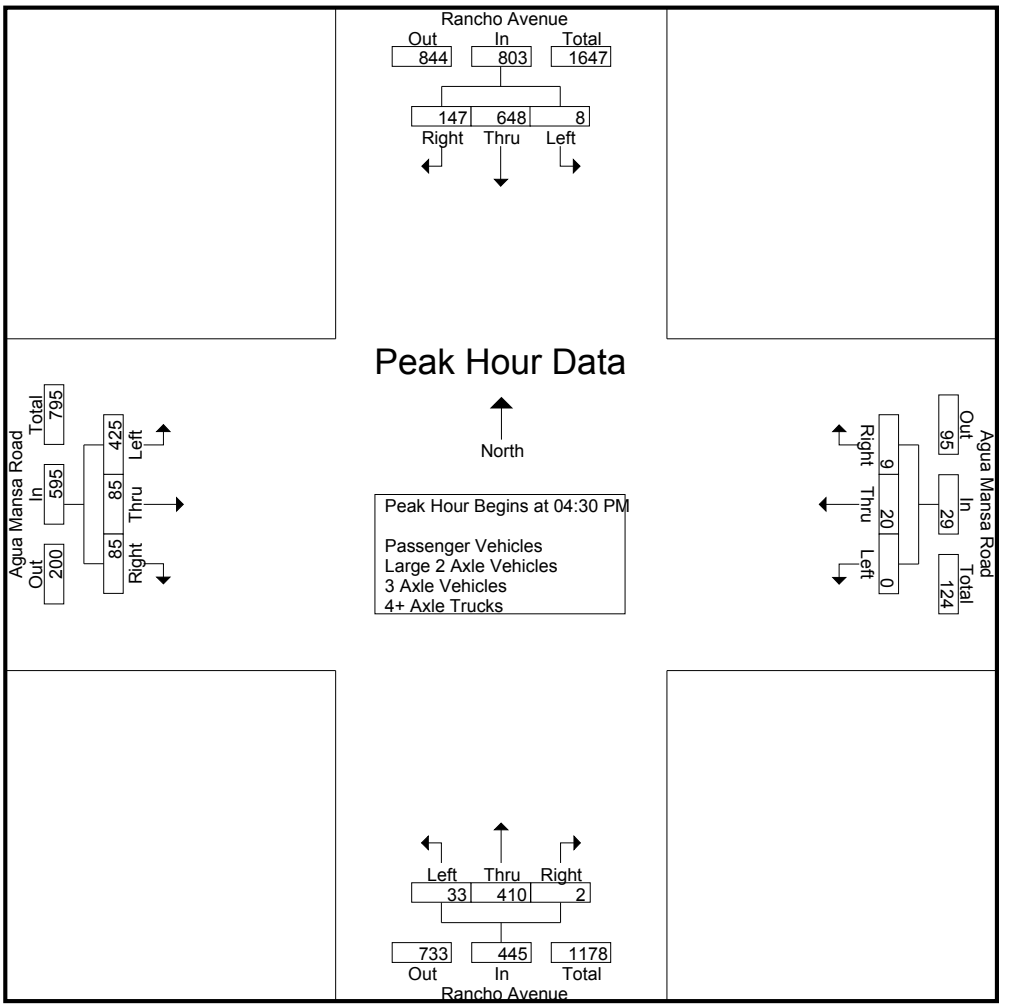
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	11	146	35	192	11	7	32	50	11	73	0	84	92	20	21	133	459
04:15 PM	3	127	27	157	0	6	4	10	13	102	1	116	110	15	17	142	425
04:30 PM	1	186	30	217	0	5	6	11	10	104	1	115	119	23	10	152	495
04:45 PM	2	152	32	186	0	2	1	3	6	107	0	113	109	21	21	151	453
Total	17	611	124	752	11	20	43	74	40	386	2	428	430	79	69	578	1832
05:00 PM	4	149	44	197	0	8	1	9	6	99	1	106	100	21	21	142	454
05:15 PM	1	161	41	203	0	5	1	6	11	100	0	111	97	20	33	150	470
05:30 PM	3	136	34	173	0	9	5	14	8	91	0	99	100	17	25	142	428
05:45 PM	3	164	36	203	1	0	1	2	4	97	0	101	85	14	30	129	435
Total	11	610	155	776	1	22	8	31	29	387	1	417	382	72	109	563	1787
Grand Total	28	1221	279	1528	12	42	51	105	69	773	3	845	812	151	178	1141	3619
Apprch %	1.8	79.9	18.3		11.4	40	48.6		8.2	91.5	0.4		71.2	13.2	15.6		
Total %	0.8	33.7	7.7	42.2	0.3	1.2	1.4	2.9	1.9	21.4	0.1	23.3	22.4	4.2	4.9	31.5	
Passenger Vehicles	21	1190	252	1463	12	37	50	99	61	753	3	817	780	147	165	1092	3471
% Passenger Vehicles	75	97.5	90.3	95.7	100	88.1	98	94.3	88.4	97.4	100	96.7	96.1	97.4	92.7	95.7	95.9
Large 2 Axle Vehicles	0	20	11	31	0	1	0	1	2	14	0	16	19	4	5	28	76
% Large 2 Axle Vehicles	0	1.6	3.9	2	0	2.4	0	1	2.9	1.8	0	1.9	2.3	2.6	2.8	2.5	2.1
3 Axle Vehicles	5	1	5	11	0	2	1	3	1	1	0	2	5	0	0	5	21
% 3 Axle Vehicles	17.9	0.1	1.8	0.7	0	4.8	2	2.9	1.4	0.1	0	0.2	0.6	0	0	0.4	0.6
4+ Axle Trucks	2	10	11	23	0	2	0	2	5	5	0	10	8	0	8	16	51
% 4+ Axle Trucks	7.1	0.8	3.9	1.5	0	4.8	0	1.9	7.2	0.6	0	1.2	1	0	4.5	1.4	1.4

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	**186**	30	**217**	0	5	**6**	**11**	10	104	**1**	**115**	**119**	**23**	10	**152**	**495**
04:45 PM	2	152	32	186	0	2	1	3	6	**107**	0	113	109	21	21	151	453
05:00 PM	**4**	149	**44**	197	0	**8**	1	9	6	99	1	106	100	21	21	142	454
05:15 PM	1	161	41	203	0	5	1	6	**11**	100	0	111	97	20	**33**	150	470
Total Volume	8	648	147	803	0	20	9	29	33	410	2	445	425	85	85	595	1872
% App. Total	1	80.7	18.3		0	69	31		7.4	92.1	0.4		71.4	14.3	14.3		
PHF	.500	.871	.835	.925	.000	.625	.375	.659	.750	.958	.500	.967	.893	.924	.644	.979	.945

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File Name : COLRAAMPM
Site Code : 12218122
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:15 PM				04:30 PM			
+0 mins.	1	**186**	30	**217**	**11**	**7**	**32**	**50**	**13**	102	**1**	**116**	**119**	**23**	10	**152**
+15 mins.	2	152	32	186	0	6	4	10	10	104	1	115	109	21	21	151
+30 mins.	**4**	149	**44**	197	0	5	6	11	6	**107**	0	113	100	21	21	142
+45 mins.	1	161	41	203	0	2	1	3	6	99	1	106	97	20	**33**	150
Total Volume	8	648	147	803	11	20	43	74	35	412	3	450	425	85	85	595
% App. Total	1	80.7	18.3		14.9	27	58.1		7.8	91.6	0.7		71.4	14.3	14.3	
PHF	.500	.871	.835	.925	.250	.714	.336	.370	.673	.963	.750	.970	.893	.924	.644	.979

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City of Colton
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File Name : COLRAAMPM
Site Code : 12218122
Start Date : 2/14/2018
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Groups Printed- Passenger Vehicles

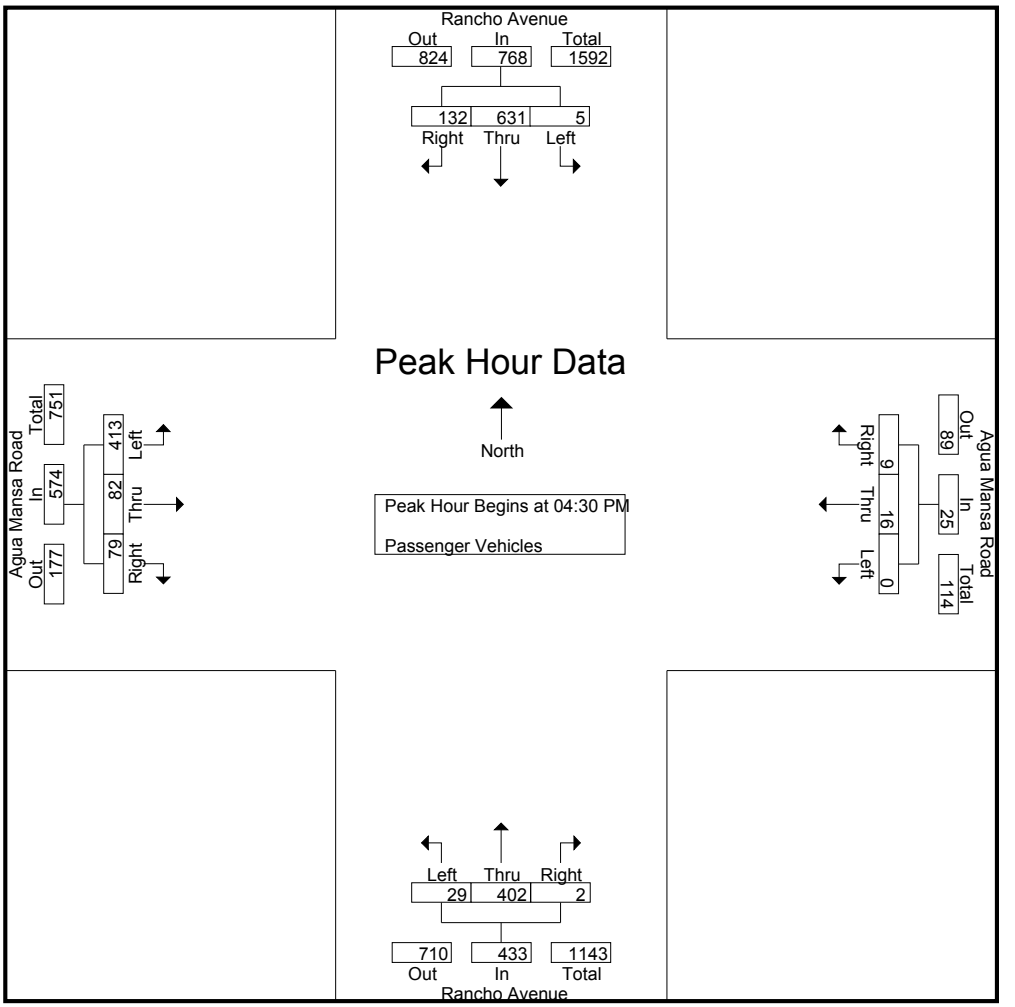
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	9	142	31	182	11	7	32	50	10	70	0	80	84	20	20	124	436
04:15 PM	3	123	23	149	0	6	4	10	12	99	1	112	105	15	13	133	404
04:30 PM	1	181	25	207	0	5	6	11	9	102	1	112	117	22	9	148	478
04:45 PM	1	148	30	179	0	2	1	3	5	106	0	111	105	20	20	145	438
Total	14	594	109	717	11	20	43	74	36	377	2	415	411	77	62	550	1756
05:00 PM	3	146	39	188	0	6	1	7	5	94	1	100	99	20	21	140	435
05:15 PM	0	156	38	194	0	3	1	4	10	100	0	110	92	20	29	141	449
05:30 PM	2	133	34	169	0	8	4	12	7	89	0	96	96	16	23	135	412
05:45 PM	2	161	32	195	1	0	1	2	3	93	0	96	82	14	30	126	419
Total	7	596	143	746	1	17	7	25	25	376	1	402	369	70	103	542	1715
Grand Total	21	1190	252	1463	12	37	50	99	61	753	3	817	780	147	165	1092	3471
Apprch %	1.4	81.3	17.2		12.1	37.4	50.5		7.5	92.2	0.4		71.4	13.5	15.1		
Total %	0.6	34.3	7.3	42.1	0.3	1.1	1.4	2.9	1.8	21.7	0.1	23.5	22.5	4.2	4.8	31.5	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	**181**	25	**207**	0	5	**6**	**11**	9	102	**1**	**112**	**117**	**22**	9	**148**	**478**
04:45 PM	1	148	30	179	0	2	1	3	5	**106**	0	111	105	20	20	145	438
05:00 PM	**3**	146	**39**	188	0	**6**	1	7	5	94	1	100	99	20	21	140	435
05:15 PM	0	156	38	194	0	3	1	4	**10**	100	0	110	92	20	**29**	141	449
Total Volume	5	631	132	768	0	16	9	25	29	402	2	433	413	82	79	574	1800
% App. Total	0.7	82.2	17.2		0	64	36		6.7	92.8	0.5		72	14.3	13.8		
PHF	.417	.872	.846	.928	.000	.667	.375	.568	.725	.948	.500	.967	.882	.932	.681	.970	.941

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File Name : COLRAAMPM
Site Code : 12218122
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	1	**181**	25	**207**	0	5	**6**	**11**	9	102	**1**	**112**	**117**	**22**	9	**148**
+15 mins.	1	148	30	179	0	2	1	3	5	**106**	0	111	105	20	20	145
+30 mins.	**3**	146	**39**	188	0	**6**	1	7	5	94	1	100	99	20	21	140
+45 mins.	0	156	38	194	0	3	1	4	**10**	100	0	110	92	20	**29**	141
Total Volume	5	631	132	768	0	16	9	25	29	402	2	433	413	82	79	574
% App. Total	0.7	82.2	17.2		0	64	36		6.7	92.8	0.5		72	14.3	13.8	
PHF	.417	.872	.846	.928	.000	.667	.375	.568	.725	.948	.500	.967	.882	.932	.681	.970

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File Name : COLRAAMPM
Site Code : 12218122
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Groups Printed- Large 2 Axle Vehicles

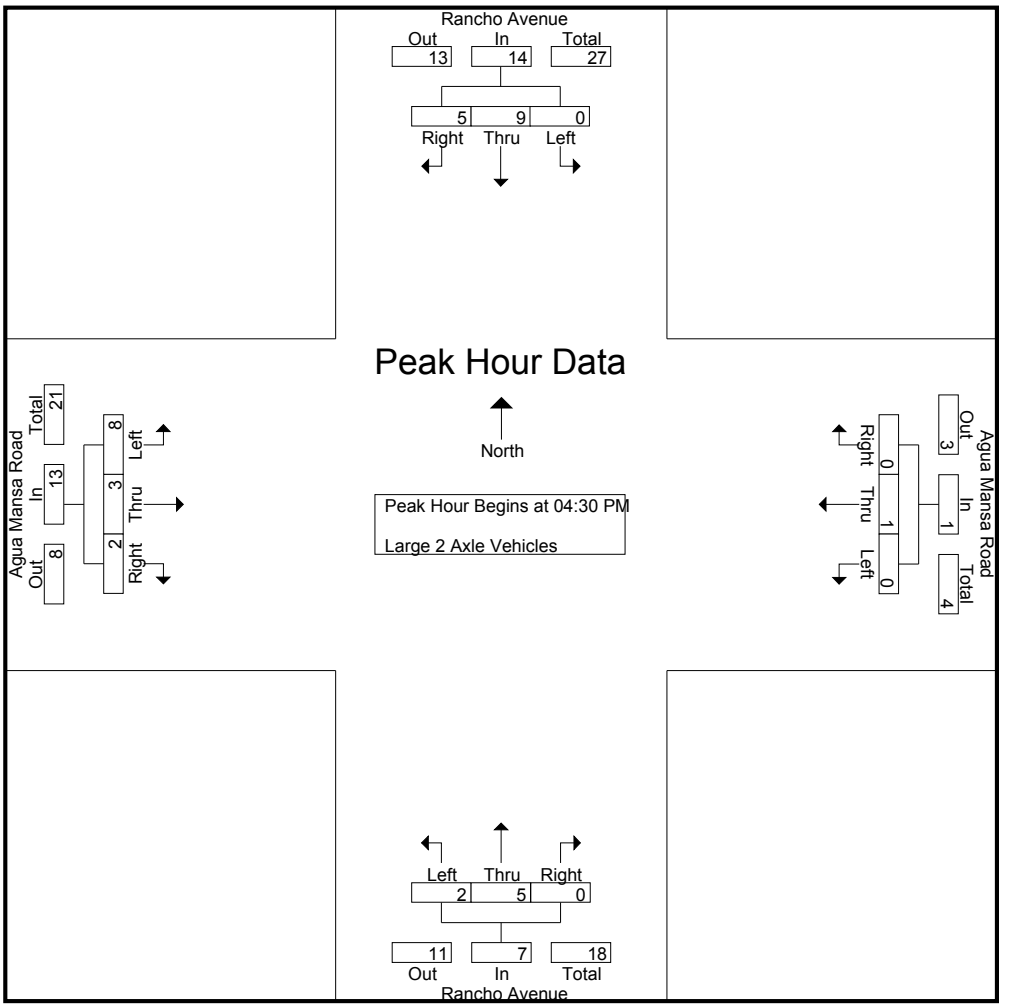
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	3	3	6	0	0	0	0	0	2	0	2	3	0	0	3	11
04:15 PM	0	4	0	4	0	0	0	0	0	2	0	2	3	0	2	5	11
04:30 PM	0	3	1	4	0	0	0	0	0	2	0	2	1	1	0	2	8
04:45 PM	0	2	1	3	0	0	0	0	0	0	0	0	2	1	0	3	6
Total	0	12	5	17	0	0	0	0	0	6	0	6	9	2	2	13	36
05:00 PM	0	2	2	4	0	1	0	1	1	3	0	4	1	1	0	2	11
05:15 PM	0	2	1	3	0	0	0	0	1	0	0	1	4	0	2	6	10
05:30 PM	0	2	0	2	0	0	0	0	0	1	0	1	2	1	1	4	7
05:45 PM	0	2	3	5	0	0	0	0	0	4	0	4	3	0	0	3	12
Total	0	8	6	14	0	1	0	1	2	8	0	10	10	2	3	15	40
Grand Total	0	20	11	31	0	1	0	1	2	14	0	16	19	4	5	28	76
Apprch %	0	64.5	35.5		0	100	0		12.5	87.5	0		67.9	14.3	17.9		
Total %	0	26.3	14.5	40.8	0	1.3	0	1.3	2.6	18.4	0	21.1	25	5.3	6.6	36.8	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**3**	1	**4**	0	0	0	0	0	2	0	2	1	**1**	0	2	8
04:45 PM	0	2	1	3	0	0	0	0	0	0	0	0	2	1	0	3	6
05:00 PM	0	2	**2**	4	0	**1**	0	**1**	**1**	**3**	0	**4**	1	1	0	2	**11**
05:15 PM	0	2	1	3	0	0	0	0	1	0	0	1	**4**	0	**2**	**6**	10
Total Volume	0	9	5	14	0	1	0	1	2	5	0	7	8	3	2	13	35
% App. Total	0	64.3	35.7		0	100	0		28.6	71.4	0		61.5	23.1	15.4		
PHF	.000	.750	.625	.875	.000	.250	.000	.250	.500	.417	.000	.438	.500	.750	.250	.542	.795

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File Name : COLRAAMPM
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	**3**	1	**4**	0	0	0	0	0	2	0	2	1	**1**	0	2
+15 mins.	0	2	1	3	0	0	0	0	0	0	0	0	2	1	0	3
+30 mins.	0	2	**2**	4	0	**1**	0	**1**	**1**	**3**	0	**4**	1	1	0	2
+45 mins.	0	2	1	3	0	0	0	0	1	0	0	1	**4**	0	**2**	**6**
Total Volume	0	9	5	14	0	1	0	1	2	5	0	7	8	3	2	13
% App. Total	0	64.3	35.7		0	100	0		28.6	71.4	0		61.5	23.1	15.4	
PHF	.000	.750	.625	.875	.000	.250	.000	.250	.500	.417	.000	.438	.500	.750	.250	.542

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File Name : COLRAAMPM
Site Code : 12218122
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Groups Printed- 3 Axle Vehicles

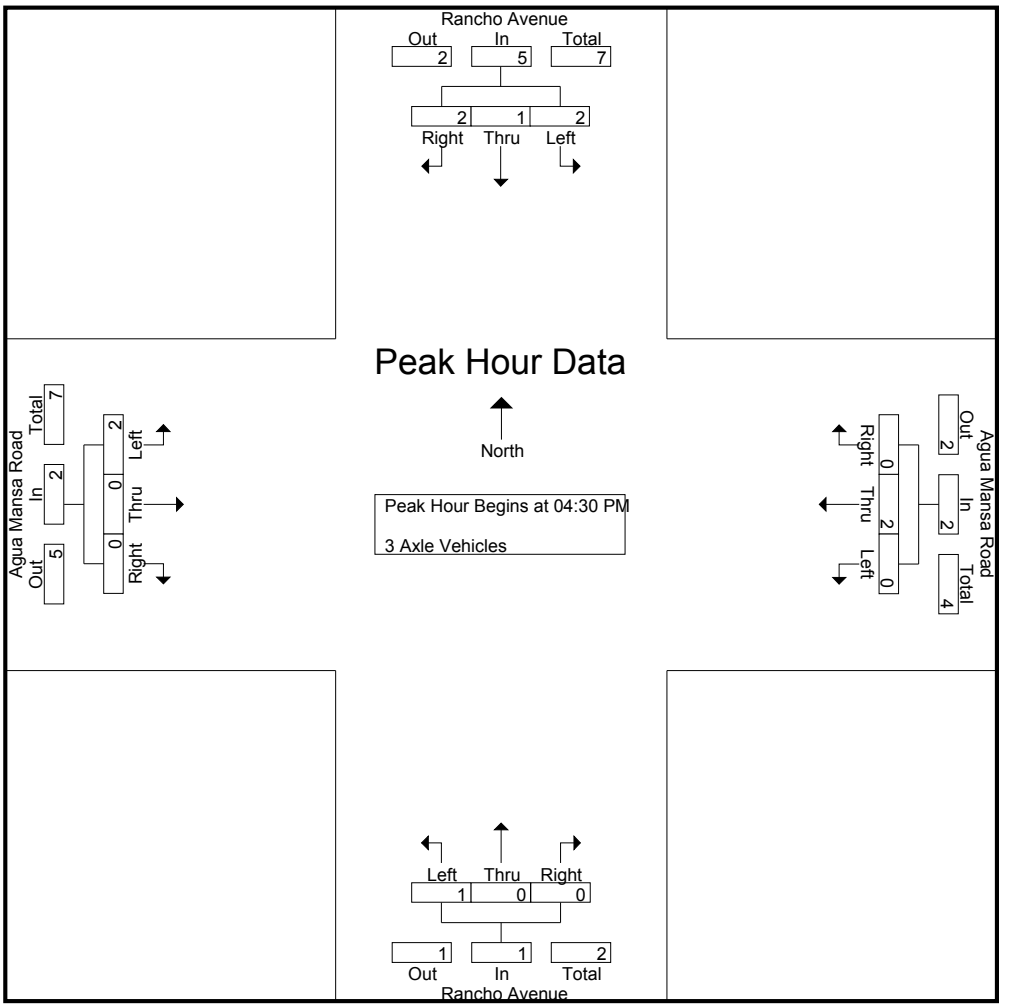
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	1	2	0	0	0	0	0	1	0	1	1	0	0	1	4
04:15 PM	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	1	1	0	2	0	0	0	0	1	0	0	1	1	0	0	1	4
Total	2	1	4	7	0	0	0	0	1	1	0	2	3	0	0	3	12
05:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
05:15 PM	1	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	3
05:30 PM	1	0	0	1	0	0	1	1	0	0	0	0	1	0	0	1	3
05:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	0	1	4	0	2	1	3	0	0	0	0	2	0	0	2	9
Grand Total	5	1	5	11	0	2	1	3	1	1	0	2	5	0	0	5	21
Apprch %	45.5	9.1	45.5		0	66.7	33.3		50	50	0		100	0	0		
Total %	23.8	4.8	23.8	52.4	0	9.5	4.8	14.3	4.8	4.8	0	9.5	23.8	0	0	23.8	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	**1**	**1**	0	**2**	0	0	0	0	**1**	0	0	**1**	**1**	0	0	**1**	**4**
05:00 PM	0	0	1	1	0	**1**	0	**1**	0	0	0	0	0	0	0	0	2
05:15 PM	1	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	3
Total Volume	2	1	2	5	0	2	0	2	1	0	0	1	2	0	0	2	10
% App. Total	40	20	40		0	100	0		100	0	0		100	0	0		
PHF	.500	.250	.500	.625	.000	.500	.000	.500	.250	.000	.000	.250	.500	.000	.000	.500	.625

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

City of Colton
N/S: Rancho Avenue
E/W: Agua Mansa Road
Weather: Clear

File Name : COLRAAMPM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	**1**	0	**2**	0	0	0	0	**1**	0	0	**1**	**1**	0	0	**1**
+30 mins.	0	0	1	1	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1
Total Volume	2	1	2	5	0	2	0	2	1	0	0	1	2	0	0	2
% App. Total	40	20	40		0	100	0		100	0	0		100	0	0	
PHF	.500	.250	.500	.625	.000	.500	.000	.500	.250	.000	.000	.250	.500	.000	.000	.500

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File Name : COLRAAMPM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 1

Groups Printed- 4+ Axle Trucks

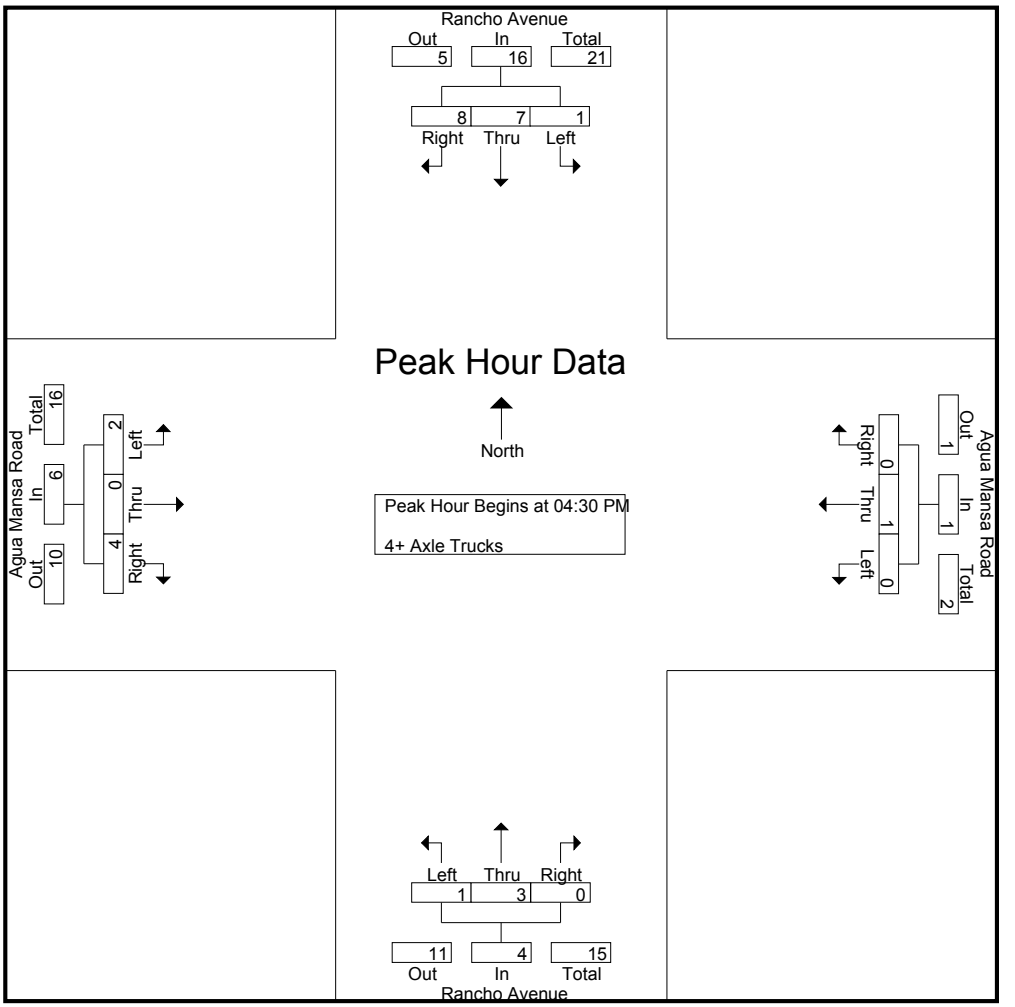
	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	0	0	0	0	1	0	0	1	4	0	1	5	8
04:15 PM	0	0	2	2	0	0	0	0	1	1	0	2	1	0	2	3	7
04:30 PM	0	2	3	5	0	0	0	0	1	0	0	1	1	0	1	2	8
04:45 PM	0	1	1	2	0	0	0	0	0	1	0	1	1	0	1	2	5
Total	1	4	6	11	0	0	0	0	3	2	0	5	7	0	5	12	28
05:00 PM	1	1	2	4	0	0	0	0	0	2	0	2	0	0	0	0	6
05:15 PM	0	3	2	5	0	1	0	1	0	0	0	0	0	0	2	2	8
05:30 PM	0	1	0	1	0	1	0	1	1	1	0	2	1	0	1	2	6
05:45 PM	0	1	1	2	0	0	0	0	1	0	0	1	0	0	0	0	3
Total	1	6	5	12	0	2	0	2	2	3	0	5	1	0	3	4	23
Grand Total	2	10	11	23	0	2	0	2	5	5	0	10	8	0	8	16	51
Apprch %	8.7	43.5	47.8		0	100	0		50	50	0		50	0	50		
Total %	3.9	19.6	21.6	45.1	0	3.9	0	3.9	9.8	9.8	0	19.6	15.7	0	15.7	31.4	

	Rancho Avenue Southbound				Agua Mansa Road Westbound				Rancho Avenue Northbound				Agua Mansa Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	2	**3**	**5**	0	0	0	0	**1**	0	0	1	**1**	0	1	**2**	**8**
04:45 PM	0	1	1	2	0	0	0	0	0	1	0	1	1	0	1	2	5
05:00 PM	**1**	1	2	4	0	0	0	0	0	**2**	0	**2**	0	0	0	0	6
05:15 PM	0	**3**	2	5	0	**1**	0	**1**	0	0	0	0	0	0	**2**	2	8
Total Volume	1	7	8	16	0	1	0	1	1	3	0	4	2	0	4	6	27
% App. Total	6.2	43.8	50		0	100	0		25	75	0		33.3	0	66.7		
PHF	.250	.583	.667	.800	.000	.250	.000	.250	.250	.375	.000	.500	.500	.000	.500	.750	.844

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City of Colton
N/S: Rancho Avenue
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File Name : COLRAAMPM
Site Code : 12218122
Start Date : 2/14/2018
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	2	**3**	**5**	0	0	0	0	**1**	0	0	1	**1**	0	1	**2**
+15 mins.	0	1	1	2	0	0	0	0	0	1	0	1	1	0	1	2
+30 mins.	**1**	1	2	4	0	0	0	0	0	**2**	0	**2**	0	0	0	0
+45 mins.	0	**3**	2	5	0	**1**	0	**1**	0	0	0	0	0	0	**2**	2
Total Volume	1	7	8	16	0	1	0	1	1	3	0	4	2	0	4	6
% App. Total	6.2	43.8	50		0	100	0		25	75	0		33.3	0	66.7	
PHF	.250	.583	.667	.800	.000	.250	.000	.250	.250	.375	.000	.500	.500	.000	.500	.750

National Data & Surveying Services Intersection Turning Movement Count

Location: La Cadena Dr & Valley Blvd
City: Colton
Control: Signalized

Project ID: Historical
Date: 1/29/2019

Total

NS/EW Streets:	La Cadena Dr				La Cadena Dr				Valley Blvd				Valley Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	21	26	23	0	9	44	6	0	2	82	34	1	98	95	1	0	442
7:15 AM	26	43	45	0	0	71	6	0	7	97	26	2	98	114	3	0	538
7:30 AM	26	38	61	0	10	84	5	0	7	125	54	1	105	56	1	1	574
7:45 AM	26	42	76	0	10	68	5	0	7	85	34	1	122	37	2	0	515
8:00 AM	22	29	56	0	10	69	7	0	6	78	31	3	87	51	3	1	453
8:15 AM	14	33	39	0	5	61	5	0	11	81	15	2	90	38	1	1	396
8:30 AM	19	25	48	0	7	44	5	0	6	46	12	2	65	49	6	1	335
8:45 AM	20	44	56	0	11	51	3	0	5	79	28	0	57	45	4	1	404
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	174	280	404	0	62	492	42	0	51	673	234	12	722	485	21	5	3657
APPROACH %'s :	20.28%	32.63%	47.09%	0.00%	10.40%	82.55%	7.05%	0.00%	5.26%	69.38%	24.12%	1.24%	58.56%	39.33%	1.70%	0.41%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	100	152	238	0	30	292	23	0	27	385	145	7	412	258	9	2	2080
PEAK HR FACTOR :	0.962	0.884	0.783	0.000	0.750	0.869	0.821	0.000	0.964	0.770	0.671	0.583	0.844	0.566	0.750	0.500	0.906
	0.851				0.871				0.754				0.792				

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
11:00 AM	24	28	47	0	10	44	8	0	10	75	25	0	58	70	6	1	406
11:15 AM	22	30	47	0	15	45	8	0	9	74	23	3	48	35	13	2	374
11:30 AM	17	25	60	0	18	43	16	0	13	75	24	1	57	50	8	1	408
11:45 AM	21	30	50	0	9	59	9	0	18	92	25	1	71	56	5	0	446
12:00 PM	24	37	57	0	12	46	11	0	7	88	28	4	48	58	10	0	430
12:15 PM	24	30	49	0	14	49	7	0	10	73	30	2	54	67	4	0	413
12:30 PM	20	35	43	0	11	49	11	0	8	73	25	2	44	48	11	1	381
12:45 PM	24	37	40	0	11	48	10	0	14	98	28	2	53	65	6	2	438
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	176	252	393	0	100	383	80	0	89	648	208	15	433	449	63	7	3296
APPROACH %'s :	21.44%	30.69%	47.87%	0.00%	17.76%	68.03%	14.21%	0.00%	9.27%	67.50%	21.67%	1.56%	45.48%	47.16%	6.62%	0.74%	
PEAK HR :	11:30 AM - 12:30 PM																TOTAL
PEAK HR VOL :	86	122	216	0	53	197	43	0	48	328	107	8	230	231	27	1	1697
PEAK HR FACTOR :	0.896	0.824	0.900	0.000	0.736	0.835	0.672	0.000	0.667	0.891	0.892	0.500	0.810	0.862	0.675	0.250	0.951
	0.898				0.951				0.903				0.926				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	30	75	64	0	10	94	11	0	12	112	25	0	75	66	10	1	585
4:15 PM	33	79	67	0	16	66	7	0	19	103	44	0	98	61	10	1	604
4:30 PM	35	70	76	0	11	76	6	0	19	101	41	2	102	55	9	0	603
4:45 PM	34	81	71	0	12	96	6	0	13	92	43	3	94	48	3	0	596
5:00 PM	29	82	99	0	6	75	11	0	19	109	28	6	120	61	4	1	650
5:15 PM	29	98	84	0	9	80	10	0	9	97	36	0	109	56	4	1	622
5:30 PM	35	84	88	0	7	78	8	0	15	80	23	2	111	66	6	1	604
5:45 PM	28	68	77	0	6	68	7	0	11	77	29	3	96	65	6	1	542
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	253	637	626	0	77	633	66	0	117	771	269	16	805	478	52	6	4806
APPROACH %'s :	16.69%	42.02%	41.29%	0.00%	9.92%	81.57%	8.51%	0.00%	9.97%	65.73%	22.93%	1.36%	60.03%	35.65%	3.88%	0.45%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	127	345	342	0	34	329	35	0	56	378	130	11	434	231	17	3	2472
PEAK HR FACTOR :	0.907	0.880	0.864	0.000	0.708	0.857	0.795	0.000	0.737	0.867	0.756	0.458	0.904	0.875	0.708	0.750	0.951
	0.964				0.873				0.887				0.921				

National Data & Surveying Services Intersection Turning Movement Count

Location: La Cadena Dr & Valley Blvd
City: Colton
Control: Signalized

Project ID: Historical
Date: 1/29/2019

Bikes

NS/EW Streets:	La Cadena Dr				La Cadena Dr				Valley Blvd				Valley Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	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
8:30 AM	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
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
APPROACH %'s :	25.00%	50.00%	25.00%	0.00%													
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375
	0.375																

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
11:00 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	1	0	0	4
11:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
11:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	1	3	0	0	4	0	0	0	1	0	0	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	25.00%	75.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	11:30 AM - 12:30 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.750
	0.250				0.250				0.250								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
4:15 PM	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
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	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	2	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	0	0	1	0	1	0	0	0	1	0	0	3	0	0	7
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
PEAK HR FACTOR :	0.25	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.750
	0.250				0.250				0.250								

National Data & Surveying Services Intersection Turning Movement Count

Location: La Cadena Dr & Valley Blvd
City: Colton
Project ID: Historical
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	La Cadena Dr		La Cadena Dr		Valley Blvd		Valley Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	2	0	0	0	0	0	0	3
7:15 AM	1	1	0	1	1	3	0	2	9
7:30 AM	0	0	1	0	0	0	0	1	2
7:45 AM	0	0	0	0	0	0	2	0	2
8:00 AM	0	0	0	0	0	0	0	2	2
8:15 AM	0	1	0	0	2	1	0	0	4
8:30 AM	0	2	0	0	1	0	0	1	4
8:45 AM	4	0	0	1	1	0	2	0	8
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	6	6	1	2	5	4	4	6	34
APPROACH %'s :	50.00%	50.00%	33.33%	66.67%	55.56%	44.44%	40.00%	60.00%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	1	1	1	1	1	3	2	5	15
PEAK HR FACTOR :	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.625	0.417
	0.250		0.500		0.250		0.875		

NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
11:00 AM	3	1	0	0	1	2	0	0	7
11:15 AM	1	1	0	1	1	3	0	0	7
11:30 AM	2	0	0	0	0	0	1	1	4
11:45 AM	0	0	0	0	0	1	2	0	3
12:00 PM	0	0	1	1	2	2	0	0	6
12:15 PM	1	2	0	0	0	2	0	0	5
12:30 PM	2	2	0	0	0	0	0	0	4
12:45 PM	2	4	0	0	0	1	2	4	13
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	11	10	1	2	4	11	5	5	49
APPROACH %'s :	52.38%	47.62%	33.33%	66.67%	26.67%	73.33%	50.00%	50.00%	
PEAK HR :	11:30 AM - 12:30 PM								TOTAL
PEAK HR VOL :	3	2	1	1	2	5	3	1	18
PEAK HR FACTOR :	0.375	0.250	0.250	0.250	0.250	0.625	0.375	0.250	0.750
	0.417		0.250		0.438		0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	0	3	0	0	0	0	0	4
4:15 PM	0	0	1	3	1	2	0	1	8
4:30 PM	0	1	0	0	1	1	0	0	3
4:45 PM	0	0	1	0	0	1	0	0	2
5:00 PM	2	2	0	1	0	0	2	1	8
5:15 PM	0	0	1	0	0	0	1	1	3
5:30 PM	2	0	1	2	0	0	1	1	7
5:45 PM	5	3	1	0	1	1	0	0	11
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	10	6	8	6	3	5	4	4	46
APPROACH %'s :	62.50%	37.50%	57.14%	42.86%	37.50%	62.50%	50.00%	50.00%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	4	2	3	3	0	1	4	3	20
PEAK HR FACTOR :	0.500	0.250	0.750	0.375		0.250	0.500	0.750	0.625
	0.375		0.500		0.250		0.583		

Prepared by National Data & Surveying Services

La Cadena Dr & Valley Blvd

Peak Hour Turning Movement Count

ID: Historical
City: Colton

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	11:30 AM - 12:30 PM
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	04:00 PM - 06:00 PM

La Cadena Dr — SOUTHBOUND

AM	23	292	30	0	188	AM
NOON	43	197	53	0	197	NOON
PM	35	329	34	0	418	PM

Valley Blvd — EASTBOUND

AM	NOON	PM		
388	368	404	⇦	
7	8	11	↰	0
27	48	56	↱	1
385	328	378	→	2
145	107	130	↱	0
AM	NOON	PM		

Valley Blvd — WESTBOUND

PM	NOON	AM		
17	27	9	↰	0
231	231	258	←	2
434	230	412	↰	1
3	1	2	↰	0
757	598	655	⇨	
PM	NOON	AM		

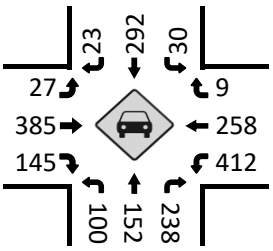
CONTROL: Signalized

TEV	2080 AM	1697 NOON	2472 PM
PHF	0.91	0.95	0.95

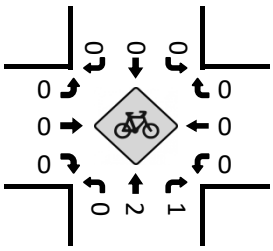
La Cadena Dr — NORTHBOUND

PM	893	0	127	345	342	PM
NOON	534	0	86	122	216	NOON
AM	849	0	100	152	238	AM

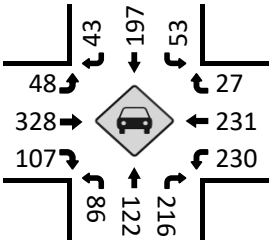
Total Vehicles (AM)



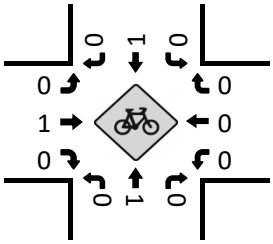
Bikes (AM)



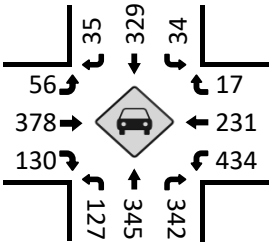
Total Vehicles (Noon)



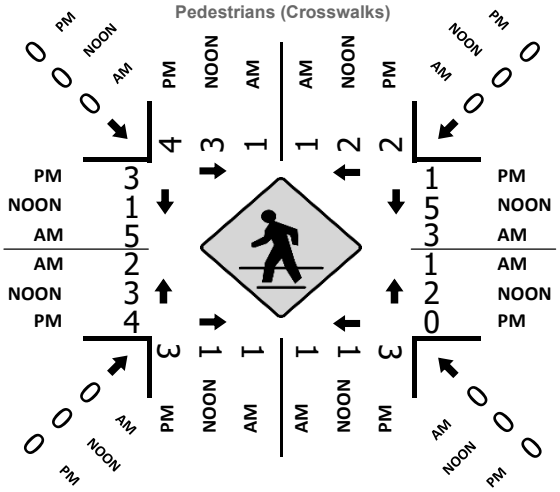
Bikes (NOON)



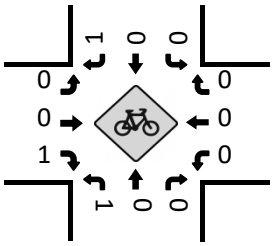
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

City: Colton

Day: Wednesday

Date: 7/27/2016

TOTALS

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
7:00 AM	21	55	0	0	113	75	0	0	0	51	0	87	402
7:15 AM	24	79	0	0	151	82	0	0	0	31	0	65	432
7:30 AM	18	80	0	0	181	79	0	0	0	55	0	71	484
7:45 AM	19	73	0	0	161	47	0	0	0	82	0	96	478
8:00 AM	15	75	0	0	128	53	0	0	0	38	1	57	367
8:15 AM	20	54	0	0	91	50	0	0	0	54	1	47	317
8:30 AM	18	55	0	0	123	60	0	0	0	40	0	60	356
8:45 AM	23	50	0	0	103	31	0	0	0	28	1	59	295
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	158	521	0	0	1051	477	0	0	0	379	3	542	3131
APPROACH %'s :	23.27%	76.73%	0.00%	0.00%	68.78%	31.22%	#DIV/0!	#DIV/0!	#DIV/0!	41.02%	0.32%	58.66%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	82	287	0	0	606	283	0	0	0	219	0	319	1796
PEAK HR FACTOR :	0.896			0.855			0.000			0.756			0.928

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

City: Colton

Date: 7/27/2016

TOTALS

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
4:00 PM	17	154	0	0	152	51	0	0	0	23	0	96	493
4:15 PM	32	153	0	0	139	40	0	0	0	30	0	99	493
4:30 PM	19	171	0	0	144	48	0	0	0	24	1	110	517
4:45 PM	25	159	0	0	156	43	0	0	0	23	0	94	500
5:00 PM	26	172	0	1	146	55	0	0	0	29	0	99	528
5:15 PM	36	178	0	0	139	42	0	0	0	23	0	91	509
5:30 PM	17	194	0	0	141	45	0	0	0	31	1	87	516
5:45 PM	28	191	0	0	131	31	0	0	0	29	0	105	515
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	200	1372	0	1	1148	355	0	0	0	212	2	781	4071
APPROACH %'s :	12.72%	87.28%	0.00%	0.07%	76.33%	23.60%	#DIV/0!	#DIV/0!	#DIV/0!	21.31%	0.20%	78.49%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	107	735	0	1	557	173	0	0	0	112	1	382	2068
PEAK HR FACTOR :	0.961			0.905			0.000			0.924			0.979

UTURNS	NB	SB	EB	WB
	0			
	0			
	0			
	0			
	1			
	0			
	0			
	0			
	NB	SB	EB	WB
	0	1	0	0

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

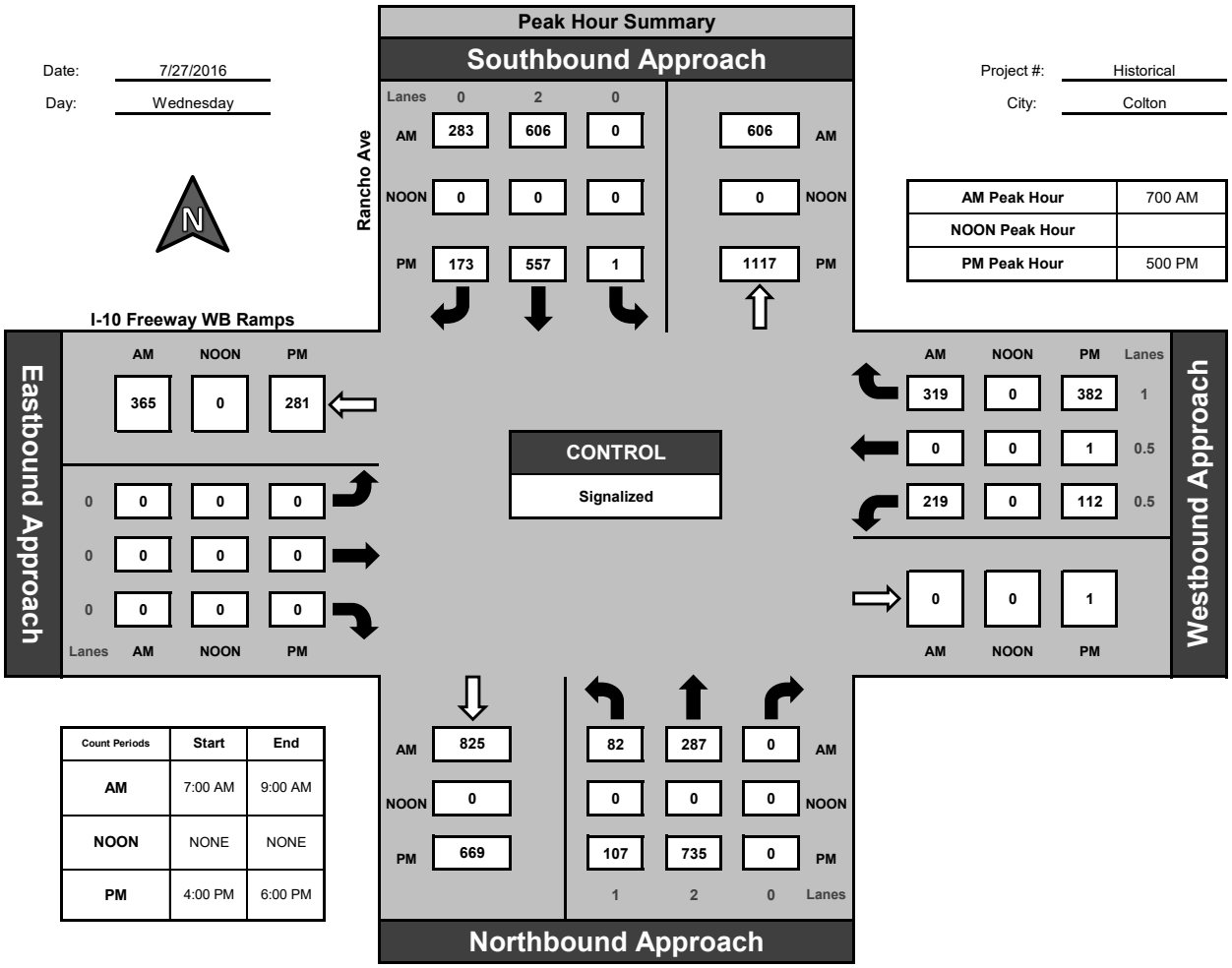
National Data & Surveying Services

Rancho Ave and I-10 Freeway WB Ramps , Colton

Date: 7/27/2016
Day: Wednesday

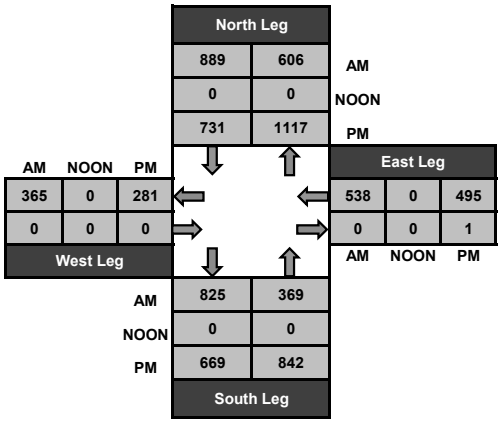
Project #: Historical
City: Colton

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	500 PM

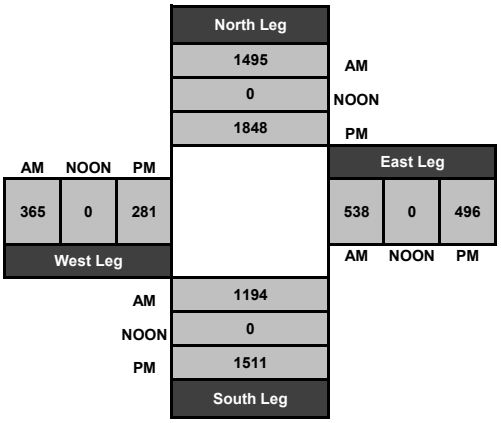


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

Cars

City: Colton

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
7:00 AM	20	54	0	0	112	74	0	0	0	45	0	86	391
7:15 AM	22	77	0	0	150	82	0	0	0	28	0	65	424
7:30 AM	16	79	0	0	179	78	0	0	0	54	0	70	476
7:45 AM	16	73	0	0	161	46	0	0	0	75	0	95	466
8:00 AM	15	74	0	0	128	52	0	0	0	33	1	56	359
8:15 AM	18	51	0	0	90	49	0	0	0	46	1	47	302
8:30 AM	15	49	0	0	120	60	0	0	0	28	0	60	332
8:45 AM	20	50	0	0	102	29	0	0	0	20	1	56	278
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	142	507	0	0	1042	470	0	0	0	329	3	535	3028
APPROACH %'s :	21.88%	78.12%	0.00%	0.00%	68.92%	31.08%	#DIV/0!	#DIV/0!	#DIV/0!	37.95%	0.35%	61.71%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	74	283	0	0	602	280	0	0	0	202	0	316	1757
PEAK HR FACTOR :	0.902			0.858			0.000			0.762			0.923

UTURNS			
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

City: Colton

Cars

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
4:00 PM	15	151	0	0	150	50	0	0	0	21	0	95	482
4:15 PM	30	152	0	0	139	38	0	0	0	27	0	98	484
4:30 PM	18	168	0	0	144	48	0	0	0	23	1	110	512
4:45 PM	24	157	0	0	156	39	0	0	0	20	0	94	490
5:00 PM	26	170	0	1	146	54	0	0	0	27	0	99	523
5:15 PM	34	177	0	0	138	41	0	0	0	21	0	91	502
5:30 PM	16	191	0	0	141	45	0	0	0	25	1	86	505
5:45 PM	27	189	0	0	131	29	0	0	0	28	0	104	508
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	190	1355	0	1	1145	344	0	0	0	192	2	777	4006
APPROACH %'s :	12.30%	87.70%	0.00%	0.07%	76.85%	23.09%	#DIV/0!	#DIV/0!	#DIV/0!	19.77%	0.21%	80.02%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	103	727	0	1	556	169	0	0	0	101	1	380	2038
PEAK HR FACTOR :	0.961			0.903			0.000			0.913			0.974

UTURNS			
NB	SB	EB	WB
	0		
	0		
	0		
	0		
	1		
	0		
	0		
	0		
NB	SB	EB	WB
0	1	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

2 Axle Trucks

City: Colton

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	1	2	0	0	0	0	0	0	0	1	0	0	4
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
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	1	0	0	1
8:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	6	0	0	1	0	0	0	0	2	0	0	11
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	1	3	0	0	1	0	0	0	0	1	0	0	6
PEAK HR FACTOR :	0.333			0.250			0.000			0.250			0.923

UTURNS

NB	SB	EB	WB

NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

2 Axle Trucks

City: Colton

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
4:00 PM	1	1	0	0	1	0	0	0	0	0	0	1	4
4:15 PM	0	1	0	0	0	1	0	0	0	1	0	1	4
4:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	2
4:45 PM	0	2	0	0	0	1	0	0	0	0	0	0	3
5:00 PM	0	1	0	0	0	1	0	0	0	1	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	1	0	0	0	0	0	0	0	1	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	7	0	0	1	3	0	0	0	5	0	4	21
APPROACH %'s :	12.50%	87.50%	0.00%	0.00%	25.00%	75.00%	#DIV/0!	#DIV/0!	#DIV/0!	55.56%	0.00%	44.44%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	2	0	0	0	1	0	0	0	3	0	2	8
PEAK HR FACTOR :	0.500			0.250			0.000			0.625			0.974

UTURNS			
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

3 Axle Trucks

City: Colton

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
7:00 AM	1	0	0	0	1	0	0	0	0	4	0	1	7
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	0	0	0	0	0	1	0	0	2
7:45 AM	2	0	0	0	0	0	0	0	0	3	0	1	6
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	2	0	0	1	1	0	0	0	1	0	0	5
8:30 AM	1	2	0	0	0	0	0	0	0	4	0	0	7
8:45 AM	1	0	0	0	0	1	0	0	0	3	0	2	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	5	0	0	3	2	0	0	0	17	0	4	36
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	60.00%	40.00%	#DIV/0!	#DIV/0!	#DIV/0!	80.95%	0.00%	19.05%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	3	1	0	0	2	0	0	0	0	8	0	2	16
PEAK HR FACTOR :	0.500			0.500			0.000			0.500			0.923

UTURNS	NB	SB	EB	WB
	0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

3 Axle Trucks

City: Colton

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
4:00 PM	0	1	0	0	1	1	0	0	0	1	0	0	4
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	1	0	0	0	1	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	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	3	0	0	4
5:45 PM	1	1	0	0	0	0	0	0	0	1	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	5	0	0	1	2	0	0	0	6	0	0	17
APPROACH %'s :	37.50%	62.50%	0.00%	0.00%	33.33%	66.67%	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	3	0	0	0	0	0	0	0	4	0	0	8
PEAK HR FACTOR :	0.500			0.000			0.000			0.333			0.974

UTURNS			
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

4 Axle+ Trucks

City: Colton

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
7:00 AM	0	0	0	0	0	1	0	0	0	2	0	0	3
7:15 AM	1	0	0	0	0	0	0	0	0	2	0	0	3
7:30 AM	2	0	0	0	1	1	0	0	0	0	0	1	5
7:45 AM	1	0	0	0	0	1	0	0	0	4	0	0	6
8:00 AM	0	1	0	0	0	1	0	0	0	3	0	1	6
8:15 AM	1	1	0	0	0	0	0	0	0	7	0	0	9
8:30 AM	2	1	0	0	3	0	0	0	0	8	0	0	14
8:45 AM	2	0	0	0	1	1	0	0	0	5	0	1	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	9	3	0	0	5	5	0	0	0	31	0	3	56
APPROACH %'s :	75.00%	25.00%	0.00%	0.00%	50.00%	50.00%	#DIV/0!	#DIV/0!	#DIV/0!	91.18%	0.00%	8.82%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	4	0	0	0	1	3	0	0	0	8	0	1	17
PEAK HR FACTOR :	0.500			0.500			0.000			0.563			0.923

UTURNS	NB	SB	EB	WB
	0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

City: Colton

4 Axle+ Trucks

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway WB Ramps			I-10 Freeway WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0.5	0.5	1	
4:00 PM	1	1	0	0	0	0	0	0	0	1	0	0	3
4:15 PM	1	0	0	0	0	1	0	0	0	2	0	0	4
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	1	0	0	0	0	2	0	0	0	2	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
5:15 PM	2	1	0	0	1	1	0	0	0	1	0	0	6
5:30 PM	1	1	0	0	0	0	0	0	0	2	0	0	4
5:45 PM	0	1	0	0	0	2	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	6	5	0	0	1	6	0	0	0	9	0	0	27
APPROACH %'s :	54.55%	45.45%	0.00%	0.00%	14.29%	85.71%	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	3	3	0	0	1	3	0	0	0	4	0	0	14
PEAK HR FACTOR :	0.500			0.500			0.000			0.500			0.974

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

City: Colton

Day: Wednesday

Date: 7/27/2016

TOTALS

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
7:00 AM	0	62	25	59	106	0	19	0	50	0	0	0	321
7:15 AM	0	69	23	81	103	0	28	0	69	0	0	0	373
7:30 AM	0	77	36	77	148	0	27	1	62	0	0	0	428
7:45 AM	0	70	31	82	170	0	28	0	68	0	0	0	449
8:00 AM	0	45	28	69	96	0	35	0	63	0	0	0	336
8:15 AM	0	52	27	63	81	0	28	0	63	0	0	0	314
8:30 AM	0	38	25	74	88	0	30	0	64	0	0	0	319
8:45 AM	0	51	27	59	70	0	22	0	43	0	0	0	272
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	464	222	564	862	0	217	1	482	0	0	0	2812
APPROACH %'s :	0.00%	67.64%	32.36%	39.55%	60.45%	0.00%	31.00%	0.14%	68.86%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	261	118	309	517	0	118	1	262	0	0	0	1586
PEAK HR FACTOR :	0.838			0.819			0.972			0.000			0.883

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

City: Colton

Day: Wednesday

Date: 7/27/2016

TOTALS

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
4:00 PM	0	93	66	83	92	0	78	0	66	0	0	0	478
4:15 PM	0	112	76	75	93	0	73	0	70	0	0	0	499
4:30 PM	0	112	89	76	92	0	79	0	71	0	0	0	519
4:45 PM	0	118	80	89	90	0	74	3	81	0	0	0	535
5:00 PM	0	103	79	70	97	0	88	0	61	0	0	0	498
5:15 PM	0	127	81	76	93	0	92	1	88	0	0	0	558
5:30 PM	0	114	65	85	91	0	97	1	72	0	0	0	525
5:45 PM	0	126	52	73	90	0	91	0	63	0	0	0	495
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	905	588	627	738	0	672	5	572	0	0	0	4107
APPROACH %'s :	0.00%	60.62%	39.38%	45.93%	54.07%	0.00%	53.80%	0.40%	45.80%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	462	305	320	371	0	351	5	302	0	0	0	2116
PEAK HR FACTOR :		0.922			0.965			0.909			0.000		0.948

UTURNS			
NB	SB	EB	WB
	0		
	0		
	0		
	0		
	1		
	0		
	0		
	0		

NB	SB	EB	WB
0	1	0	0

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

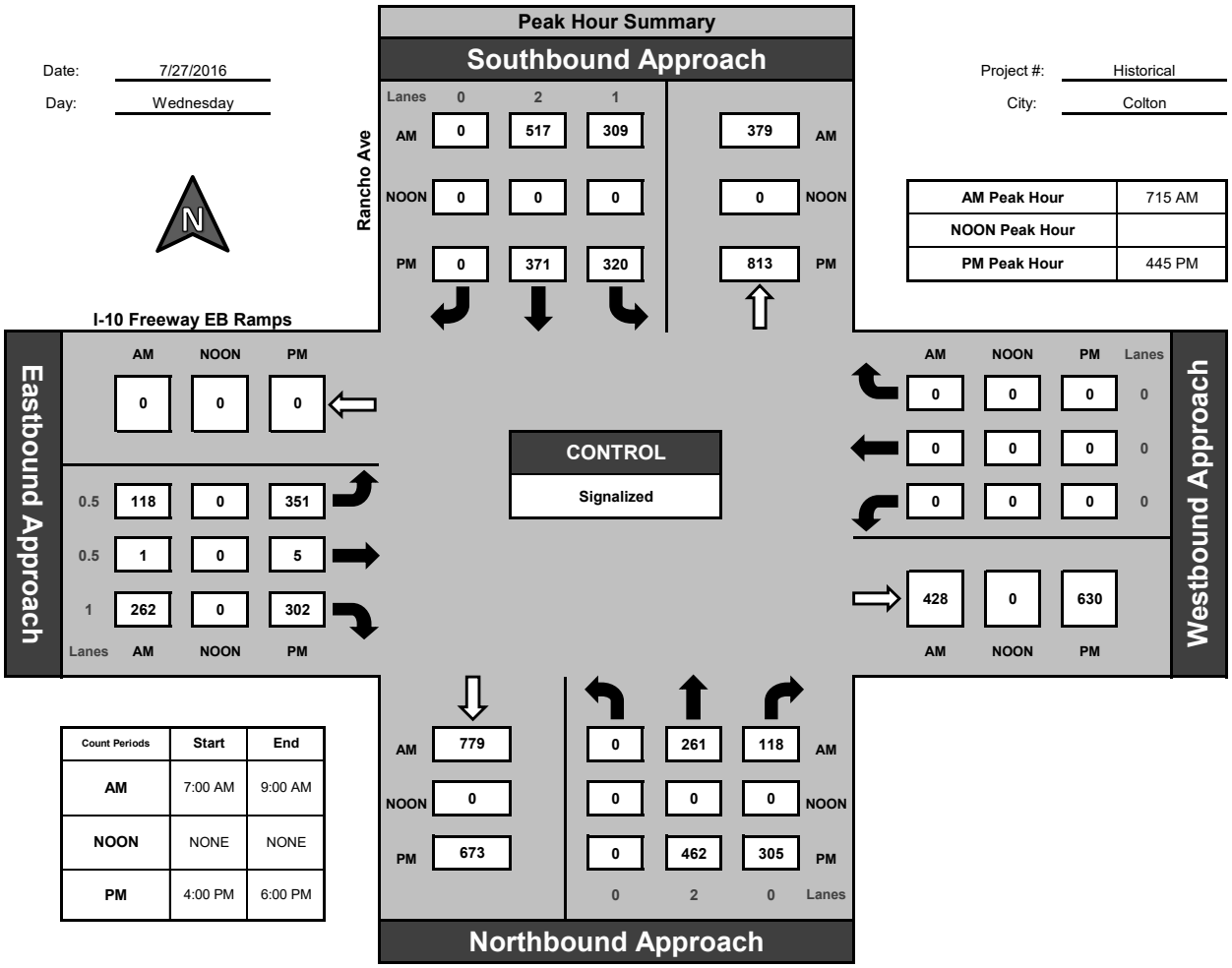
National Data & Surveying Services

Rancho Ave and I-10 Freeway EB Ramps , Colton

Date: 7/27/2016
Day: Wednesday

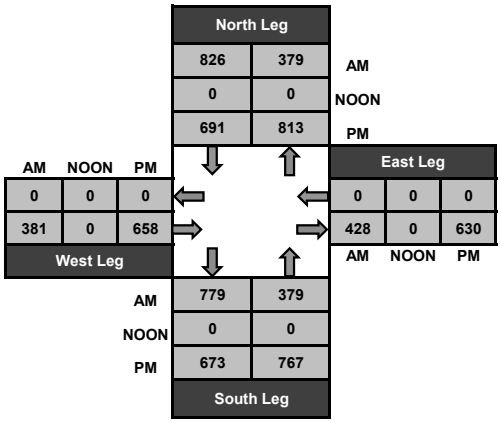
Project #: Historical
City: Colton

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

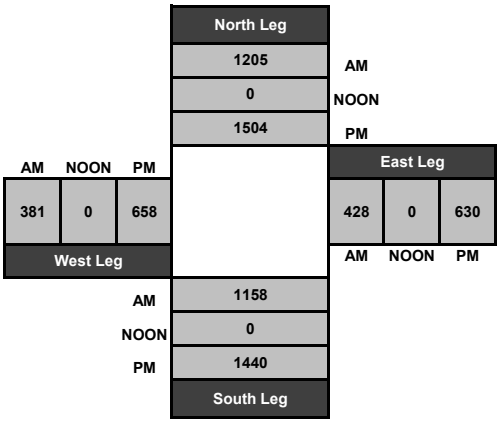


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

City: Colton

Cars

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
7:00 AM	0	60	18	59	99	0	19	0	46	0	0	0	301
7:15 AM	0	68	19	80	99	0	26	0	69	0	0	0	361
7:30 AM	0	73	30	75	147	0	26	1	55	0	0	0	407
7:45 AM	0	68	26	82	163	0	28	0	64	0	0	0	431
8:00 AM	0	45	21	69	91	0	34	0	58	0	0	0	318
8:15 AM	0	48	23	62	73	0	26	0	61	0	0	0	293
8:30 AM	0	32	21	72	75	0	28	0	58	0	0	0	286
8:45 AM	0	47	18	59	62	0	21	0	38	0	0	0	245
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	441	176	558	809	0	208	1	449	0	0	0	2642
APPROACH %'s :	0.00%	71.47%	28.53%	40.82%	59.18%	0.00%	31.61%	0.15%	68.24%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	254	96	306	500	0	114	1	246	0	0	0	1517
PEAK HR FACTOR :	0.850			0.822			0.950			0.000			0.880

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

City: Colton

Cars

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
4:00 PM	0	90	64	83	88	0	76	0	66	0	0	0	467
4:15 PM	0	111	76	75	90	0	72	0	67	0	0	0	491
4:30 PM	0	111	87	76	91	0	77	0	66	0	0	0	508
4:45 PM	0	117	79	89	87	0	72	3	79	0	0	0	526
5:00 PM	0	101	75	70	95	0	86	0	59	0	0	0	486
5:15 PM	0	124	79	75	91	0	92	1	84	0	0	0	546
5:30 PM	0	112	65	85	84	0	95	1	69	0	0	0	511
5:45 PM	0	125	52	73	89	0	90	0	61	0	0	0	490
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	891	577	626	715	0	660	5	551	0	0	0	4025
APPROACH %'s :	0.00%	60.69%	39.31%	46.68%	53.32%	0.00%	54.28%	0.41%	45.31%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	454	298	319	357	0	345	5	291	0	0	0	2069
PEAK HR FACTOR :		0.926			0.960			0.905			0.000		0.947

UTURNS			
NB	SB	EB	WB
	0		
	0		
	0		
	0		
	1		
	0		
	0		
	0		

NB	SB	EB	WB
0	1	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

2 Axle Trucks

City: Colton

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	1	0	1	0	1	0	0	0	0	0	4
7:30 AM	0	1	2	1	0	0	1	0	1	0	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	1	0	0	0	1	0	0	0	4
8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	1	1	0	0	0	1	0	1	0	0	0	4
8:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	6	6	1	2	0	4	0	3	0	0	0	22
APPROACH %'s :	0.00%	50.00%	50.00%	33.33%	66.67%	0.00%	57.14%	0.00%	42.86%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	2	5	1	2	0	2	0	2	0	0	0	14
PEAK HR FACTOR :	0.583			0.750			0.500			0.000			0.880

UTURNS

NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

2 Axle Trucks

City: Colton

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
4:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	2
4:15 PM	0	0	0	0	1	0	1	0	3	0	0	0	5
4:30 PM	0	0	0	0	1	0	1	0	3	0	0	0	5
4:45 PM	0	0	1	0	0	0	2	0	1	0	0	0	4
5:00 PM	0	0	1	0	1	0	1	0	2	0	0	0	5
5:15 PM	0	0	2	0	1	0	0	0	1	0	0	0	4
5:30 PM	0	0	0	0	2	0	1	0	1	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	4	0	7	0	7	0	12	0	0	0	30
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	36.84%	0.00%	63.16%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	4	0	4	0	4	0	5	0	0	0	17
PEAK HR FACTOR :	0.500			0.500			0.750			0.000			0.947

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

3 Axle Trucks

City: Colton

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
7:00 AM	0	1	3	0	5	0	0	0	0	0	0	0	9
7:15 AM	0	0	0	0	1	0	1	0	0	0	0	0	2
7:30 AM	0	0	1	0	1	0	0	0	2	0	0	0	4
7:45 AM	0	2	2	0	3	0	0	0	0	0	0	0	7
8:00 AM	0	0	1	0	2	0	0	0	1	0	0	0	4
8:15 AM	0	1	3	0	3	0	1	0	0	0	0	0	8
8:30 AM	0	3	1	0	4	0	0	0	1	0	0	0	9
8:45 AM	0	1	5	0	1	0	0	0	0	0	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	8	16	0	20	0	2	0	4	0	0	0	50
APPROACH %'s :	0.00%	33.33%	66.67%	0.00%	100.00%	0.00%	33.33%	0.00%	66.67%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	2	4	0	7	0	1	0	3	0	0	0	17
PEAK HR FACTOR :	0.375			0.583			0.500			0.000			0.880

UTURNS			
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

3 Axle Trucks

City: Colton

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
4:00 PM	0	0	2	0	2	0	1	0	0	0	0	0	5
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	2	0	0	0	0	0	1	0	0	0	4
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	1	1	0	0	0	1	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	2
5:30 PM	0	0	0	0	3	0	1	0	1	0	0	0	5
5:45 PM	0	1	0	0	1	0	1	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	4	5	0	7	0	4	0	4	0	0	0	24
APPROACH %'s :	0.00%	44.44%	55.56%	0.00%	100.00%	0.00%	50.00%	0.00%	50.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	1	1	0	4	0	2	0	3	0	0	0	11
PEAK HR FACTOR :	0.250			0.333			0.625			0.000			0.947

UTURNS				
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

4 Axle+ Trucks

City: Colton

Date: 7/27/2016

AM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
7:00 AM	0	1	4	0	2	0	0	0	4	0	0	0	11
7:15 AM	0	0	3	1	2	0	0	0	0	0	0	0	6
7:30 AM	0	3	3	1	0	0	0	0	4	0	0	0	11
7:45 AM	0	0	3	0	4	0	0	0	4	0	0	0	11
8:00 AM	0	0	4	0	2	0	1	0	3	0	0	0	10
8:15 AM	0	1	1	1	5	0	1	0	2	0	0	0	11
8:30 AM	0	2	2	2	9	0	1	0	4	0	0	0	20
8:45 AM	0	2	4	0	7	0	0	0	5	0	0	0	18
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	9	24	5	31	0	3	0	26	0	0	0	98
APPROACH %'s :	0.00%	27.27%	72.73%	13.89%	86.11%	0.00%	10.34%	0.00%	89.66%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	3	13	2	8	0	1	0	11	0	0	0	38
PEAK HR FACTOR :	0.667			0.625			0.750			0.000			0.880

UTURNS			
NB	SB	EB	WB

NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Wednesday

City: Colton

4 Axle+ Trucks

Date: 7/27/2016

PM

NS/EW Streets:	Rancho Ave			Rancho Ave			I-10 Freeway EB Ramps			I-10 Freeway EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0.5	0.5	1	0	0	0	
4:00 PM	0	3	0	0	1	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	1	0	1	0	0	0	2
4:45 PM	0	1	0	0	2	0	0	0	1	0	0	0	4
5:00 PM	0	1	2	0	1	0	0	0	0	0	0	0	4
5:15 PM	0	3	0	1	1	0	0	0	1	0	0	0	6
5:30 PM	0	2	0	0	2	0	0	0	1	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	10	2	1	9	0	1	0	5	0	0	0	28
APPROACH %'s :	0.00%	83.33%	16.67%	10.00%	90.00%	0.00%	16.67%	0.00%	83.33%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	7	2	1	6	0	0	0	3	0	0	0	19
PEAK HR FACTOR :	0.750			0.875			0.750			0.000			0.947

UTURNS			
NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, Dec 12, 18

LOCATION: Colton
NORTH & SOUTH: Iowa
EAST & WEST: La Cadena

PROJECT #: SC
LOCATION #: 5
CONTROL: SIGNAL

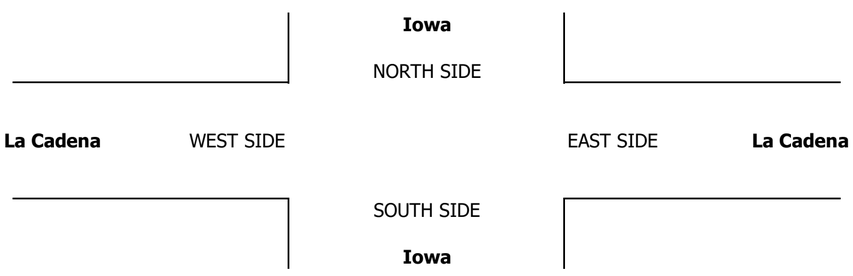
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

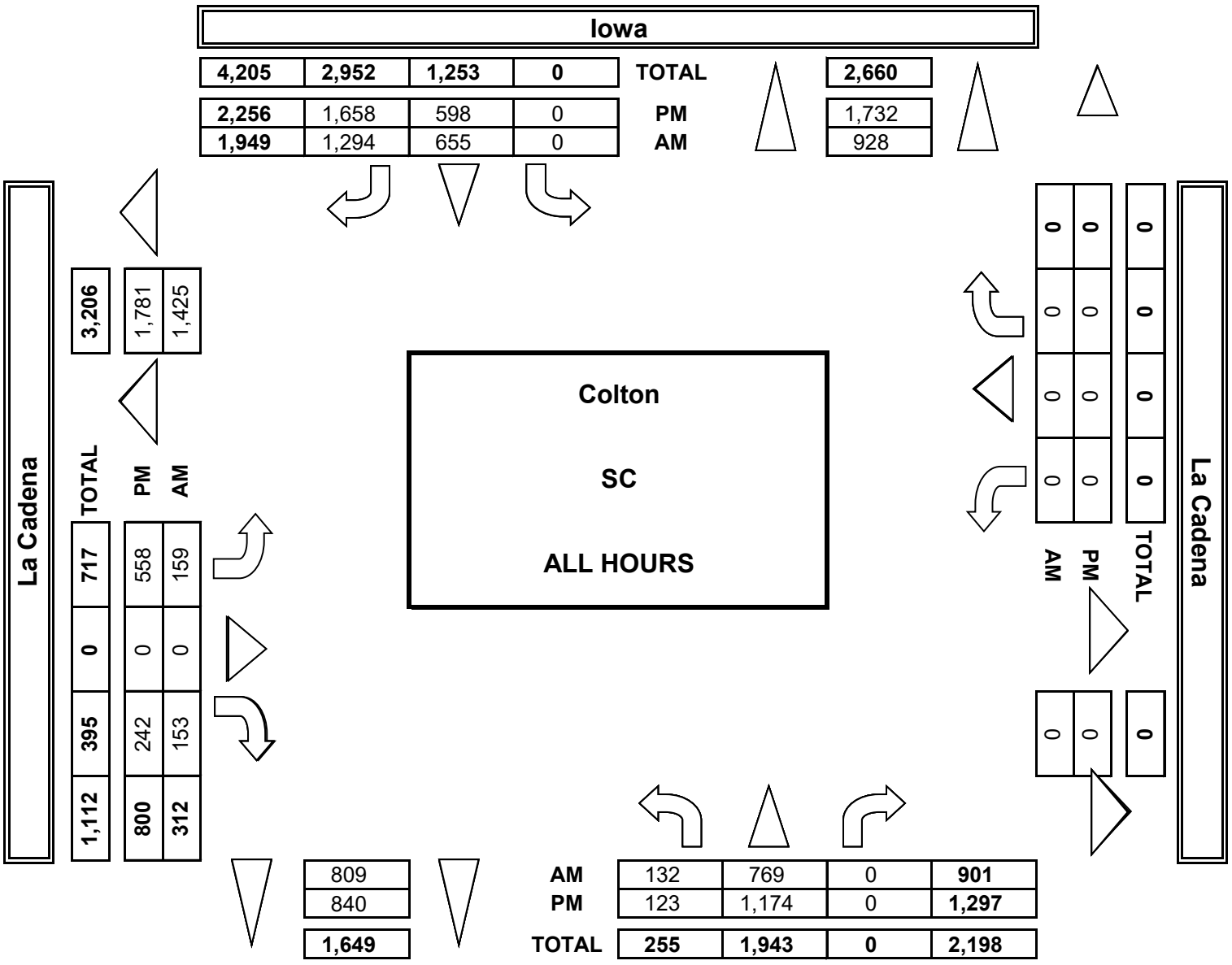
		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	14	134	0	0	127	171	27	0	31	0	0	0	504	0	0	0	0	0
	7:15 AM	18	142	0	0	102	187	19	0	20	0	0	0	488	0	0	0	0	0
	7:30 AM	22	92	0	0	116	223	20	0	22	0	0	0	495	0	0	0	0	0
	7:45 AM	12	101	0	0	105	197	32	0	15	0	0	0	462	0	0	0	0	0
	8:00 AM	16	85	0	0	75	164	14	0	13	0	0	0	367	0	0	0	0	0
	8:15 AM	26	82	0	0	48	124	14	0	10	0	0	0	304	0	0	0	0	0
	8:30 AM	7	63	0	0	37	115	15	0	21	0	0	0	258	0	0	0	0	0
	8:45 AM	17	70	0	0	45	113	18	0	21	0	0	0	284	1	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
	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	132	769	0	0	655	1,294	159	0	153	0	0	0	3,162	1	0	0	0	1
	APPROACH %	15%	85%	0%	0%	34%	66%	51%	0%	49%	0%	0%	0%						
	APP/DEPART	901	/	928	1,949	/	809	312	/	0	0	/	1,425	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	66	469	0	0	450	778	98	0	88	0	0	0	1,949					
	APPROACH %	12%	88%	0%	0%	37%	63%	53%	0%	47%	0%	0%	0%						
	PEAK HR FACTOR		0.836			0.906			0.802			0.000		0.967					
	APP/DEPART	535	/	567	1,228	/	538	186	/	0	0	/	844	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	10	175	0	0	85	241	63	0	29	0	0	0	603	0	0	0	0	0
	4:15 PM	20	130	0	0	68	197	46	0	26	0	0	0	487	0	0	0	0	0
	4:30 PM	18	156	0	0	65	197	69	0	42	0	0	0	547	0	0	0	0	0
	4:45 PM	19	149	0	0	70	198	73	0	37	0	0	0	546	0	0	0	0	0
	5:00 PM	19	140	0	0	66	229	80	0	45	0	0	0	579	0	0	0	0	0
	5:15 PM	11	147	0	0	84	202	85	0	26	0	0	0	555	0	0	0	0	0
	5:30 PM	10	147	0	0	77	168	77	0	21	0	0	0	500	0	0	0	0	0
	5:45 PM	16	130	0	0	83	226	65	0	16	0	0	0	536	0	0	0	0	0
	VOLUMES	123	1,174	0	0	598	1,658	558	0	242	0	0	0	4,353	0	0	0	0	0
	APPROACH %	9%	91%	0%	0%	27%	73%	70%	0%	30%	0%	0%	0%						
	APP/DEPART	1,297	/	1,732	2,256	/	840	800	/	0	0	/	1,781	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	67	592	0	0	285	826	307	0	150	0	0	0	2,227					
	APPROACH %	10%	90%	0%	0%	26%	74%	67%	0%	33%	0%	0%	0%						
	PEAK HR FACTOR		0.947			0.942			0.914			0.000		0.962					
	APP/DEPART	659	/	899	1,111	/	435	457	/	0	0	/	893	0					

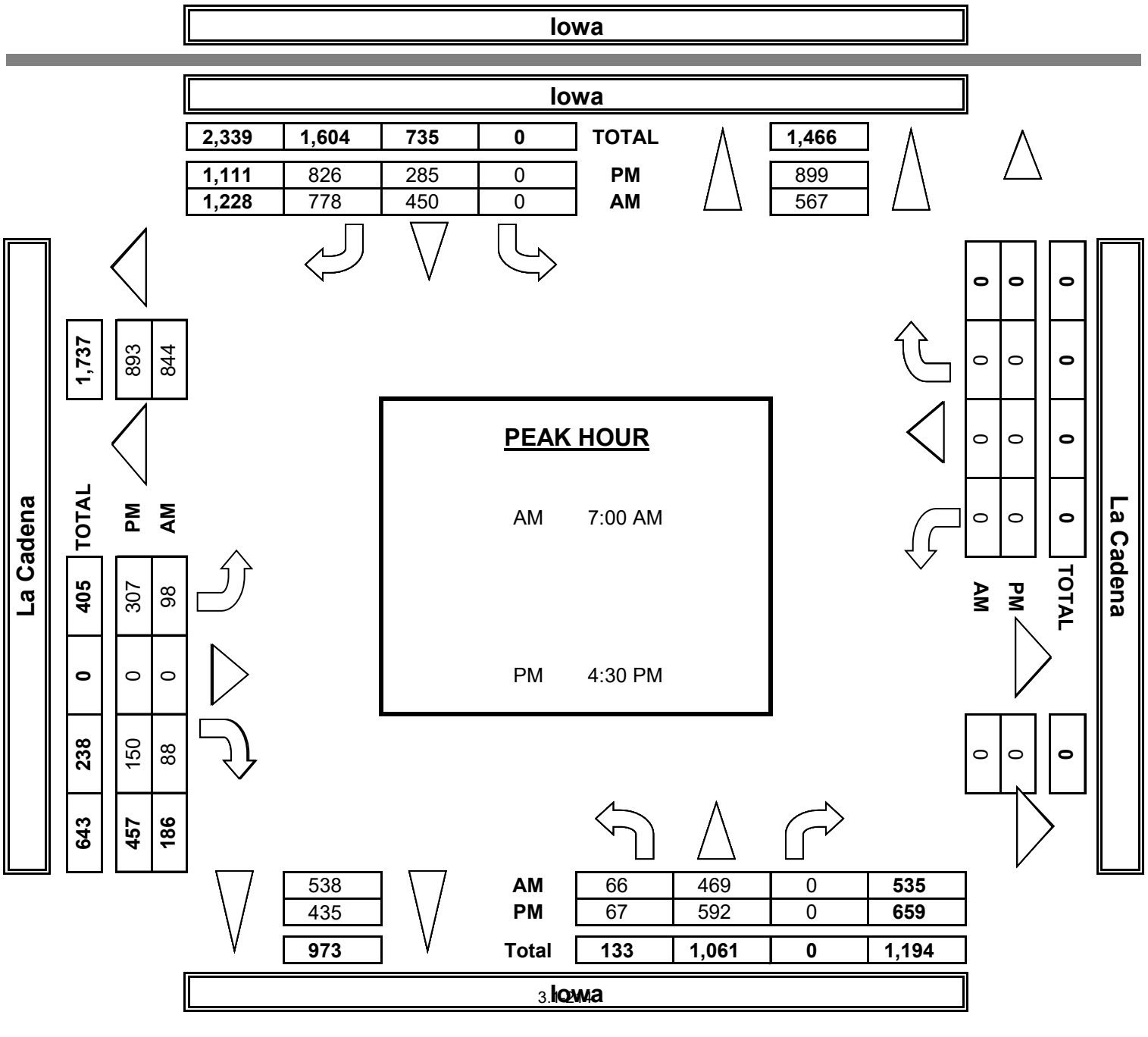


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0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

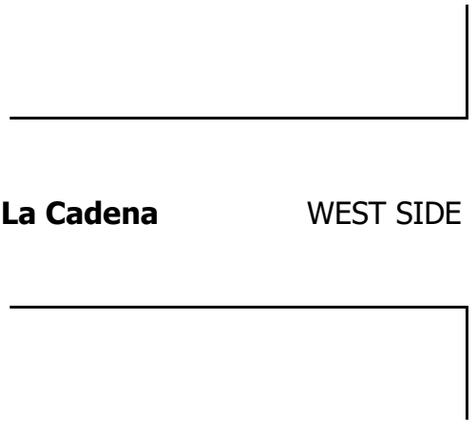
PREPARED BY: AimTD LI

DATE:	LOCATION:	Colton
12/12/18	NORTH & SOUTH:	Iowa
WEDNESDAY	EAST & WEST:	La Cadena

	NOTES:				
PCE Adjusted	Class	1	2	3	4
	Factor	1	1.5	2	3

	NORTHBOUND Iowa			SOUTHBOUNI Iowa	
LANES:	NL 1	NT 1	NR X	SL X	ST 1
AM 7:00 AM	16	146	0	0	133
7:15 AM	20	161	0	0	110
7:30 AM	27	101	0	0	122
7:45 AM	15	109	0	0	110
8:00 AM	20	100	0	0	90
8:15 AM	30	96	0	0	52
8:30 AM	11	82	0	0	43
8:45 AM	20	95	0	0	55
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	157	888	0	0	714
APPROACH %	15%	85%	0%	0%	34%
APP/DEPART	1,045	/	1,070	2,111	/
BEGIN PEAK HR		7:00 AM			
VOLUMES	77	516	0	0	474
APPROACH %	13%	87%	0%	0%	36%
PEAK HR FACTOR		0.824			0.923
APP/DEPART	593	/	623	1,309	/
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	13	187	0	0	91
4:15 PM	22	138	0	0	72

PM	4:30 PM	20	170	0	0	72
	4:45 PM	22	153	0	0	74
	5:00 PM	20	147	0	0	70
	5:15 PM	13	158	0	0	88
	5:30 PM	11	155	0	0	81
	5:45 PM	18	141	0	0	92
	VOLUMES	137	1,246	0	0	639
	APPROACH %	10%	90%	0%	0%	27%
	APP/DEPART	1,383	/	1,821	2,368	/
	BEGIN PEAK HR		4:30 PM			
	VOLUMES	74	627	0	0	304
	APPROACH %	11%	89%	0%	0%	26%
	PEAK HR FACTOR		0.927			0.947
	APP/DEPART	701	/	945	1,170	/



ℝNING MOVEMENT COUNTS

LLC. tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC
LOCATION #: 5
CONTROL: SIGNAL

				AM		▲ N	
5	6			PM			
2	2			MD	◄ W		E ►
				OTHER		S	
				OTHER		▼	

D	EASTBOUND La Cadena			WESTBOUND La Cadena			
SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
189	32	0	37	0	0	0	552
202	20	0	25	0	0	0	536
233	23	0	24	0	0	0	529
211	34	0	16	0	0	0	494
182	18	0	14	0	0	0	424
132	16	0	12	0	0	0	336
126	21	0	25	0	0	0	307
123	20	0	23	0	0	0	336
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,397	182	0	175	0	0	0	3,512
66%	51%	0%	49%	0%	0%	0%	
888	357	/	0	0	/	1,554	0
835	107	0	101	0	0	0	2,110
64%	51%	0%	49%	0%	0%	0%	
		0.765			0.000		0.956
575	208	/	0	0	/	912	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
249	65	0	30	0	0	0	633
211	47	0	28	0	0	0	517

210	72	0	45	0	0	0	588
206	75	0	38	0	0	0	567
239	82	0	48	0	0	0	605
213	90	0	28	0	0	0	589
171	79	0	22	0	0	0	517
233	67	0	17	0	0	0	566
1,729	575	0	254	0	0	0	4,579
73%	69%	0%	31%	0%	0%	0%	
893	829	/	0	0	/	1,866	0
867	318	0	159	0	0	0	2,347
74%	67%	0%	33%	0%	0%	0%	
		0.923			0.000		0.971
462	477	/	0	0	/	941	0

Iowa

NORTH SIDE

EAST SIDE **La Cadena**

SOUTH SIDE

Iowa

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

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

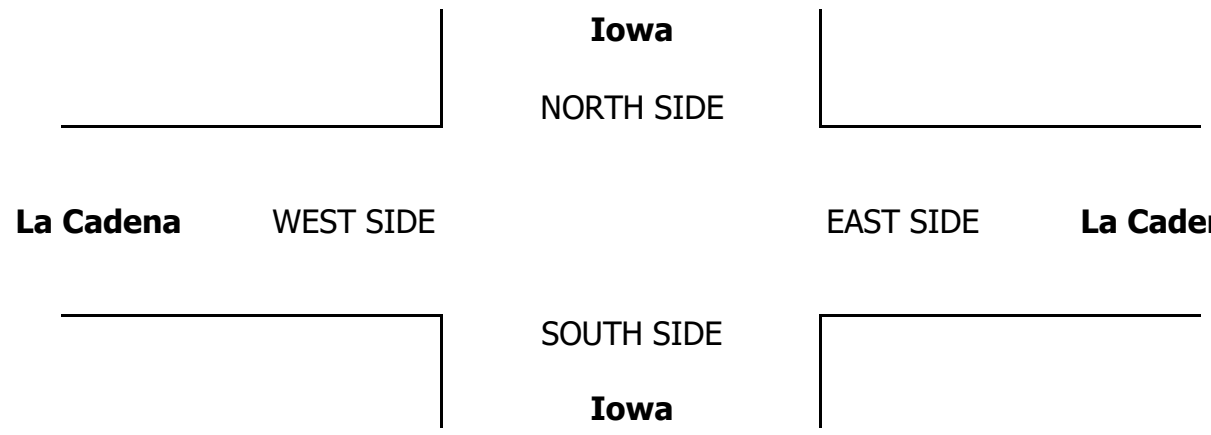
CLASS 1:	NOTES:
PASSENGER VEHICLES	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	11	123	0	0	121	156	22	0	26	0	0	0	459	0	0	0	0	0
7:15 AM	15	126	0	0	94	169	18	0	14	0	0	0	436	0	0	0	0	0
7:30 AM	17	83	0	0	108	209	17	0	18	0	0	0	452	0	0	0	0	0
7:45 AM	7	88	0	0	98	183	30	0	13	0	0	0	419	0	0	0	0	0
8:00 AM	12	70	0	0	63	149	10	0	11	0	0	0	315	0	0	0	0	0
8:15 AM	19	70	0	0	42	113	11	0	7	0	0	0	262	0	0	0	0	0
8:30 AM	4	47	0	0	31	100	10	0	16	0	0	0	208	0	0	0	0	0
8:45 AM	12	48	0	0	36	101	15	0	18	0	0	0	230	1	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
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	97	655	0	0	593	1,180	133	0	123	0	0	0	2,781	1	0	0	0	1
APPROACH %	13%	87%	0%	0%	33%	67%	52%	0%	48%	0%	0%	0%						
APP/DEPART	752	/	788	1,773	/	717	256	/	0	0	/	1,276	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	50	420	0	0	421	717	87	0	71	0	0	0	1,766					
APPROACH %	11%	89%	0%	0%	37%	63%	55%	0%	45%	0%	0%	0%						
PEAK HR FACTOR		0.833			0.897			0.823			0.000		0.962					
APP/DEPART	470	/	507	1,138	/	492	158	/	0	0	/	767	0					
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	6	157	0	0	77	230	59	0	28	0	0	0	557	0	0	0	0	0
4:15 PM	17	120	0	0	63	184	45	0	23	0	0	0	452	0	0	0	0	0
4:30 PM	15	140	0	0	56	180	64	0	39	0	0	0	494	0	0	0	0	0
4:45 PM	14	141	0	0	64	187	70	0	35	0	0	0	511	0	0	0	0	0
5:00 PM	17	131	0	0	61	214	78	0	43	0	0	0	544	0	0	0	0	0
5:15 PM	8	136	0	0	79	190	78	0	23	0	0	0	514	0	0	0	0	0
5:30 PM	8	136	0	0	73	163	73	0	20	0	0	0	473	0	0	0	0	0
5:45 PM	13	119	0	0	74	218	62	0	15	0	0	0	501	0	0	0	0	0
VOLUMES	98	1,080	0	0	547	1,566	529	0	226	0	0	0	4,046	0	0	0	0	0
APPROACH %	8%	92%	0%	0%	26%	74%	70%	0%	30%	0%	0%	0%						
APP/DEPART	1,178	/	1,609	2,113	/	773	755	/	0	0	/	1,664	0					
BEGIN PEAK HR		4:30 PM																
VOLUMES	54	548	0	0	260	771	290	0	140	0	0	0	2,063					
APPROACH %	9%	91%	0%	0%	25%	75%	67%	0%	33%	0%	0%	0%						
PEAK HR FACTOR		0.971			0.937			0.888			0.000		0.948					
APP/DEPART	602	/	838	1,031	/	400	430	/	0	0	/	825	0					

AM / PM



INTERSECTION TURNING MOVEMENT COUNTS

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

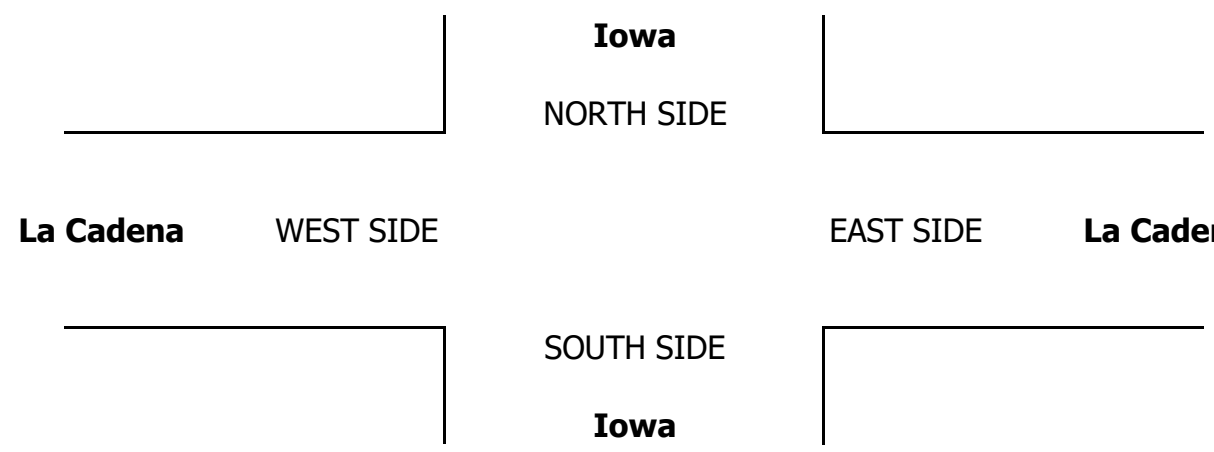
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

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

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	2	6	0	0	4	7	1	0	3	0	0	0	23	0	0	0	0	0
7:15 AM	3	9	0	0	5	14	1	0	5	0	0	0	37	0	0	0	0	0
7:30 AM	2	6	0	0	7	12	1	0	4	0	0	0	32	0	0	0	0	0
7:45 AM	5	11	0	0	6	8	1	0	2	0	0	0	33	0	0	0	0	0
8:00 AM	2	9	0	0	6	6	2	0	2	0	0	0	27	0	0	0	0	0
8:15 AM	7	7	0	0	4	9	2	0	3	0	0	0	32	0	0	0	0	0
8:30 AM	1	8	0	0	3	12	2	0	4	0	0	0	30	0	0	0	0	0
8:45 AM	5	10	0	0	4	8	2	0	2	0	0	0	31	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	27	66	0	0	39	76	12	0	25	0	0	0	245	0	0	0	0	0
APPROACH %	29%	71%	0%	0%	34%	66%	32%	0%	68%	0%	0%	0%						
APP/DEPART	93	/	78	115	/	64	37	/	0	0	/	103	0					
BEGIN PEAK HR	7:15 AM																	
VOLUMES	12	35	0	0	24	40	5	0	13	0	0	0	129					
APPROACH %	26%	74%	0%	0%	38%	63%	28%	0%	72%	0%	0%	0%						
PEAK HR FACTOR	0.734			0.842			0.750			0.000			0.872					
APP/DEPART	47	/	40	64	/	37	18	/	0	0	/	52	0					
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	3	13	0	0	5	9	4	0	1	0	0	0	35	0	0	0	0	0
4:15 PM	3	8	0	0	4	7	1	0	2	0	0	0	25	0	0	0	0	0
4:30 PM	3	11	0	0	6	11	4	0	2	0	0	0	37	0	0	0	0	0
4:45 PM	4	8	0	0	5	9	3	0	2	0	0	0	31	0	0	0	0	0
5:00 PM	2	7	0	0	4	12	1	0	1	0	0	0	27	0	0	0	0	0
5:15 PM	3	7	0	0	4	7	4	0	2	0	0	0	27	0	0	0	0	0
5:30 PM	2	9	0	0	3	5	4	0	1	0	0	0	24	0	0	0	0	0
5:45 PM	3	7	0	0	6	6	3	0	1	0	0	0	26	0	0	0	0	0
VOLUMES	23	70	0	0	37	66	24	0	12	0	0	0	232	0	0	0	0	0
APPROACH %	25%	75%	0%	0%	36%	64%	67%	0%	33%	0%	0%	0%						
APP/DEPART	93	/	94	103	/	49	36	/	0	0	/	89	0					
BEGIN PEAK HR	4:00 PM																	
VOLUMES	13	40	0	0	20	36	12	0	7	0	0	0	128					
APPROACH %	25%	75%	0%	0%	36%	64%	63%	0%	37%	0%	0%	0%						
PEAK HR FACTOR	0.828			0.824			0.792			0.000			0.865					
APP/DEPART	53	/	52	56	/	27	19	/	0	0	/	49	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

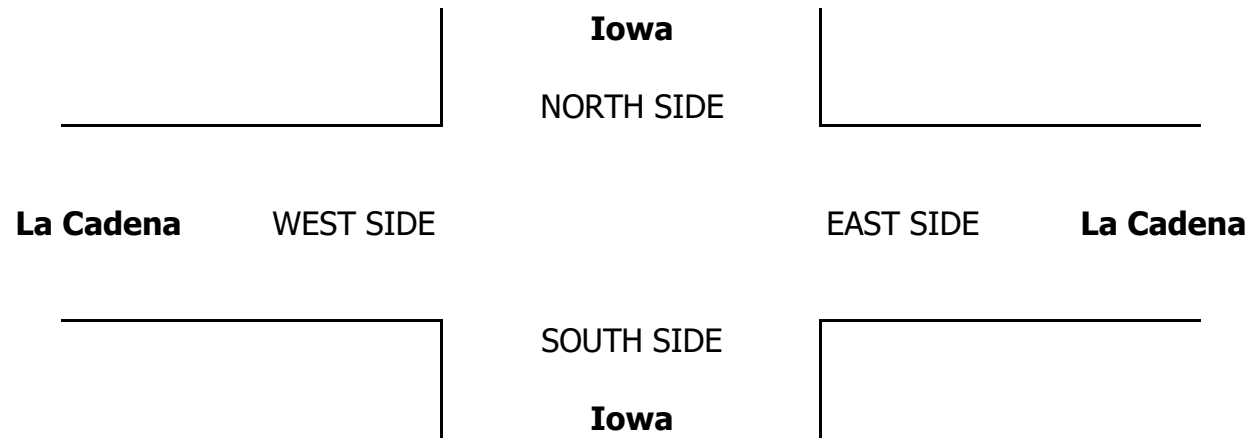
CLASS 3:
3-AXLE TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
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E ►
S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	1	0	0	0	0	1	1	0	0	0	0	0	3	0	0	0	0	0
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	7:30 AM	2	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0
	7:45 AM	0	2	0	0	0	1	1	0	0	0	0	0	4	0	0	0	0	0
	8:00 AM	1	2	0	0	0	3	0	0	0	0	0	0	6	0	0	0	0	0
	8:15 AM	0	0	0	0	2	1	1	0	0	0	0	0	4	0	0	0	0	0
	8:30 AM	1	0	0	0	2	1	1	0	0	0	0	0	5	0	0	0	0	0
	8:45 AM	0	4	0	0	2	2	1	0	1	0	0	0	10	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	5	8	0	0	7	9	6	0	1	0	0	0	36	0	0	0	0	0
	APPROACH %	38%	62%	0%	0%	44%	56%	86%	0%	14%	0%	0%	0%						
	APP/DEPART	13	/	14	16	/	8	7	/	0	0	/	14	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	2	6	0	0	6	7	3	0	1	0	0	0	25					
	APPROACH %	25%	75%	0%	0%	46%	54%	75%	0%	25%	0%	0%	0%						
	PEAK HR FACTOR		0.500			0.813			0.500			0.000		0.625					
	APP/DEPART	8	/	9	13	/	7	4	/	0	0	/	9	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	1	4	0	0	3	1	0	0	0	0	0	0	9	0	0	0	0	0
	4:15 PM	0	0	0	0	0	2	0	0	1	0	0	0	3	0	0	0	0	0
	4:30 PM	0	1	0	0	2	5	1	0	0	0	0	0	9	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	5:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0
	5:15 PM	0	1	0	0	0	3	3	0	1	0	0	0	8	0	0	0	0	0
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	1	8	0	0	5	13	5	0	2	0	0	0	34	0	0	0	0	0
	APPROACH %	11%	89%	0%	0%	28%	72%	71%	0%	29%	0%	0%	0%						
	APP/DEPART	9	/	13	18	/	7	7	/	0	0	/	14	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	1	5	0	0	5	9	1	0	1	0	0	0	22					
	APPROACH %	17%	83%	0%	0%	36%	64%	50%	0%	50%	0%	0%	0%						
	PEAK HR FACTOR		0.300			0.500			0.500			0.000		0.611					
	APP/DEPART	6	/	6	14	/	6	2	/	0	0	/	10	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

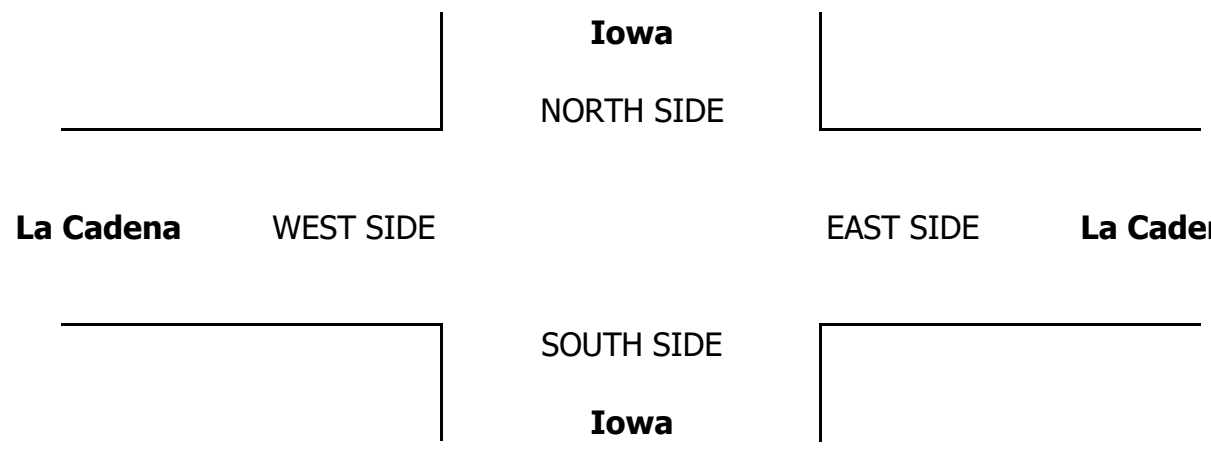
CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	4	0	0	2	6	0	0	2	0	0	0	14	0	0	0	0	0
	7:15 AM	0	7	0	0	2	4	0	0	1	0	0	0	14	0	0	0	0	0
	7:30 AM	1	3	0	0	1	2	0	0	0	0	0	0	7	0	0	0	0	0
	7:45 AM	0	0	0	0	1	4	0	0	0	0	0	0	5	0	0	0	0	0
	8:00 AM	1	4	0	0	6	6	1	0	0	0	0	0	18	0	0	0	0	0
	8:15 AM	0	5	0	0	0	1	0	0	0	0	0	0	6	0	0	0	0	0
	8:30 AM	1	7	0	0	1	2	2	0	1	0	0	0	14	0	0	0	0	0
	8:45 AM	0	8	0	0	3	2	0	0	0	0	0	0	13	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	3	38	0	0	16	27	3	0	4	0	0	0	91	0	0	0	0	0
	APPROACH %	7%	93%	0%	0%	37%	63%	43%	0%	57%	0%	0%	0%						
	APP/DEPART	41	/	41	43	/	20	7	/	0	0	/	30	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	2	24	0	0	10	11	3	0	1	0	0	0	51					
	APPROACH %	8%	92%	0%	0%	48%	52%	75%	0%	25%	0%	0%	0%						
	PEAK HR FACTOR		0.813			0.438			0.333			0.000		0.708					
	APP/DEPART	26	/	27	21	/	11	4	/	0	0	/	13	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	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	4:15 PM	0	2	0	0	1	4	0	0	0	0	0	0	7	0	0	0	0	0
	4:30 PM	0	3	0	0	1	1	0	0	1	0	0	0	6	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	5:00 PM	0	1	0	0	1	1	0	0	1	0	0	0	4	0	0	0	0	0
	5:15 PM	0	3	0	0	1	2	0	0	0	0	0	0	6	0	0	0	0	0
	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
	5:45 PM	0	3	0	0	3	2	0	0	0	0	0	0	8	0	0	0	0	0
	VOLUMES	0	13	0	0	8	12	0	0	2	0	0	0	35	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	40%	60%	0%	0%	100%	0%	0%	0%						
	APP/DEPART	13	/	13	20	/	10	2	/	0	0	/	12	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	8	0	0	6	5	0	0	1	0	0	0	20					
	APPROACH %	0%	100%	0%	0%	55%	45%	0%	0%	100%	0%	0%	0%						
	PEAK HR FACTOR		0.667			0.550			0.250			0.000		0.625					
	APP/DEPART	8	/	8	11	/	7	1	/	0	0	/	5	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

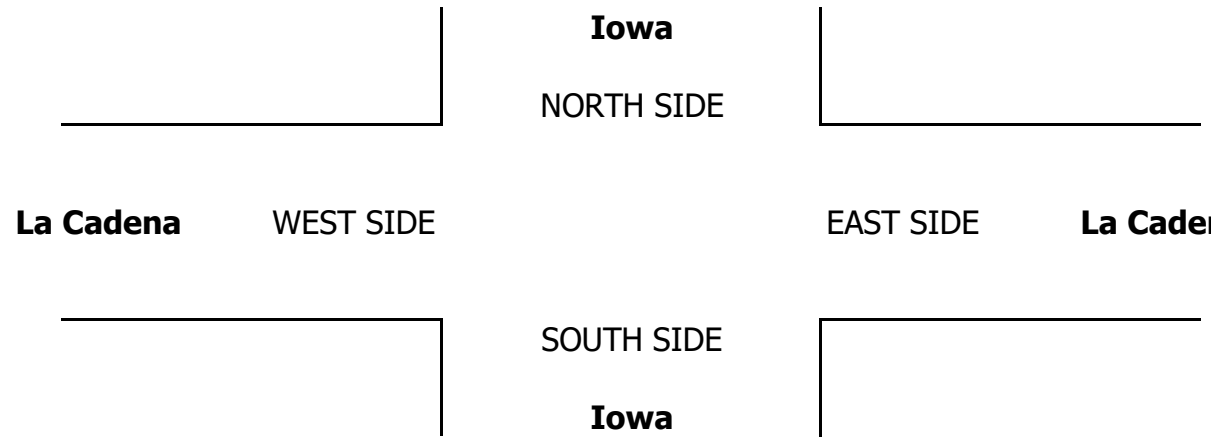
AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 2	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	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
	7:30 AM	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
	8:00 AM	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
	8:30 AM	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
	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	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					
	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
	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	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
	4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
	5:00 PM	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
	5:30 PM	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
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		3:45 PM																
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1					
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250					
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

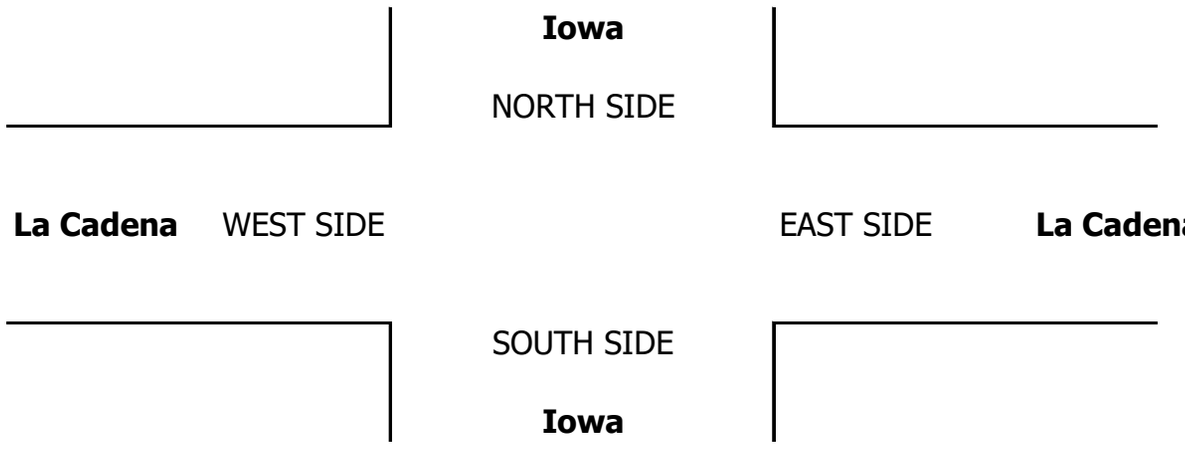
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	5
	EAST & WEST:	La Cadena	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

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

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND La Cadena			WESTBOUND La Cadena				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1	1	X	X	1	2	1	X	1	X	X	X						
7:00 AM	0	1	0	0	0	1	3	0	0	0	0	0	5	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
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	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	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
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	0	2	0	0	0	2	5	0	0	0	0	0	9	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
APP/DEPART	2	/	7	2	/	0	5	/	0	0	/	2	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	0	1	0	0	0	2	4	0	0	0	0	0	7					
APPROACH %	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.250			0.500			0.333			0.000		0.350					
APP/DEPART	1	/	5	2	/	0	4	/	0	0	/	2	0					
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	0	1	0	0	0	0	0	0	0	0	0	0	1	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
4:30 PM	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	1	0	0	0	0	0	0	0	2	0	0	0	0	0
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	2	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
5:30 PM	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
VOLUMES	1	2	0	0	1	1	0	0	0	0	0	0	5	0	0	0	0	0
APPROACH %	33%	67%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%						
APP/DEPART	3	/	2	2	/	1	0	/	0	0	/	2	0					
BEGIN PEAK HR		4:15 PM																
VOLUMES	1	1	0	0	1	1	0	0	0	0	0	0	4					
APPROACH %	50%	50%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.500			0.500			0.000			0.000		0.500					
APP/DEPART	2	/	1	2	/	1	0	/	0	0	/	2	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Tue, Oct 16, 18

LOCATION: Colton
NORTH & SOUTH: 9th
EAST & WEST: I-10 EB Ramps

PROJECT #: SC1922
LOCATION #: 6
CONTROL: STOP ALL

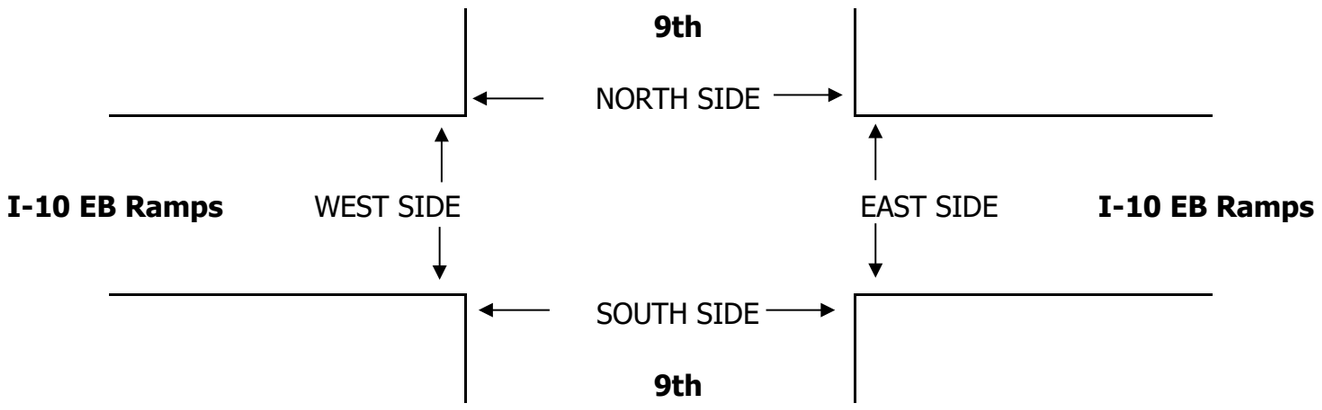
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W E ►
S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND 9th			SOUTHBOUND 9th			EASTBOUND I-10 EB Ramps			WESTBOUND I-10 EB Ramps				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 1	ST X	SR X	EL 0	ET 1	ER X	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	52	0	0	34	3	0	0	0	0	89	0	0	0	0	0
	7:15 AM	0	0	0	79	0	0	38	0	0	0	0	0	117	0	1	0	0	1
	7:30 AM	0	0	0	106	0	0	43	1	0	0	0	0	150	0	0	0	0	0
	7:45 AM	0	0	0	89	0	0	34	0	0	0	0	0	123	0	1	0	0	1
	8:00 AM	0	0	0	68	0	0	30	2	0	0	0	0	100	0	0	0	0	0
	8:15 AM	0	0	0	54	0	0	48	0	0	0	0	0	102	0	0	0	0	0
	8:30 AM	0	0	0	52	0	0	51	0	0	0	0	0	103	0	0	0	0	0
	8:45 AM	0	0	0	62	0	0	35	0	0	0	0	0	97	0	0	0	0	0
	VOLUMES	0	0	0	562	0	0	313	6	0	0	0	0	881	0	2	0	0	2
	APPROACH %	0%	0%	0%	100%	0%	0%	98%	2%	0%	0%	0%	0%						
	APP/DEPART	0	/	315	562	/	0	319	/	566	0	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	342	0	0	145	3	0	0	0	0	490					
	APPROACH %	0%	0%	0%	100%	0%	0%	98%	2%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.807			0.841			0.000		0.817					
	APP/DEPART	0	/	147	342	/	0	148	/	343	0	/	0	0					
PM	4:00 PM	0	0	0	80	0	0	58	0	0	0	0	0	138	0	1	0	0	1
	4:15 PM	0	0	0	79	0	0	67	1	0	0	0	0	147	0	0	0	0	0
	4:30 PM	0	0	0	54	0	0	67	1	0	0	0	0	122	0	0	0	0	0
	4:45 PM	0	0	0	56	0	0	59	0	0	0	0	0	115	0	3	0	0	3
	5:00 PM	0	0	0	71	0	0	50	2	0	0	0	0	123	0	0	0	0	0
	5:15 PM	0	0	0	67	0	0	67	0	0	0	0	0	134	0	0	0	0	0
	5:30 PM	0	0	0	50	0	0	61	0	0	0	0	0	111	0	0	0	0	0
	5:45 PM	0	0	0	64	0	0	51	2	0	0	0	0	117	0	0	0	0	0
	VOLUMES	0	0	0	521	0	0	480	6	0	0	0	0	1,007	0	4	0	0	4
	APPROACH %	0%	0%	0%	100%	0%	0%	99%	1%	0%	0%	0%	0%						
	APP/DEPART	0	/	484	521	/	0	486	/	523	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	269	0	0	251	2	0	0	0	0	522					
	APPROACH %	0%	0%	0%	100%	0%	0%	99%	1%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.841			0.930			0.000		0.888					
	APP/DEPART	0	/	255	269	/	0	253	/	267	0	/	0	0					



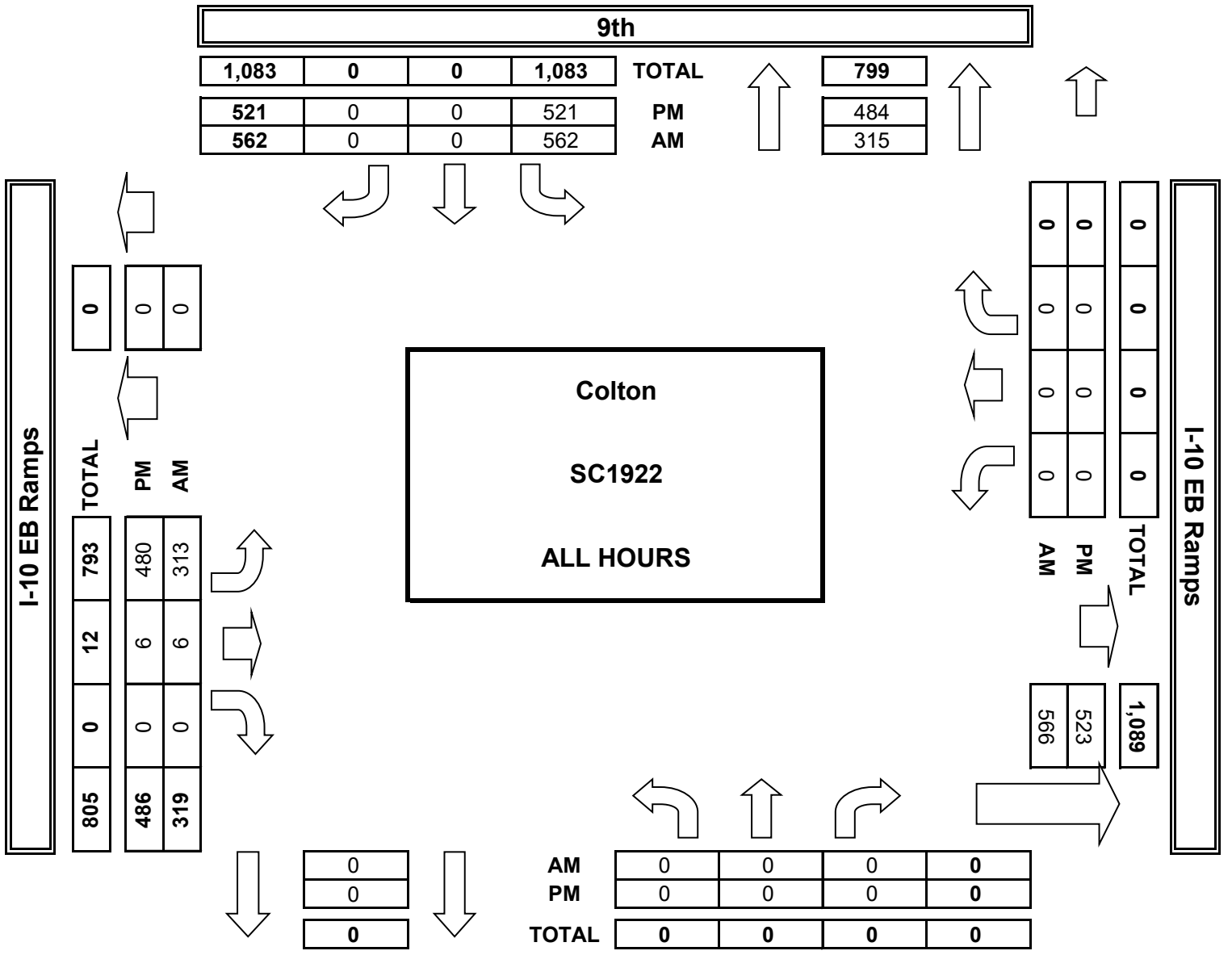
		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	1	0	1	2
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	1	0	1	2
	AM BEGIN PEAK HR	7:15 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	2	2
	4:45 PM	0	0	0	2	2
	5:00 PM	0	0	0	1	1
	5:15 PM	0	0	0	2	2
	5:30 PM	0	0	0	0	0
	5:45 PM	0	1	1	2	4
	TOTAL	0	1	1	9	11
	PM BEGIN PEAK HR	4:00 PM				

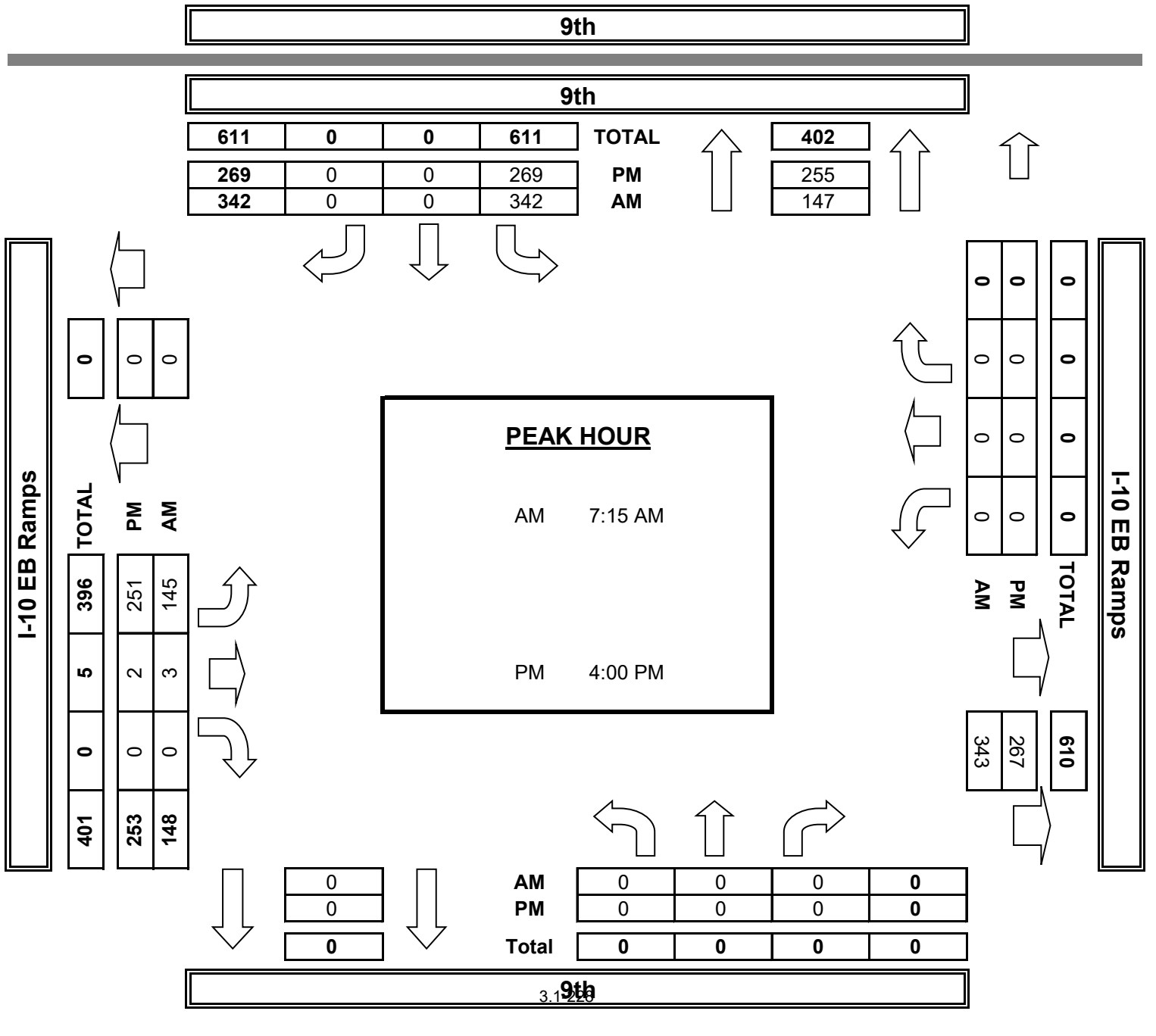
	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	1	0	1	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	1	0	1	2
AM BEGIN PEAK HR	0	1	0	1	2
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
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	1	1	2	4
TOTAL	0	1	1	2	4
PM BEGIN PEAK HR	0	0	0	0	0

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

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
Tue, Oct 16, 18	LOCATION:	Colton	PROJECT #:	SC1922
	NORTH & SOUTH:	9th	LOCATION #:	7
	EAST & WEST:	I-10 WB Off-Ramp	CONTROL:	STOP E/W

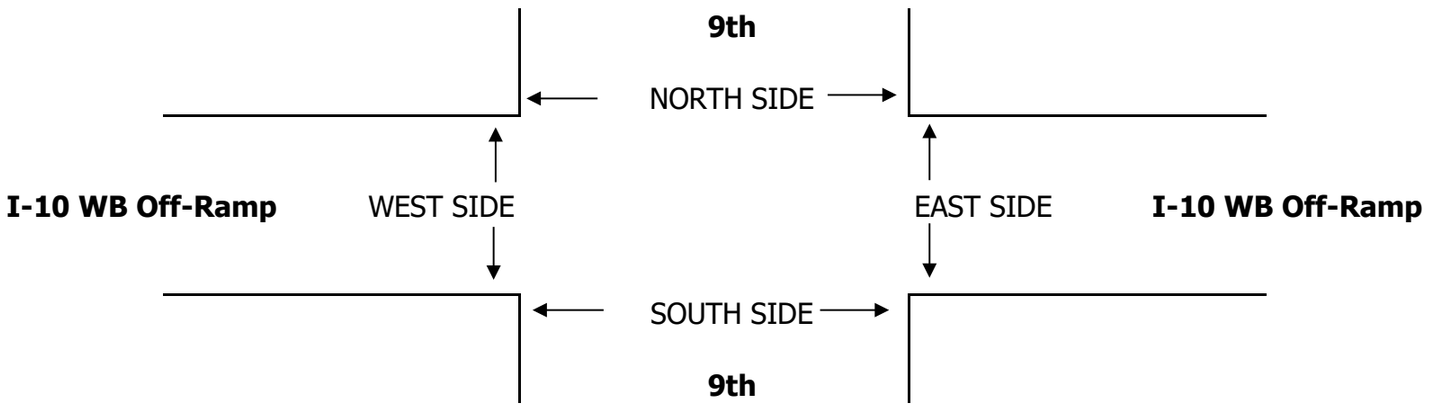
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND 9th			SOUTHBOUND 9th			EASTBOUND I-10 WB Off-Ramp			WESTBOUND I-10 WB Off-Ramp				U-TURNS				
	LANES:	NL 0	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	34	0	0	53	1	0	0	0	0	1	101	190	0	0	0	0	0
	7:15 AM	0	39	0	0	80	0	0	0	0	1	0	98	218	0	1	0	0	1
	7:30 AM	1	41	0	0	103	0	0	0	0	1	1	97	244	0	0	0	0	0
	7:45 AM	0	35	0	0	89	0	0	0	0	0	0	103	227	0	0	0	0	0
	8:00 AM	0	31	0	0	67	1	1	0	1	1	1	88	191	0	0	0	0	0
	8:15 AM	0	47	0	0	54	0	0	0	0	0	3	78	182	0	0	0	0	0
	8:30 AM	0	50	0	0	50	0	0	0	0	3	1	44	148	0	0	0	0	0
	8:45 AM	0	35	0	0	59	1	0	0	1	2	0	64	162	0	1	0	0	1
	VOLUMES	1	312	0	0	555	3	1	0	2	8	7	673	1,564	0	2	0	0	2
	APPROACH %	0%	100%	0%	0%	99%	1%	33%	0%	67%	1%	1%	98%						
	APP/DEPART	313	/	988	560	/	565	3	/	0	688	/	11	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	1	146	0	0	339	1	1	0	1	3	2	386	881					
	APPROACH %	1%	99%	0%	0%	99%	0%	50%	0%	50%	1%	1%	99%						
	PEAK HR FACTOR		0.875			0.828			0.250			0.949		0.903					
	APP/DEPART	147	/	534	341	/	343	2	/	0	391	/	4	0					
PM	4:00 PM	2	56	0	0	75	1	0	0	2	1	0	70	207	0	0	0	0	0
	4:15 PM	0	67	0	0	76	0	1	0	0	3	1	82	230	0	1	0	0	1
	4:30 PM	1	66	0	0	53	2	0	0	1	1	0	85	209	0	0	0	0	0
	4:45 PM	1	61	0	0	56	2	0	0	1	0	1	84	206	0	0	0	0	0
	5:00 PM	1	50	0	0	69	0	0	0	1	1	0	94	216	0	0	0	0	0
	5:15 PM	1	65	0	0	62	2	0	0	3	2	0	92	227	0	0	0	0	0
	5:30 PM	0	60	0	0	51	2	0	0	0	2	0	85	200	0	0	0	0	0
	5:45 PM	0	51	0	0	63	2	0	0	0	1	2	59	178	0	0	0	0	0
	VOLUMES	6	476	0	0	505	11	1	0	8	11	4	651	1,674	0	1	0	0	1
	APPROACH %	1%	99%	0%	0%	98%	2%	11%	0%	89%	2%	1%	98%						
	APP/DEPART	482	/	1,129	517	/	524	9	/	0	666	/	21	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	3	244	0	0	254	4	1	0	3	5	2	345	862					
	APPROACH %	1%	99%	0%	0%	98%	2%	25%	0%	75%	1%	1%	98%						
	PEAK HR FACTOR		0.922			0.841			1.000			0.926		0.933					
	APP/DEPART	247	/	591	259	/	262	4	/	0	352	/	9	0					



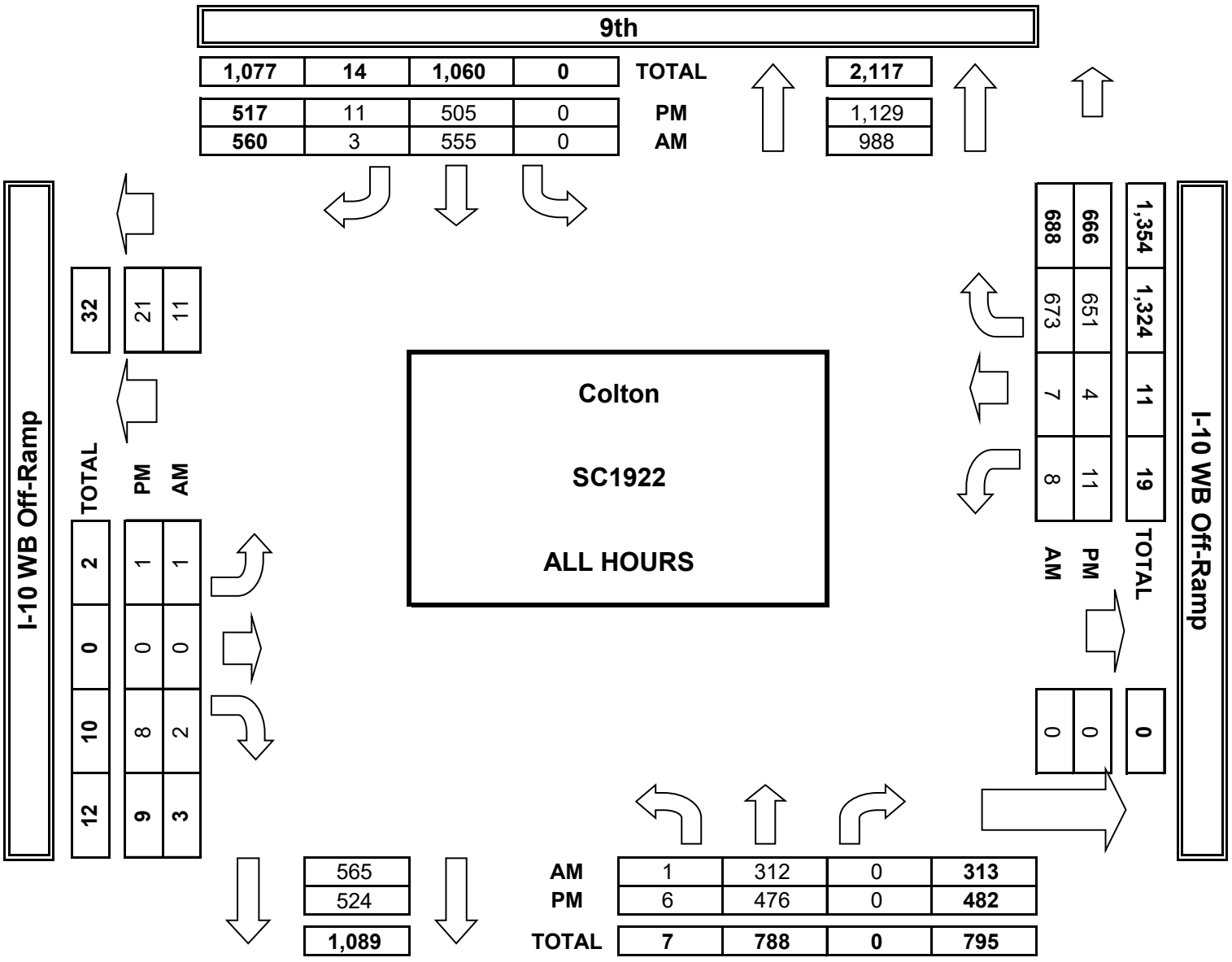
		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	2	1	3
	7:15 AM	0	0	0	0	0
	7:30 AM	1	0	0	1	2
	7:45 AM	0	0	0	2	2
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	1	0	2	4	7
	AM BEGIN PEAK HR	7:15 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	1	1	2
	4:45 PM	0	0	0	1	1
	5:00 PM	0	0	0	1	1
	5:15 PM	1	1	0	3	5
	5:30 PM	0	1	2	0	3
	5:45 PM	1	0	1	2	4
	TOTAL	2	2	4	8	16
	PM BEGIN PEAK HR	4:15 PM				

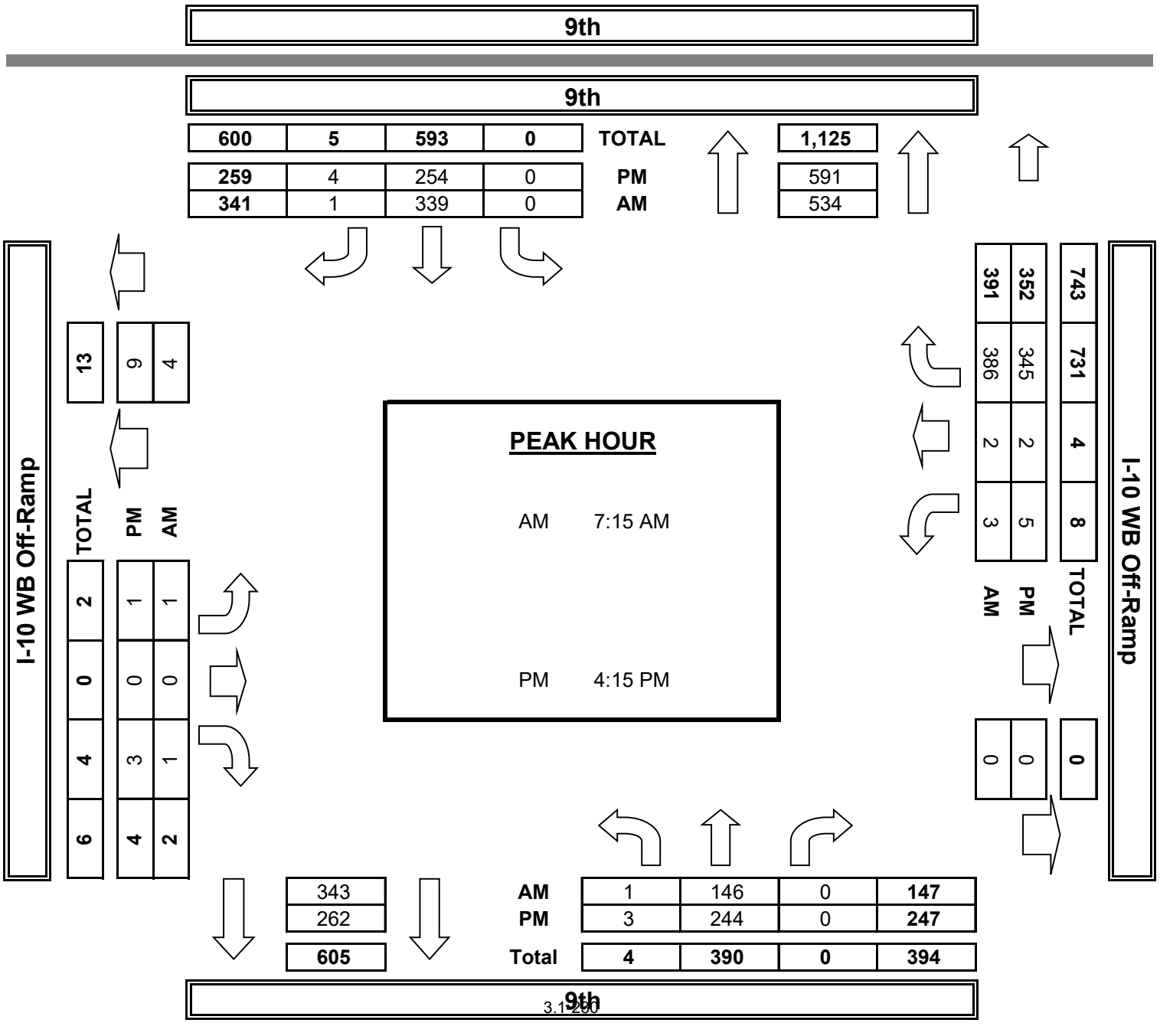
		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	2	1	3
	7:15 AM	0	0	0	0	0
	7:30 AM	1	0	0	1	2
	7:45 AM	0	0	0	2	2
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	1	0	2	4	7
	AM BEGIN PEAK HR	1	0	0	3	4
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	1	1
	5:15 PM	1	1	0	0	2
	5:30 PM	0	1	2	0	3
	5:45 PM	1	0	1	2	4
	TOTAL	2	2	3	3	10
	PM BEGIN PEAK HR	0	0	0	1	1

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
	AM BEGIN PEAK HR					
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	1	1	2
	4:45 PM	0	0	0	1	1
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	3	3
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	1	5	6
	PM BEGIN PEAK HR					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, Dec 12, 18

LOCATION: Colton
NORTH & SOUTH: Iowa
EAST & WEST: I-215 Ramp

PROJECT #: SC
LOCATION #: 8
CONTROL: SIGNAL

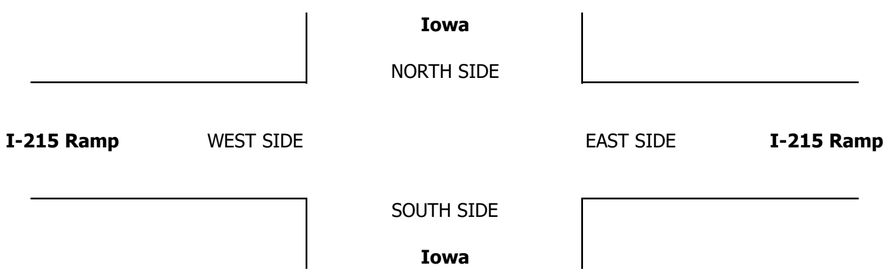
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

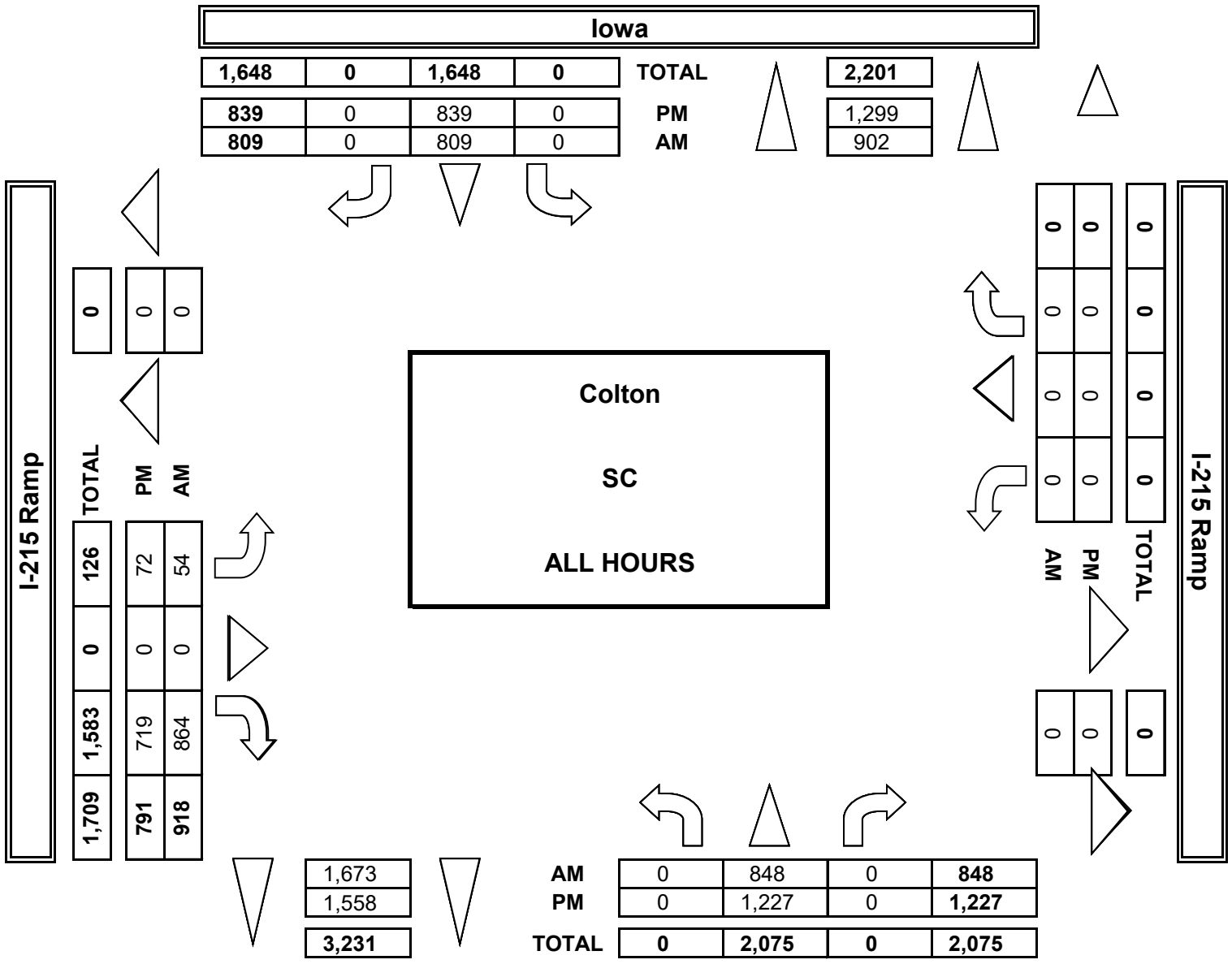
		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	154	0	0	154	0	7	0	106	0	0	0	421	0	0	0	0	0
	7:15 AM	0	153	0	0	111	0	4	0	134	0	0	0	402	0	0	0	0	0
	7:30 AM	0	104	0	0	154	0	7	0	114	0	0	0	379	0	0	0	0	0
	7:45 AM	0	99	0	0	118	0	7	0	134	0	0	0	358	0	0	0	0	0
	8:00 AM	0	88	0	0	83	0	9	0	121	0	0	0	301	0	0	0	0	0
	8:15 AM	0	97	0	0	52	0	10	0	111	0	0	0	270	0	0	0	0	0
	8:30 AM	0	62	0	0	62	0	4	0	67	0	0	0	195	0	0	0	0	0
	8:45 AM	0	91	0	0	75	0	6	0	77	0	0	0	249	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	0	848	0	0	809	0	54	0	864	0	0	0	2,575	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	6%	0%	94%	0%	0%	0%						
	APP/DEPART	848	/	902	809	/	1,673	918	/	0	0	/	0	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	510	0	0	537	0	25	0	488	0	0	0	1,560					
	APPROACH %	0%	100%	0%	0%	100%	0%	5%	0%	95%	0%	0%	0%						
	PEAK HR FACTOR		0.828			0.872			0.910			0.000		0.926					
	APP/DEPART	510	/	535	537	/	1,025	513	/	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
	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	0	174	0	0	120	0	8	0	72	0	0	0	374	0	0	0	0	0
	4:15 PM	0	147	0	0	93	0	10	0	92	0	0	0	342	0	0	0	0	0
	4:30 PM	0	156	0	0	106	0	15	0	105	0	0	0	382	0	0	0	0	0
	4:45 PM	0	166	0	0	104	0	11	0	100	0	0	0	381	0	0	0	0	0
	5:00 PM	0	142	0	0	106	0	5	0	85	0	0	0	338	0	0	0	0	0
	5:15 PM	0	155	0	0	113	0	7	0	98	0	0	0	373	0	0	0	0	0
	5:30 PM	0	148	0	0	104	0	11	0	89	0	0	0	352	0	0	0	0	0
	5:45 PM	0	139	0	0	93	0	5	0	78	0	0	0	315	0	0	0	0	0
	VOLUMES	0	1,227	0	0	839	0	72	0	719	0	0	0	2,857	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	9%	0%	91%	0%	0%	0%						
	APP/DEPART	1,227	/	1,299	839	/	1,558	791	/	0	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	643	0	0	423	0	44	0	369	0	0	0	1,479					
	APPROACH %	0%	100%	0%	0%	100%	0%	11%	0%	89%	0%	0%	0%						
	PEAK HR FACTOR		0.924			0.881			0.860			0.000		0.968					
	APP/DEPART	643	/	687	423	/	792	413	/	0	0	/	0	0					

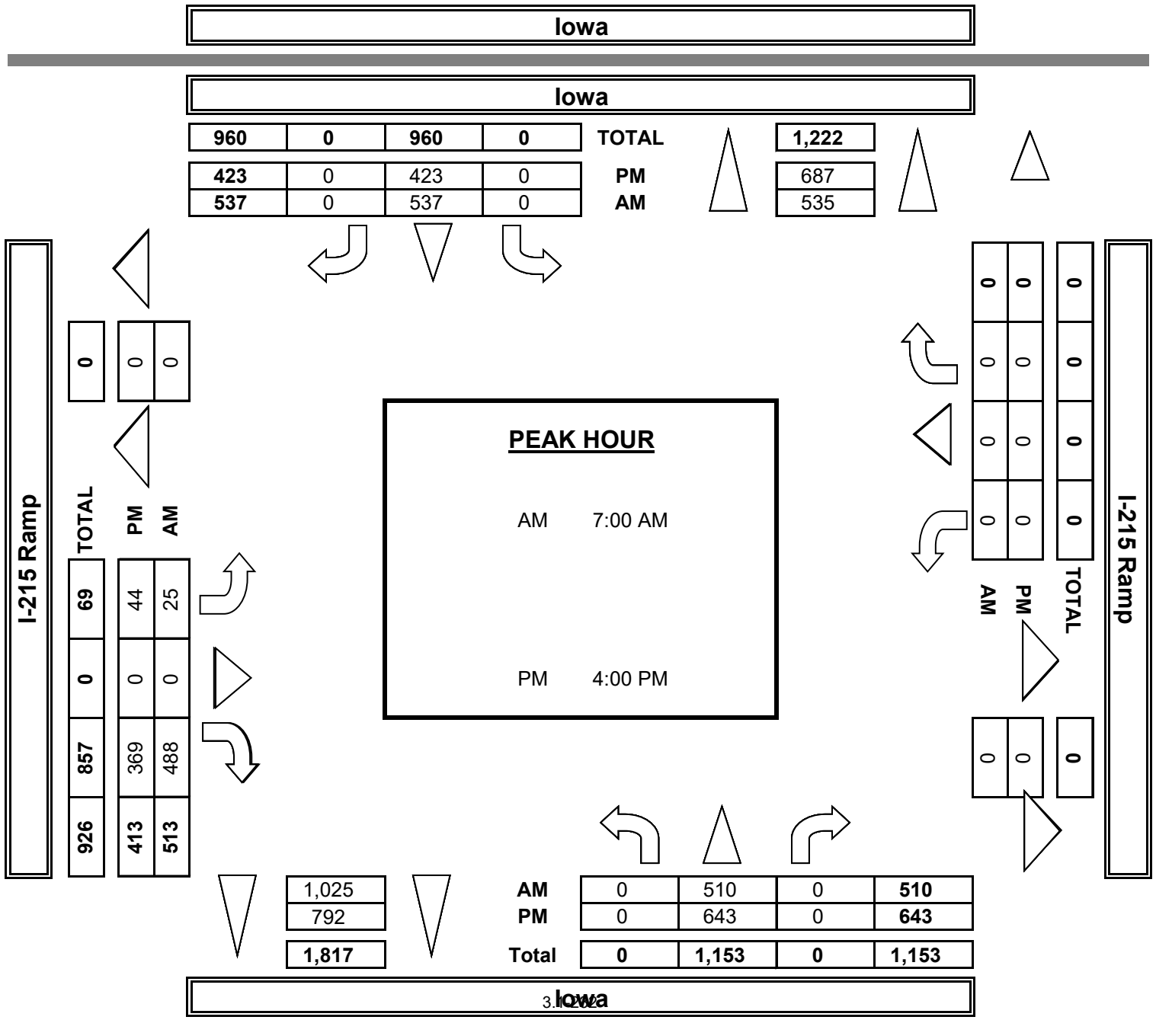


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0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

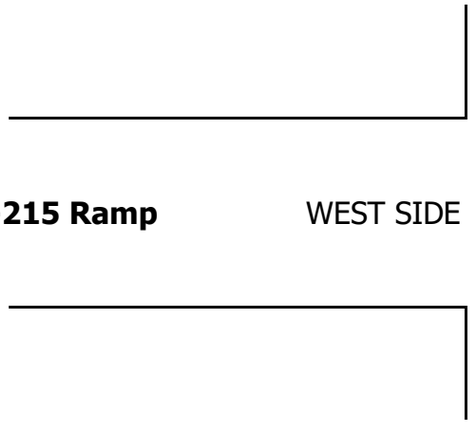
PREPARED BY: AimTD LL

DATE:	LOCATION:	Colton
12/12/18	NORTH & SOUTH:	Iowa
WEDNESDAY	EAST & WEST:	I-215 Ramp

	NOTES:				
PCE	Class	1	2	3	4
Adjusted	Factor	1	1.5	2	3

		NORTHBOUND Iowa			SOUTHBOUNI Iowa	
	LANES:	NL X	NT 1	NR X	SL X	ST 1
AM	7:00 AM	0	170	0	0	168
	7:15 AM	0	174	0	0	123
	7:30 AM	0	117	0	0	161
	7:45 AM	0	109	0	0	125
	8:00 AM	0	104	0	0	98
	8:15 AM	0	112	0	0	55
	8:30 AM	0	82	0	0	72
	8:45 AM	0	117	0	0	89
	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	983	0	0	889
	APPROACH %	0%	100%	0%	0%	100%
	APP/DEPART	983	/	1,046	889	/
	BEGIN PEAK HR		7:00 AM			
	VOLUMES	0	570	0	0	577
	APPROACH %	0%	100%	0%	0%	100%
	PEAK HR FACTOR		0.818			0.858
	APP/DEPART	570	/	598	577	/
	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	189	0	0	129
	4:15 PM	0	157	0	0	99

PM	4:30 PM	0	174	0	0	116
	4:45 PM	0	172	0	0	111
	5:00 PM	0	148	0	0	112
	5:15 PM	0	165	0	0	119
	5:30 PM	0	156	0	0	108
	5:45 PM	0	152	0	0	99
	VOLUMES	0	1,310	0	0	892
	APPROACH %	0%	100%	0%	0%	100%
	APP/DEPART	1,310	/	1,385	892	/
	BEGIN PEAK HR		4:00 PM			
	VOLUMES	0	690	0	0	455
	APPROACH %	0%	100%	0%	0%	100%
	PEAK HR FACTOR		0.915			0.884
	APP/DEPART	690	/	735	455	/



RNING MOVEMENT COUNTS

LC. tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC
LOCATION #: 8
CONTROL: SIGNAL

				AM		▲ N	
5	6			PM			
2	2			MD	◄ W		E ►
				OTHER		S	
				OTHER		▼	

D	EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp			
SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
0	9	0	120	0	0	0	467
0	4	0	138	0	0	0	439
0	7	0	128	0	0	0	413
0	9	0	148	0	0	0	389
0	9	0	132	0	0	0	342
0	11	0	121	0	0	0	299
0	6	0	76	0	0	0	235
0	8	0	84	0	0	0	297
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0 0%	63 6%	0 0%	945 94%	0 0%	0 0%	0 0%	2,880
1,834	1,008	/	0	0	/	0	0
0 0%	29 5%	0 0% 0.899	533 95%	0 0%	0 0% 0.000	0 0%	1,707 0.915
1,109	561	/	0	0	/	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	8	0	83	0	0	0	408
0	10	0	103	0	0	0	369

0	15	0	120	0	0	0	425
0	12	0	109	0	0	0	404
0	5	0	87	0	0	0	351
0	7	0	100	0	0	0	391
0	13	0	99	0	0	0	375
0	5	0	83	0	0	0	338
0	75	0	782	0	0	0	3,059
0%	9%	0%	91%	0%	0%	0%	
1,674	857	/	0	0	/	0	0
0	45	0	415	0	0	0	1,604
0%	10%	0%	90%	0%	0%	0%	
		0.851			0.000		0.945
869	460	/	0	0	/	0	0

Iowa

NORTH SIDE

EAST SIDE **I-215 Ramp**

SOUTH SIDE

Iowa

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

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 1:	NOTES:
PASSENGER VEHICLES	

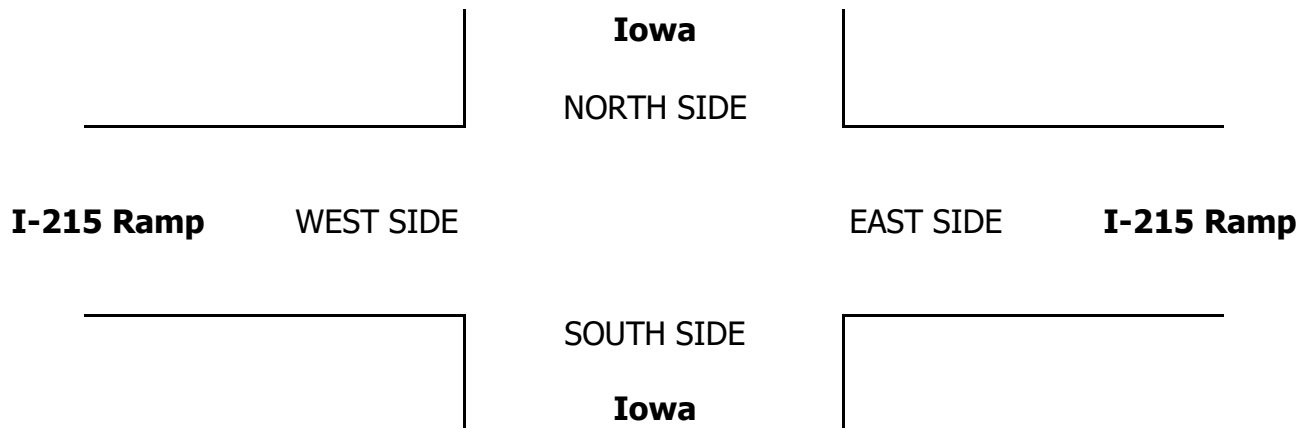
AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	136	0	0	138	0	6	0	93	0	0	0	373	0	0	0	0	0
	7:15 AM	0	132	0	0	97	0	4	0	126	0	0	0	359	0	0	0	0	0
	7:30 AM	0	91	0	0	143	0	7	0	102	0	0	0	343	0	0	0	0	0
	7:45 AM	0	83	0	0	108	0	5	0	122	0	0	0	318	0	0	0	0	0
	8:00 AM	0	74	0	0	73	0	9	0	109	0	0	0	265	0	0	0	0	0
	8:15 AM	0	80	0	0	47	0	8	0	102	0	0	0	237	0	0	0	0	0
	8:30 AM	0	46	0	0	48	0	3	0	61	0	0	0	158	0	0	0	0	0
	8:45 AM	0	64	0	0	63	0	5	0	71	0	0	0	203	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	0	706	0	0	717	0	47	0	786	0	0	0	2,256	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	6%	0%	94%	0%	0%	0%						
	APP/DEPART	706	/	753	717	/	1,503	833	/	0	0	/	0	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	442	0	0	486	0	22	0	443	0	0	0	1,393					
	APPROACH %	0%	100%	0%	0%	100%	0%	5%	0%	95%	0%	0%	0%						
	PEAK HR FACTOR		0.813			0.850			0.894			0.000		0.934					
	APP/DEPART	442	/	464	486	/	929	465	/	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
	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	0	151	0	0	109	0	8	0	59	0	0	0	327	0	0	0	0	0
	4:15 PM	0	135	0	0	85	0	10	0	76	0	0	0	306	0	0	0	0	0
	4:30 PM	0	131	0	0	91	0	15	0	91	0	0	0	328	0	0	0	0	0
	4:45 PM	0	155	0	0	92	0	10	0	87	0	0	0	344	0	0	0	0	0
	5:00 PM	0	134	0	0	101	0	5	0	82	0	0	0	322	0	0	0	0	0
	5:15 PM	0	145	0	0	104	0	7	0	96	0	0	0	352	0	0	0	0	0
	5:30 PM	0	134	0	0	100	0	10	0	80	0	0	0	324	0	0	0	0	0
	5:45 PM	0	124	0	0	90	0	5	0	72	0	0	0	291	0	0	0	0	0
	VOLUMES	0	1,109	0	0	772	0	70	0	643	0	0	0	2,594	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	10%	0%	90%	0%	0%	0%						
	APP/DEPART	1,109	/	1,179	772	/	1,415	713	/	0	0	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	565	0	0	388	0	37	0	356	0	0	0	1,346					
	APPROACH %	0%	100%	0%	0%	100%	0%	9%	0%	91%	0%	0%	0%						
	PEAK HR FACTOR		0.911			0.933			0.927			0.000		0.956					
	APP/DEPART	565	/	602	388	/	744	393	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

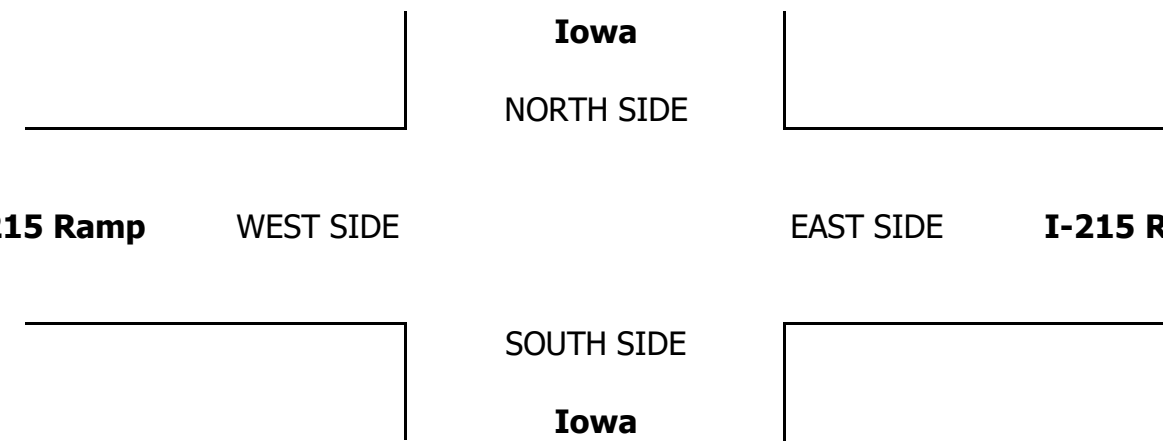
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

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

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	0	12	0	0	12	0	0	0	7	0	0	0	31	0	0	0	0	0
7:15 AM	0	14	0	0	10	0	0	0	8	0	0	0	32	0	0	0	0	0
7:30 AM	0	8	0	0	10	0	0	0	7	0	0	0	25	0	0	0	0	0
7:45 AM	0	13	0	0	9	0	1	0	7	0	0	0	30	0	0	0	0	0
8:00 AM	0	7	0	0	3	0	0	0	8	0	0	0	18	0	0	0	0	0
8:15 AM	0	13	0	0	4	0	2	0	4	0	0	0	23	0	0	0	0	0
8:30 AM	0	7	0	0	11	0	0	0	2	0	0	0	20	0	0	0	0	0
8:45 AM	0	16	0	0	5	0	0	0	3	0	0	0	24	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	0	90	0	0	64	0	3	0	46	0	0	0	203	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	6%	0%	94%	0%	0%	0%						
APP/DEPART	90	/	93	64	/	110	49	/	0	0	/	0	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	0	47	0	0	41	0	1	0	29	0	0	0	118					
APPROACH %	0%	100%	0%	0%	100%	0%	3%	0%	97%	0%	0%	0%						
PEAK HR FACTOR		0.839			0.854			0.938			0.000		0.922					
APP/DEPART	47	/	48	41	/	70	30	/	0	0	/	0	0					
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	0	17	0	0	7	0	0	0	9	0	0	0	33	0	0	0	0	0
4:15 PM	0	9	0	0	6	0	0	0	14	0	0	0	29	0	0	0	0	0
4:30 PM	0	21	0	0	12	0	0	0	8	0	0	0	41	0	0	0	0	0
4:45 PM	0	11	0	0	10	0	0	0	10	0	0	0	31	0	0	0	0	0
5:00 PM	0	6	0	0	3	0	0	0	3	0	0	0	12	0	0	0	0	0
5:15 PM	0	6	0	0	8	0	0	0	0	0	0	0	14	0	0	0	0	0
5:30 PM	0	13	0	0	3	0	0	0	5	0	0	0	21	0	0	0	0	0
5:45 PM	0	11	0	0	0	0	0	0	5	0	0	0	16	0	0	0	0	0
VOLUMES	0	94	0	0	49	0	0	0	54	0	0	0	197	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
APP/DEPART	94	/	94	49	/	103	54	/	0	0	/	0	0					
BEGIN PEAK HR		4:00 PM																
VOLUMES	0	58	0	0	35	0	0	0	41	0	0	0	134					
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
PEAK HR FACTOR		0.690			0.729			0.732			0.000		0.817					
APP/DEPART	58	/	58	35	/	76	41	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

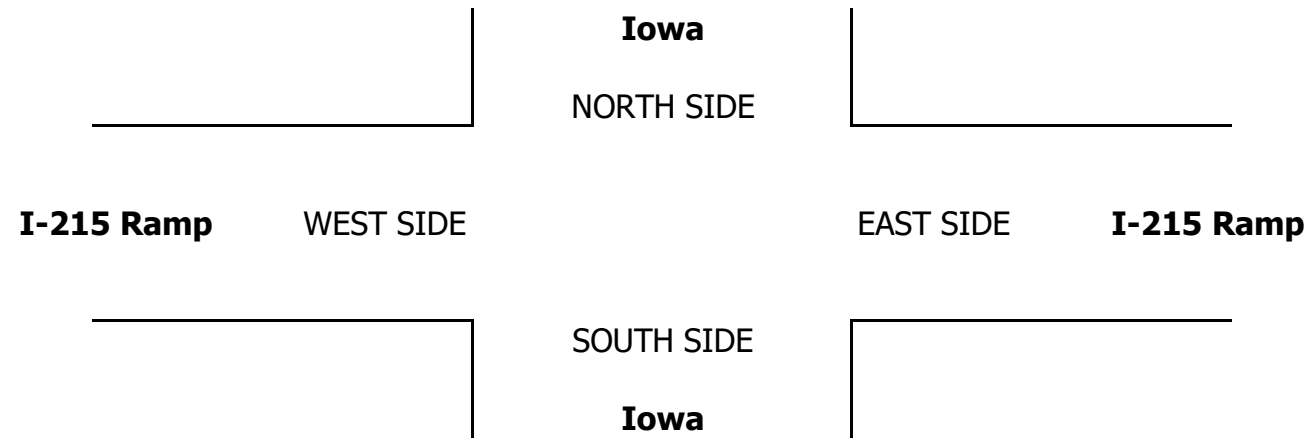
CLASS 3:
3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	0	1	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM	0	3	0	0	0	0	1	0	0	0	0	0	4	0	0	0	0	0
8:00 AM	0	2	0	0	1	0	0	0	1	0	0	0	4	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	0	0
8:30 AM	0	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0
8:45 AM	0	4	0	0	3	0	0	0	1	0	0	0	8	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	0	12	0	0	8	0	1	0	6	0	0	0	27	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	14%	0%	86%	0%	0%	0%						
APP/DEPART	12	/	13	8	/	14	7	/	0	0	/	0	0					
BEGIN PEAK HR		8:00 AM																
VOLUMES	0	7	0	0	7	0	0	0	4	0	0	0	18					
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
PEAK HR FACTOR		0.438			0.583			0.500			0.000		0.563					
APP/DEPART	7	/	7	7	/	11	4	/	0	0	/	0	0					
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	0	5	0	0	3	0	0	0	2	0	0	0	10	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
4:30 PM	0	0	0	0	2	0	0	0	1	0	0	0	3	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	2	0	0	0	3	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
5:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
VOLUMES	0	9	0	0	7	0	0	0	7	0	0	0	23	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
APP/DEPART	9	/	9	7	/	14	7	/	0	0	/	0	0					
BEGIN PEAK HR		4:00 PM																
VOLUMES	0	6	0	0	7	0	0	0	5	0	0	0	18					
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%						
PEAK HR FACTOR		0.300			0.583			0.625			0.000		0.450					
APP/DEPART	6	/	6	7	/	12	5	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

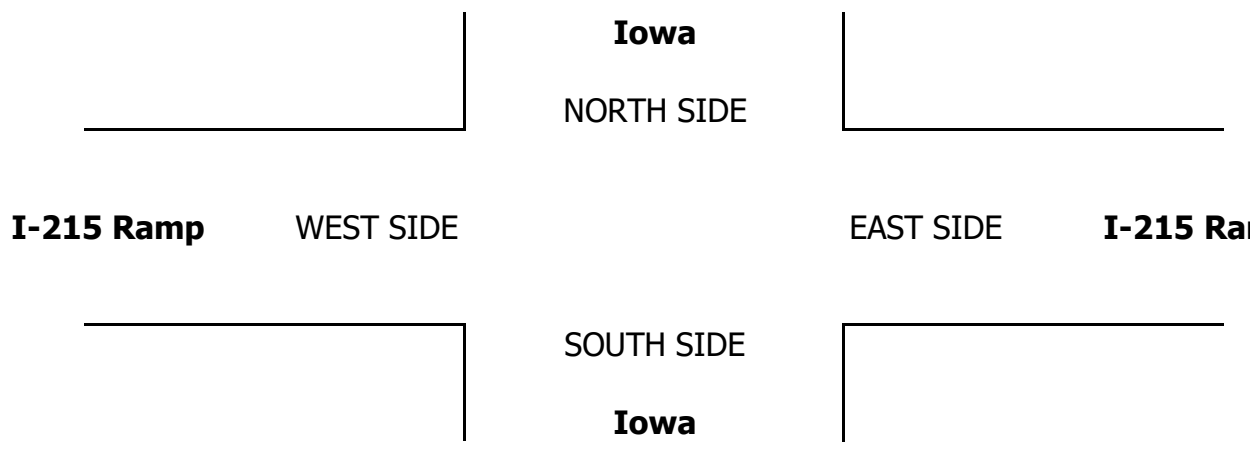
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

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

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	4	0	0	4	0	1	0	4	0	0	0	13	0	0	0	0	0
	7:15 AM	0	7	0	0	3	0	0	0	0	0	0	0	10	0	0	0	0	0
	7:30 AM	0	4	0	0	1	0	0	0	5	0	0	0	10	0	0	0	0	0
	7:45 AM	0	0	0	0	1	0	0	0	5	0	0	0	6	0	0	0	0	0
	8:00 AM	0	5	0	0	6	0	0	0	3	0	0	0	14	0	0	0	0	0
	8:15 AM	0	4	0	0	0	0	0	0	3	0	0	0	7	0	0	0	0	0
	8:30 AM	0	7	0	0	1	0	1	0	4	0	0	0	13	0	0	0	0	0
	8:45 AM	0	7	0	0	4	0	1	0	2	0	0	0	14	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	0	38	0	0	20	0	3	0	26	0	0	0	87	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	10%	0%	90%	0%	0%	0%						
	APP/DEPART	38	/	41	20	/	46	29	/	0	0	/	0	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	23	0	0	11	0	2	0	12	0	0	0	48					
	APPROACH %	0%	100%	0%	0%	100%	0%	14%	0%	86%	0%	0%	0%						
	PEAK HR FACTOR		0.821			0.458			0.700			0.000		0.857					
	APP/DEPART	23	/	25	11	/	23	14	/	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
	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	0	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	0	0
	4:15 PM	0	2	0	0	1	0	0	0	2	0	0	0	5	0	0	0	0	0
	4:30 PM	0	3	0	0	1	0	0	0	5	0	0	0	9	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
	5:00 PM	0	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0
	5:15 PM	0	3	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0
	5:30 PM	0	0	0	0	1	0	1	0	3	0	0	0	5	0	0	0	0	0
	5:45 PM	0	3	0	0	3	0	0	0	1	0	0	0	7	0	0	0	0	0
	VOLUMES	0	12	0	0	10	0	1	0	14	0	0	0	37	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	7%	0%	93%	0%	0%	0%						
	APP/DEPART	12	/	13	10	/	24	15	/	0	0	/	0	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	7	0	0	7	0	1	0	4	0	0	0	19					
	APPROACH %	0%	100%	0%	0%	100%	0%	20%	0%	80%	0%	0%	0%						
	PEAK HR FACTOR		0.583			0.583			0.313			0.000		0.679					
	APP/DEPART	7	/	8	7	/	11	5	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

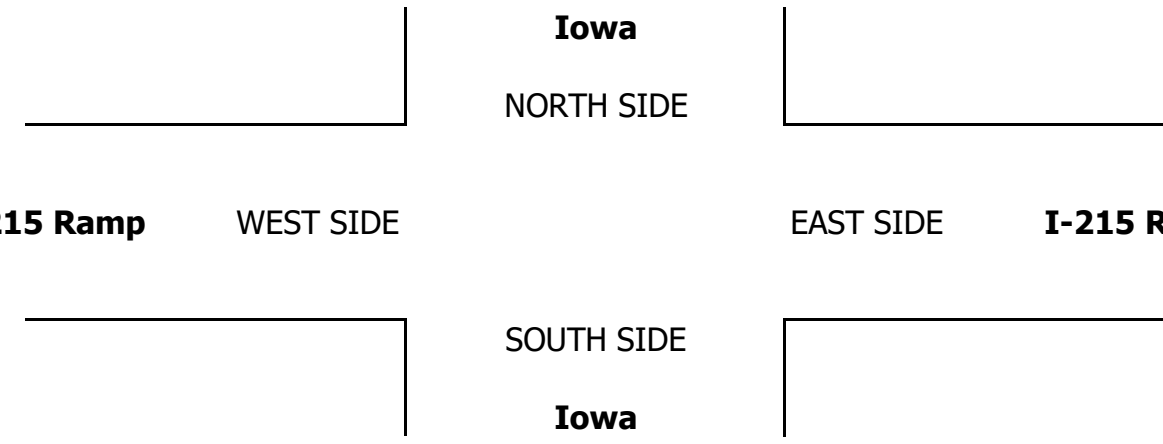
AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT 1	NR X	SL X	ST 1	SR X	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	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
	7:30 AM	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
	8:00 AM	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
	8:30 AM	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
	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	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					
	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
	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	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
	4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
	5:00 PM	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
	5:30 PM	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
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		3:45 PM																
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1					
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250					
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

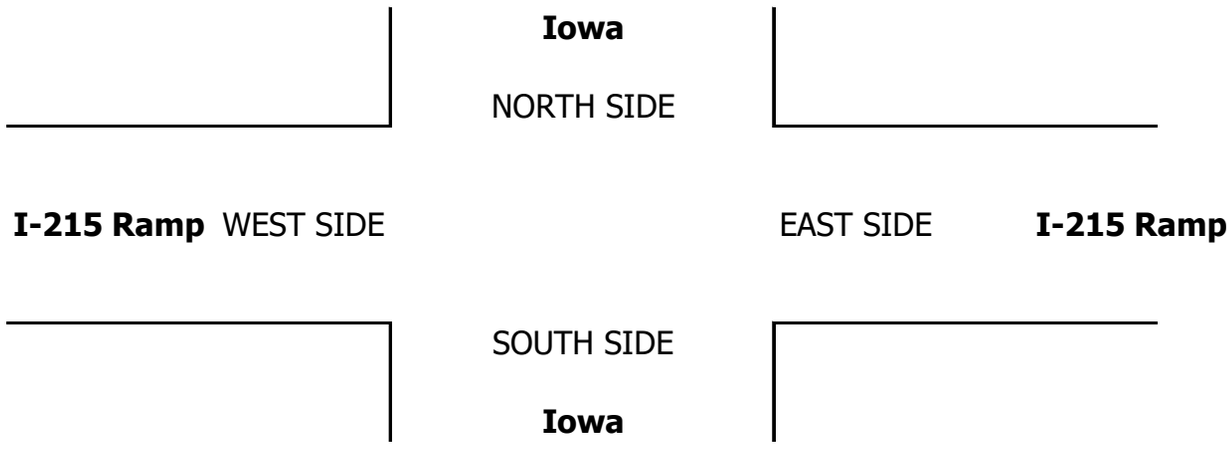
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	8
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

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

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	X	1	X	X	1	X	1	X	1	X	X	X						
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
7:30 AM	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
8:00 AM	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
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	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
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	0	2	0	0	0	0	0	0	0	0	0	0	2	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		7:00 AM																
VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1					
APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250					
APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0					
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	0	1	0	0	0	0	0	0	0	0	0	0	1	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
4:30 PM	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	1	0	1	0	0	0	0	0	2	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	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
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	2	0	0	1	0	1	0	1	0	0	0	5	0	0	0	0	0
APPROACH %	0%	100%	0%	0%	100%	0%	50%	0%	50%	0%	0%	0%						
APP/DEPART	2	/	3	1	/	2	2	/	0	0	/	0	0					
BEGIN PEAK HR		4:30 PM																
VOLUMES	0	1	0	0	1	0	1	0	1	0	0	0	4					
APPROACH %	0%	100%	0%	0%	100%	0%	50%	0%	50%	0%	0%	0%						
PEAK HR FACTOR		0.250			0.250			0.500			0.000		0.500					
APP/DEPART	1	/	2	1	/	2	2	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Tue, Oct 16, 18

LOCATION: Colton
NORTH & SOUTH: La Cadena
EAST & WEST: I-10 WB On-Ramp

PROJECT #: SC1922
LOCATION #: 8
CONTROL:

NOTES:

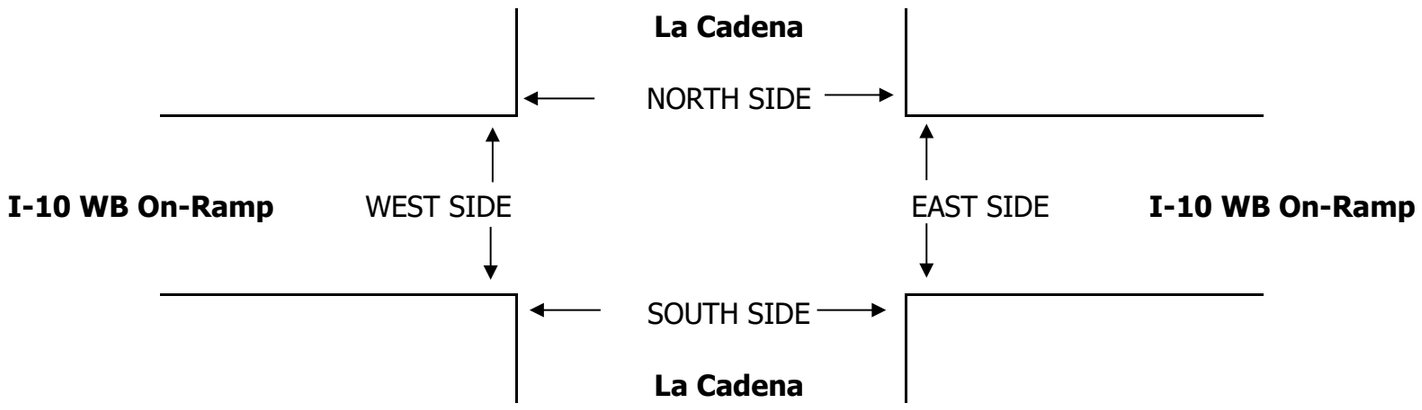
NB PM Queue

AM PM MD OTHER OTHER

▲ N
◄ W E ►
S ▼

☐ Add U-Turns to Left Turns

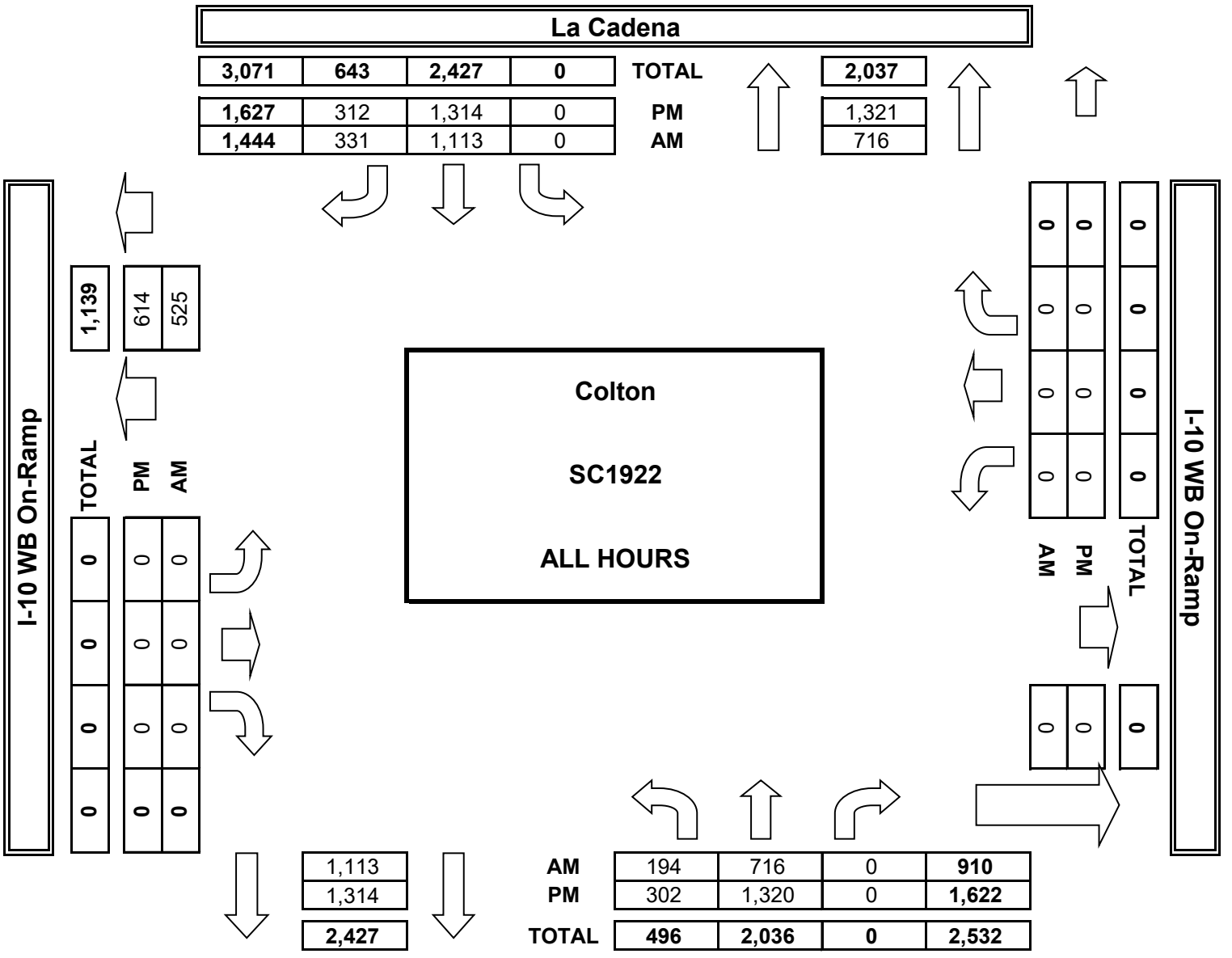
		NORTHBOUND La Cadena			SOUTHBOUND La Cadena			EASTBOUND I-10 WB On-Ramp			WESTBOUND I-10 WB On-Ramp				U-TURNS				
	LANES:	NL 0	NT 2	NR X	SL X	ST 2	SR 0	EL X	ET X	ER X	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	22	74	0	0	109	52	0	0	0	0	0	0	257	0	0	0	0	0
	7:15 AM	43	88	0	0	155	53	0	0	0	0	0	0	339	0	0	0	0	0
	7:30 AM	21	104	0	0	210	46	0	0	0	0	0	0	381	0	0	0	0	0
	7:45 AM	24	101	0	0	181	39	0	0	0	0	0	0	345	0	0	0	0	0
	8:00 AM	23	86	0	0	139	29	0	0	0	0	0	0	277	0	0	0	0	0
	8:15 AM	23	74	0	0	131	35	0	0	0	0	0	0	263	0	0	0	0	0
	8:30 AM	21	96	0	0	102	40	0	0	0	0	0	0	259	0	0	0	0	0
	8:45 AM	17	93	0	0	86	37	0	0	0	0	0	0	233	0	0	0	0	0
	VOLUMES	194	716	0	0	1,113	331	0	0	0	0	0	0	2,354	0	0	0	0	0
	APPROACH %	21%	79%	0%	0%	77%	23%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	910	/	716	1,444	/	1,113	0	/	0	0	/	525	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	111	379	0	0	685	167	0	0	0	0	0	0	1,342					
	APPROACH %	23%	77%	0%	0%	80%	20%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.935			0.832			0.000			0.000		0.881					
	APP/DEPART	490	/	379	852	/	685	0	/	0	0	/	278	0					
PM	4:00 PM	41	155	0	0	127	36	0	0	0	0	0	0	359	0	0	0	0	0
	4:15 PM	44	170	0	0	155	47	0	0	0	0	0	0	416	0	0	0	0	0
	4:30 PM	43	157	0	0	176	47	0	0	0	0	0	0	423	0	0	0	0	0
	4:45 PM	36	156	0	0	173	27	0	0	0	0	0	0	392	0	0	0	0	0
	5:00 PM	37	151	0	0	184	32	0	0	0	0	0	0	404	0	0	0	0	0
	5:15 PM	32	184	0	0	185	48	0	0	0	0	0	0	449	0	0	0	0	0
	5:30 PM	38	171	0	0	192	40	0	0	0	0	0	0	441	0	1	0	0	1
	5:45 PM	31	176	0	0	122	35	0	0	0	0	0	0	364	0	0	0	0	0
	VOLUMES	302	1,320	0	0	1,314	312	0	0	0	0	0	0	3,249	0	1	0	0	1
	APPROACH %	19%	81%	0%	0%	81%	19%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	1,622	/	1,321	1,627	/	1,314	0	/	0	0	/	614	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	143	662	0	0	734	147	0	0	0	0	0	0	1,687					
	APPROACH %	18%	82%	0%	0%	83%	17%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.932			0.946			0.000			0.000		0.939					
	APP/DEPART	805	/	663	882	/	734	0	/	0	0	/	290	0					

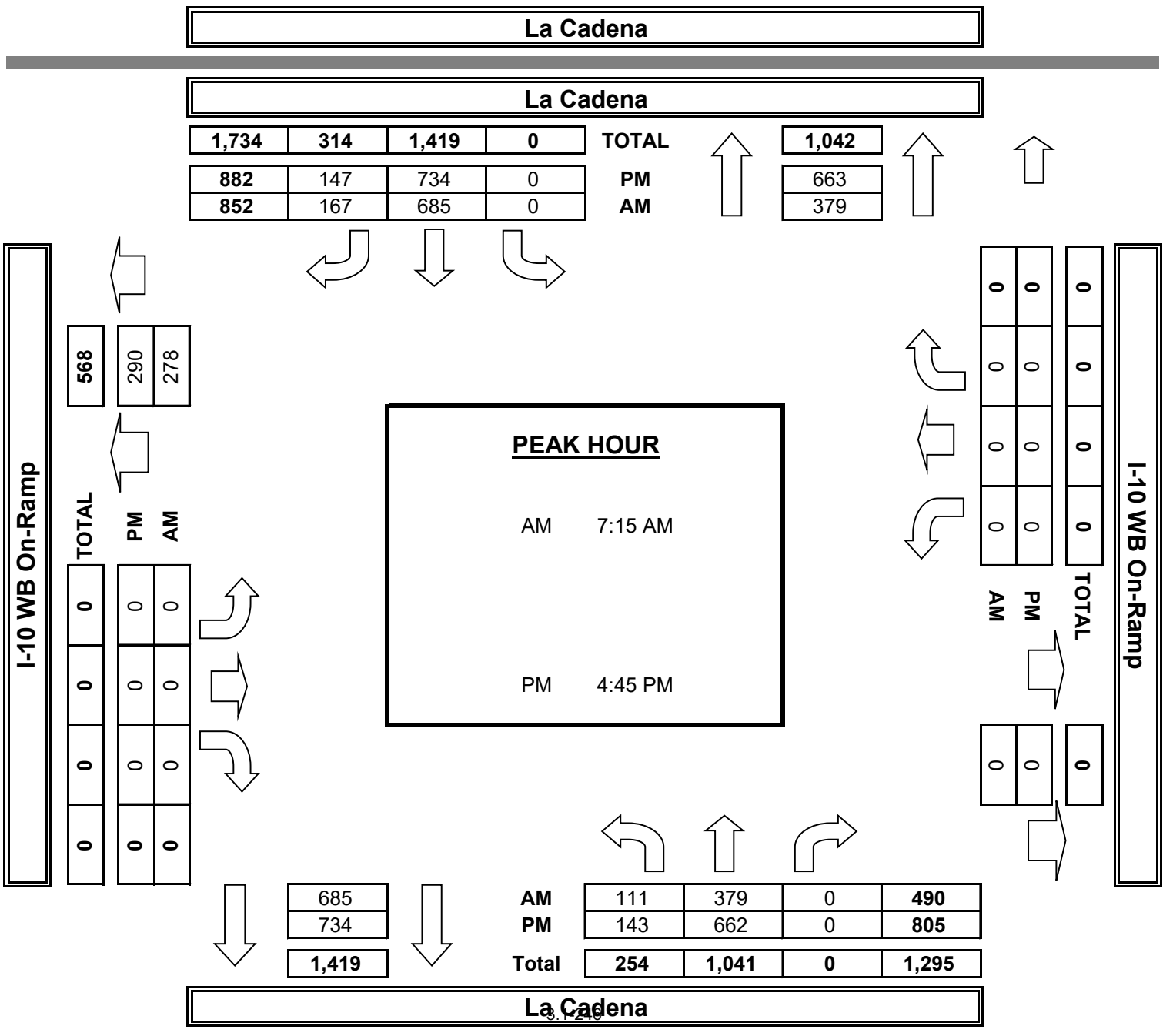


		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	1	2	3	0	0	0	2	2	0	0	1	0	1
	7:15 AM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	7:30 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	8:00 AM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	8:15 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
	8:30 AM	0	0	1	2	3	0	0	1	2	3	0	0	0	0	0
	8:45 AM	0	0	3	4	7	0	0	3	3	6	0	0	0	1	1
	TOTAL	0	0	11	10	21	0	0	9	9	18	0	0	2	1	3
	AM BEGIN PEAK HR			7:15 AM			0	0	5	0	5					
PM	4:00 PM	0	0	2	1	3	0	0	2	1	3	0	0	0	0	0
	4:15 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	4:30 PM	0	0	3	6	9	0	0	3	3	6	0	0	0	3	3
	4:45 PM	0	0	1	2	3	0	0	1	2	3	0	0	0	0	0
	5:00 PM	0	0	5	2	7	0	0	5	1	6	0	0	0	1	1
	5:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	5:30 PM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
	5:45 PM	0	0	1	3	4	0	0	0	2	2	0	0	1	1	2
	TOTAL	0	0	14	16	30	0	0	13	10	23	0	0	1	6	7
	PM BEGIN PEAK HR			4:45 PM			0	0	7	4	11					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Tue, Oct 16, 18

LOCATION: Colton
NORTH & SOUTH: 9th
EAST & WEST: Valley

PROJECT #: SC1922
LOCATION #: 9
CONTROL: SIGNAL

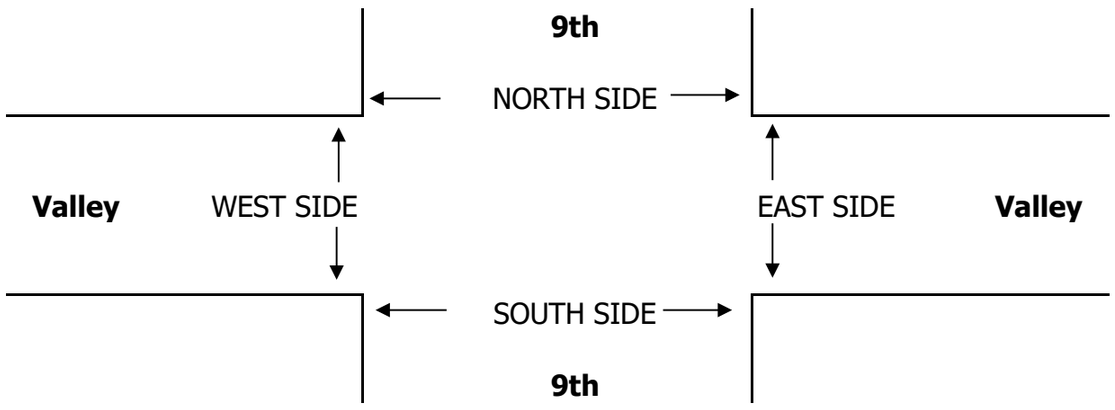
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

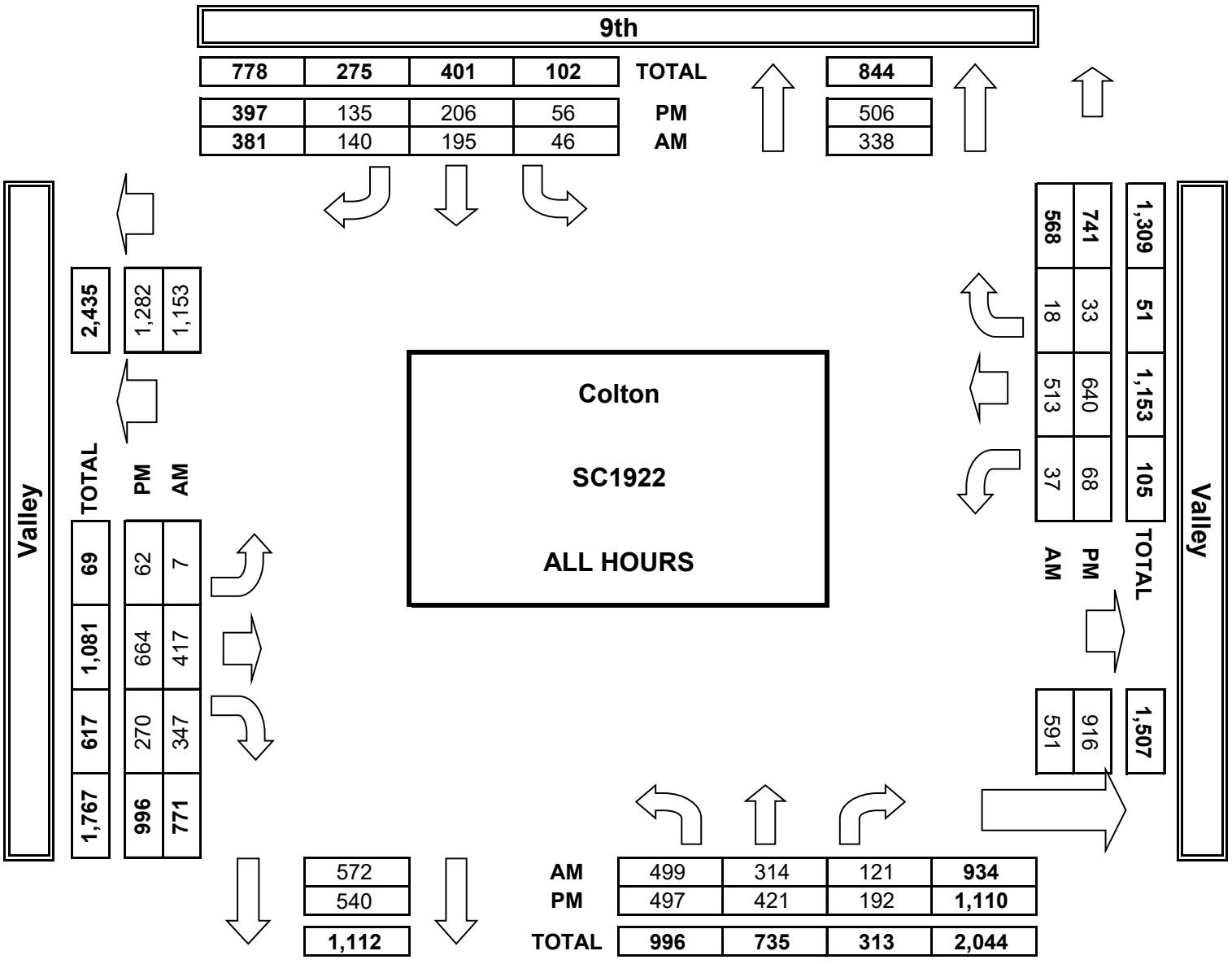
		NORTHBOUND 9th			SOUTHBOUND 9th			EASTBOUND Valley			WESTBOUND Valley				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	67	45	13	5	26	21	0	42	25	3	87	3	337	0	0	0	0	0
	7:15 AM	79	42	10	2	33	21	1	54	54	7	84	4	391	0	0	0	0	0
	7:30 AM	93	26	17	6	25	25	1	61	65	6	65	3	393	0	0	1	1	2
	7:45 AM	74	40	16	10	33	13	0	55	60	1	73	2	377	0	0	0	0	0
	8:00 AM	64	33	14	7	30	10	0	51	38	6	47	2	302	0	0	0	4	4
	8:15 AM	52	49	19	7	15	19	4	42	34	5	61	2	309	0	0	0	1	1
	8:30 AM	37	42	13	4	15	16	1	57	27	6	38	1	257	0	0	0	1	1
	8:45 AM	33	37	19	5	18	15	0	55	44	3	58	1	288	0	0	0	0	0
	VOLUMES	499	314	121	46	195	140	7	417	347	37	513	18	2,654	0	0	1	7	8
	APPROACH %	53%	34%	13%	12%	51%	37%	1%	54%	45%	7%	90%	3%						
	APP/DEPART	934	/	338	381	/	572	771	/	591	568	/	1,153	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	313	153	56	23	117	80	2	212	204	17	309	12	1,498					
	APPROACH %	60%	29%	11%	10%	53%	36%	0%	51%	49%	5%	91%	4%						
	PEAK HR FACTOR		0.960			0.982			0.823			0.889		0.953					
	APP/DEPART	522	/	166	220	/	337	418	/	292	338	/	703	0					
PM	4:00 PM	52	52	22	10	32	13	8	79	42	8	70	1	389	0	0	1	0	1
	4:15 PM	67	45	33	9	31	19	9	56	44	6	81	2	402	0	0	3	0	3
	4:30 PM	62	66	21	3	19	18	9	91	27	6	73	3	398	0	0	1	1	2
	4:45 PM	70	56	22	7	27	14	6	99	27	9	82	2	421	0	0	0	0	0
	5:00 PM	70	55	19	9	36	28	5	81	28	11	74	6	422	0	0	1	0	1
	5:15 PM	63	59	30	6	20	16	9	87	31	12	105	7	445	0	0	0	0	0
	5:30 PM	72	55	18	6	18	9	6	85	32	7	97	8	413	0	0	1	3	4
	5:45 PM	41	33	27	6	23	18	10	86	39	9	58	4	354	0	0	3	0	3
	VOLUMES	497	421	192	56	206	135	62	664	270	68	640	33	3,244	0	0	10	4	14
	APPROACH %	45%	38%	17%	14%	52%	34%	6%	67%	27%	9%	86%	4%						
	APP/DEPART	1,110	/	506	397	/	540	996	/	916	741	/	1,282	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	275	225	89	28	101	67	26	352	118	39	358	23	1,701					
	APPROACH %	47%	38%	15%	14%	52%	34%	5%	71%	24%	9%	85%	5%						
	PEAK HR FACTOR		0.969			0.671			0.939			0.847		0.956					
	APP/DEPART	589	/	272	196	/	255	496	/	472	420	/	702	0					

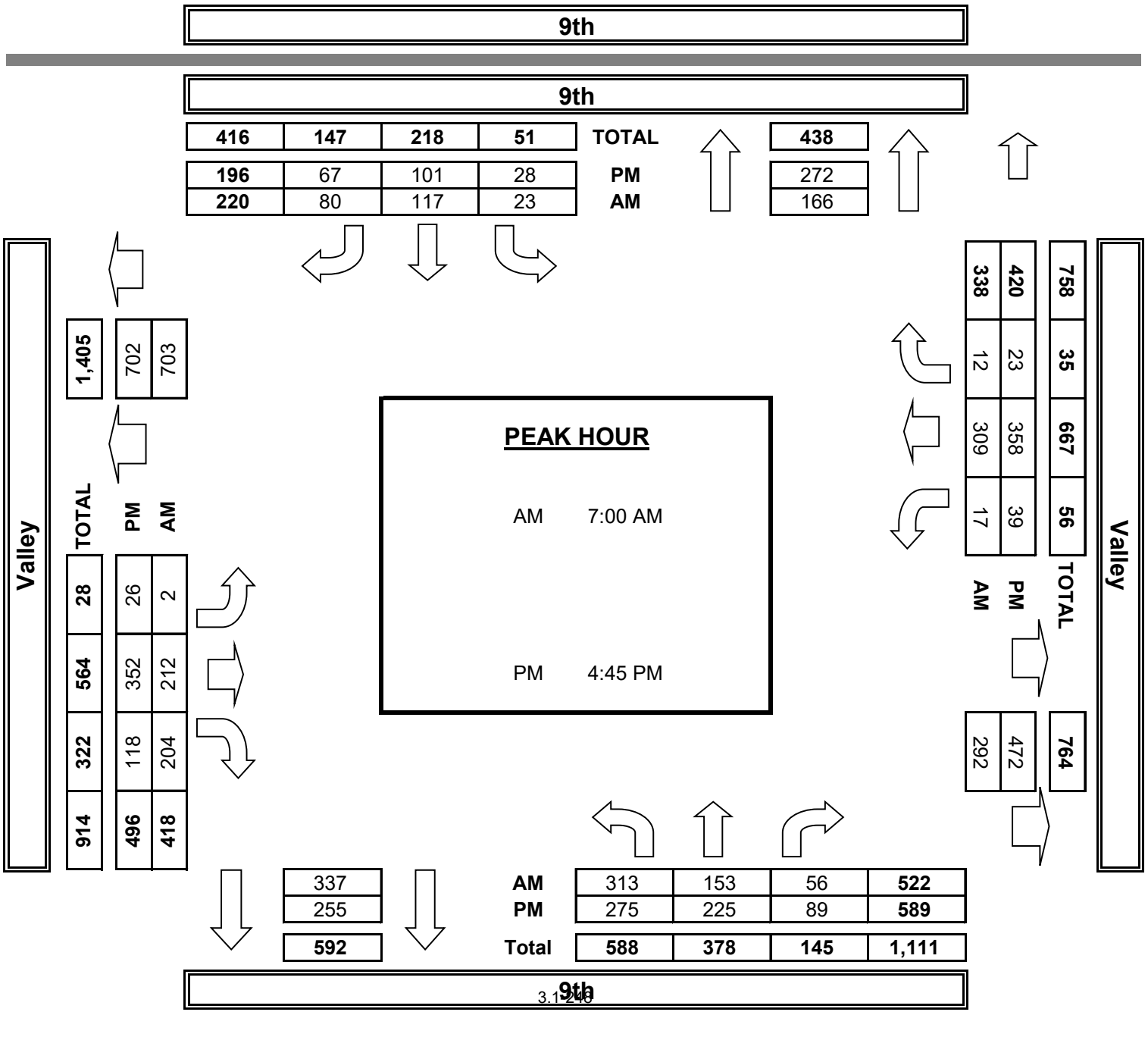


		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	3	0	2	0	5	3	0	2	0	5	0	0	0	0	0
	7:15 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	2	1	0	0	3	1	0	0	0	1	1	1	0	0	2
	8:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	8:15 AM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
	8:30 AM	3	0	2	1	6	3	0	2	1	6	0	0	0	0	0
	8:45 AM	2	0	2	2	6	2	0	2	2	6	0	0	0	0	0
	TOTAL	13	2	6	3	24	11	1	6	3	21	2	1	0	0	3
	AM BEGIN PEAK HR	7:00 AM					4	1	2	0	7					
PM	4:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	4:15 PM	4	1	0	1	6	3	1	0	0	4	1	0	0	1	2
	4:30 PM	0	1	1	0	2	0	1	0	0	1	0	0	1	0	1
	4:45 PM	0	1	1	1	3	0	1	1	0	2	0	0	0	1	1
	5:00 PM	0	2	0	4	6	0	2	0	4	6	0	0	0	0	0
	5:15 PM	0	1	0	2	3	0	1	0	2	3	0	0	0	0	0
	5:30 PM	1	3	1	4	9	1	2	1	4	8	0	1	0	0	1
	5:45 PM	0	2	0	2	4	0	2	0	2	4	0	0	0	0	0
	TOTAL	6	11	3	14	34	5	10	2	12	29	1	1	1	2	5
	PM BEGIN PEAK HR	4:45 PM					1	6	2	10	19					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, Dec 12, 18

LOCATION: Colton
NORTH & SOUTH: Iowa
EAST & WEST: I-215 Ramp

PROJECT #: SC
LOCATION #: 9
CONTROL: SIGNAL

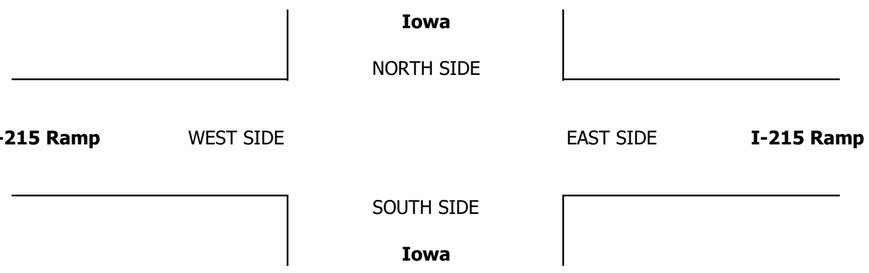
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W E ►
S ▼

☑ Add U-Turns to Left Turns

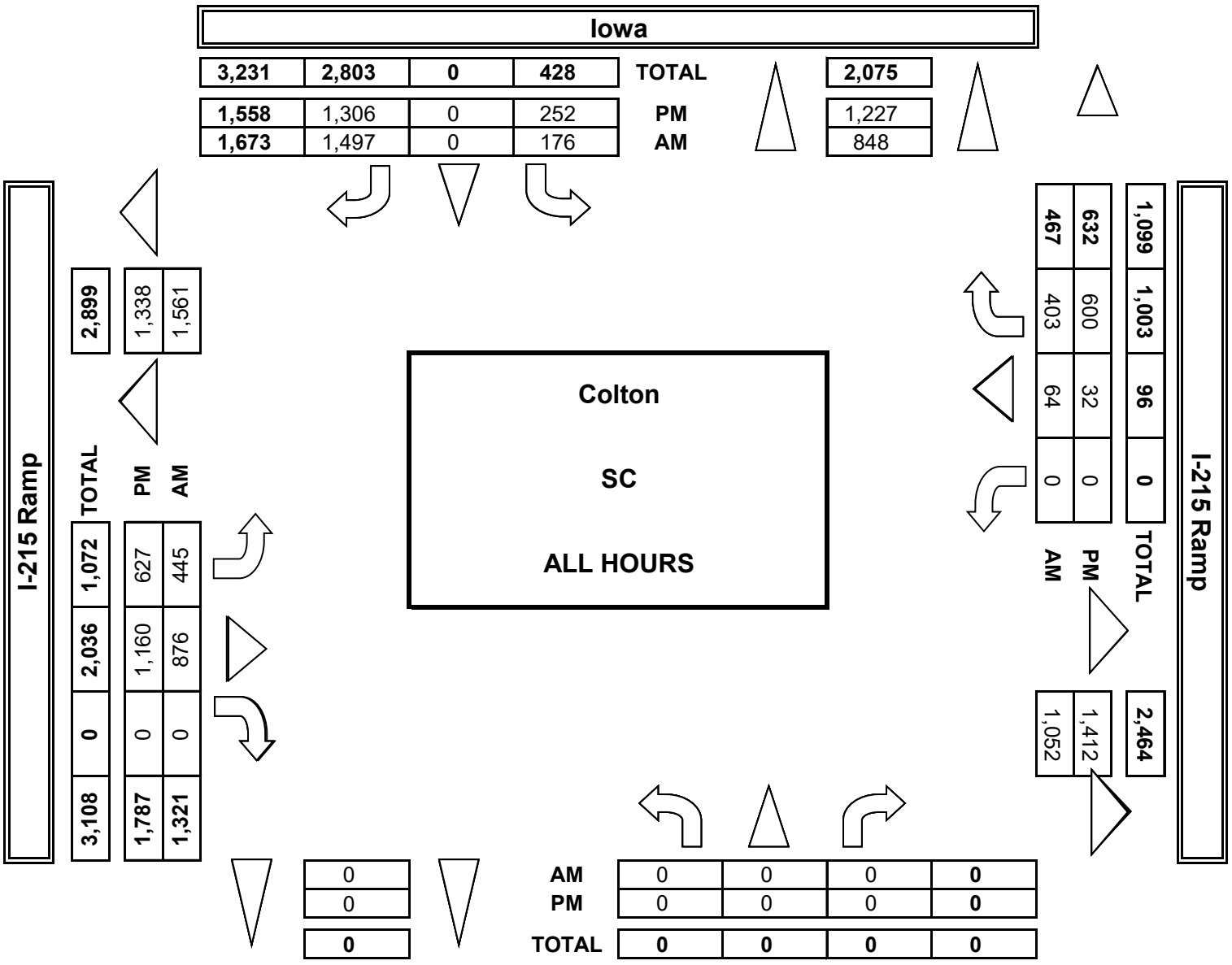
		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	25	0	235	80	125	0	0	11	74	550	0	0	0	0	0
	7:15 AM	0	0	0	23	0	222	90	129	0	0	5	63	532	0	0	0	0	0
	7:30 AM	0	0	0	33	0	235	67	124	0	0	4	37	500	0	0	0	0	0
	7:45 AM	0	0	0	18	0	234	44	107	0	0	8	55	466	0	0	0	0	0
	8:00 AM	0	0	0	14	0	190	38	99	0	0	6	50	397	0	0	0	0	0
	8:15 AM	0	0	0	13	0	150	55	112	0	0	9	42	381	0	0	0	0	0
	8:30 AM	0	0	0	24	0	105	27	83	0	0	10	35	284	0	0	0	0	0
	8:45 AM	0	0	0	26	0	126	44	97	0	0	11	47	351	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	0	0	0	176	0	1,497	445	876	0	0	64	403	3,461	0	0	0	0	0
	APPROACH %	0%	0%	0%	11%	0%	89%	34%	66%	0%	0%	14%	86%						
	APP/DEPART	0	/	848	1,673	/	0	1,321	/	1,052	467	/	1,561	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	99	0	926	281	485	0	0	28	229	2,048					
	APPROACH %	0%	0%	0%	10%	0%	90%	37%	63%	0%	0%	11%	89%						
	PEAK HR FACTOR		0.000			0.956			0.874			0.756		0.931					
	APP/DEPART	0	/	510	1,025	/	0	766	/	584	257	/	954	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	0	0	0	31	0	161	86	149	0	0	6	88	521	0	0	0	0	0
	4:15 PM	0	0	0	27	0	158	74	169	0	0	3	73	504	0	0	0	0	0
	4:30 PM	0	0	0	41	0	170	90	145	0	0	2	66	514	0	0	0	0	0
	4:45 PM	0	0	0	33	0	171	91	153	0	0	3	75	526	0	0	0	0	0
	5:00 PM	0	0	0	49	0	142	73	132	0	0	3	69	468	0	0	0	0	0
	5:15 PM	0	0	0	27	0	184	77	161	0	0	3	78	530	0	0	0	0	0
	5:30 PM	0	0	0	22	0	171	76	139	0	0	6	72	486	0	0	0	0	0
	5:45 PM	0	0	0	22	0	149	60	112	0	0	6	79	428	0	0	0	0	0
	VOLUMES	0	0	0	252	0	1,306	627	1,160	0	0	32	600	3,977	0	0	0	0	0
	APPROACH %	0%	0%	0%	16%	0%	84%	35%	65%	0%	0%	5%	95%						
	APP/DEPART	0	/	1,227	1,558	/	0	1,787	/	1,412	632	/	1,338	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	132	0	660	341	616	0	0	14	302	2,065					
	APPROACH %	0%	0%	0%	17%	0%	83%	36%	64%	0%	0%	4%	96%						
	PEAK HR FACTOR		0.000			0.938			0.981			0.840		0.981					
	APP/DEPART	0	/	643	792	/	0	957	/	748	316	/	674	0					

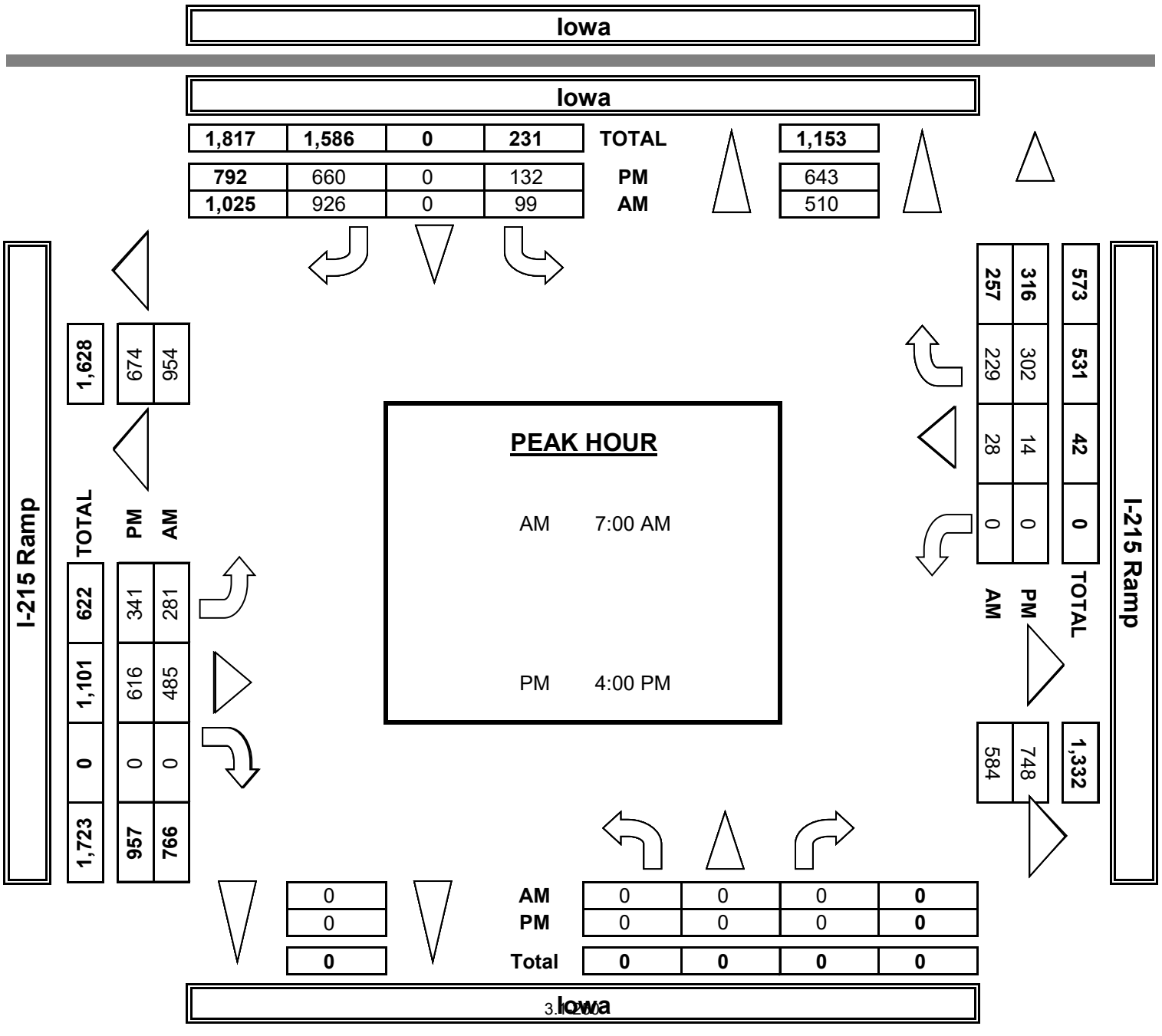


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0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

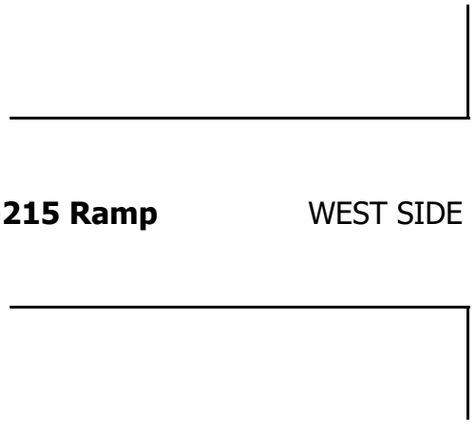
PREPARED BY: AimTD LL

DATE:	LOCATION:	Colton
12/12/18	NORTH & SOUTH:	Iowa
WEDNESDAY	EAST & WEST:	I-215 Ramp

	NOTES:				
PCE	Class	1	2	3	4
Adjusted	Factor	1	1.5	2	3

		NORTHBOUND Iowa			SOUTHBOUNI Iowa	
	LANES:	NL X	NT X	NR X	SL 0	ST X
AM	7:00 AM	0	0	0	31	0
	7:15 AM	0	0	0	25	0
	7:30 AM	0	0	0	35	0
	7:45 AM	0	0	0	19	0
	8:00 AM	0	0	0	16	0
	8:15 AM	0	0	0	16	0
	8:30 AM	0	0	0	28	0
	8:45 AM	0	0	0	29	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	199	0
	APPROACH %	0%	0%	0%	11%	0%
	APP/DEPART	0	/	983	1,834	/
	BEGIN PEAK HR		7:00 AM			
	VOLUMES	0	0	0	110	0
	APPROACH %	0%	0%	0%	10%	0%
	PEAK HR FACTOR		0.000			0.961
	APP/DEPART	0	/	570	1,109	/
	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	34	0
	4:15 PM	0	0	0	29	0

PM	4:30 PM	0	0	0	43	0
	4:45 PM	0	0	0	36	0
	5:00 PM	0	0	0	54	0
	5:15 PM	0	0	0	29	0
	5:30 PM	0	0	0	22	0
	5:45 PM	0	0	0	24	0
	VOLUMES	0	0	0	269	0
	APPROACH %	0%	0%	0%	16%	0%
	APP/DEPART	0	/	1,310	1,674	/
	BEGIN PEAK HR		4:00 PM			
	VOLUMES	0	0	0	141	0
	APPROACH %	0%	0%	0%	16%	0%
	PEAK HR FACTOR		0.000			0.921
	APP/DEPART	0	/	690	869	/



I-215 Ramp WEST SIDE

RNING MOVEMENT COUNTS

LC. tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC
LOCATION #: 9
CONTROL: SIGNAL

				AM		▲ N	
5	6			PM			
2	2			MD	◄ W		E ►
				OTHER		S	
				OTHER		▼	

D	EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp			
SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL
257	86	144	0	0	13	85	615
236	101	132	0	0	6	74	573
254	72	140	0	0	4	45	550
253	48	117	0	0	10	61	507
214	49	112	0	0	7	55	452
160	62	134	0	0	10	50	431
120	32	96	0	0	11	50	336
143	51	120	0	0	16	66	425
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,636	499	994	0	0	76	484	3,887
89%	33%	67%	0%	0%	13%	87%	
0	1,493	/	1,193	560	/	1,711	0
1,000	306	533	0	0	33	264	2,244
90%	36%	64%	0%	0%	11%	89%	
		0.901			0.760		0.913
0	838	/	642	297	/	1,032	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
178	92	160	0	0	7	97	566
174	78	184	0	0	3	79	546

194	99	158	0	0	2	75	569
184	94	167	0	0	5	78	563
145	77	141	0	0	4	71	491
190	81	170	0	0	3	85	557
184	78	153	0	0	8	78	522
158	68	122	0	0	7	84	461
1,405	667	1,253	0	0	38	644	4,274
84%	35%	65%	0%	0%	6%	94%	
0	1,919	/	1,522	681	/	1,442	0
729	363	668	0	0	17	327	2,244
84%	35%	65%	0%	0%	5%	95%	
		0.984			0.834		0.986
0	1,031	/	809	344	/	745	0

Iowa

NORTH SIDE

EAST SIDE **I-215 Ramp**

SOUTH SIDE

Iowa

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

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

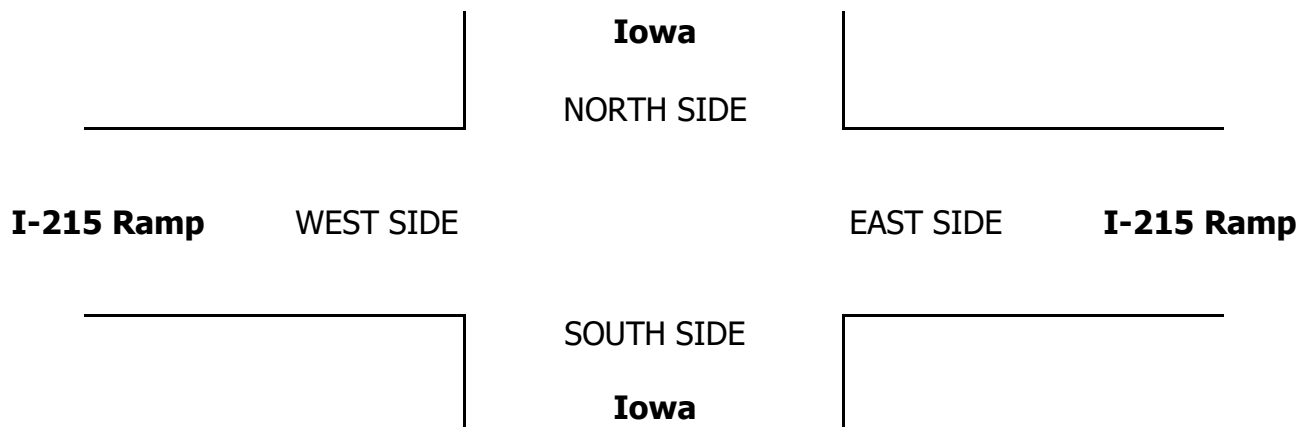
CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM 7:00 AM	0	0	0	19	0	212	73	103	0	0	7	63	477	0	0	0	0	0
7:15 AM	0	0	0	19	0	204	78	123	0	0	4	54	482	0	0	0	0	0
7:30 AM	0	0	0	30	0	215	60	104	0	0	4	31	444	0	0	0	0	0
7:45 AM	0	0	0	16	0	214	37	88	0	0	7	46	408	0	0	0	0	0
8:00 AM	0	0	0	13	0	169	31	80	0	0	5	43	341	0	0	0	0	0
8:15 AM	0	0	0	10	0	139	45	88	0	0	8	35	325	0	0	0	0	0
8:30 AM	0	0	0	19	0	90	21	69	0	0	8	25	232	0	0	0	0	0
8:45 AM	0	0	0	23	0	111	33	70	0	0	8	31	276	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	0	0	0	149	0	1,354	378	725	0	0	51	328	2,985	0	0	0	0	0
APPROACH %	0%	0%	0%	10%	0%	90%	34%	66%	0%	0%	13%	87%						
APP/DEPART	0	/	706	1,503	/	0	1,103	/	874	379	/	1,405	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	0	0	0	84	0	845	248	418	0	0	22	194	1,811					
APPROACH %	0%	0%	0%	9%	0%	91%	37%	63%	0%	0%	10%	90%						
PEAK HR FACTOR		0.000			0.948			0.828			0.771		0.939					
APP/DEPART	0	/	442	929	/	0	666	/	502	216	/	867	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	0	0	0	27	0	141	76	138	0	0	5	75	462	0	0	0	0	0
4:15 PM	0	0	0	25	0	136	69	149	0	0	3	66	448	0	0	0	0	0
4:30 PM	0	0	0	39	0	143	78	131	0	0	2	53	446	0	0	0	0	0
4:45 PM	0	0	0	28	0	151	85	138	0	0	2	70	474	0	0	0	0	0
5:00 PM	0	0	0	46	0	137	69	124	0	0	2	65	443	0	0	0	0	0
5:15 PM	0	0	0	26	0	174	73	153	0	0	3	72	501	0	0	0	0	0
5:30 PM	0	0	0	22	0	158	72	124	0	0	5	62	443	0	0	0	0	0
5:45 PM	0	0	0	21	0	141	53	106	0	0	5	71	397	0	0	0	0	0
VOLUMES	0	0	0	234	0	1,181	575	1,063	0	0	27	534	3,614	0	0	0	0	0
APPROACH %	0%	0%	0%	17%	0%	83%	35%	65%	0%	0%	5%	95%						
APP/DEPART	0	/	1,109	1,415	/	0	1,638	/	1,297	561	/	1,208	0					
BEGIN PEAK HR		4:30 PM																
VOLUMES	0	0	0	139	0	605	305	546	0	0	9	260	1,864					
APPROACH %	0%	0%	0%	19%	0%	81%	36%	64%	0%	0%	3%	97%						
PEAK HR FACTOR		0.000			0.930			0.941			0.897		0.930					
APP/DEPART	0	/	565	744	/	0	851	/	685	269	/	614	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

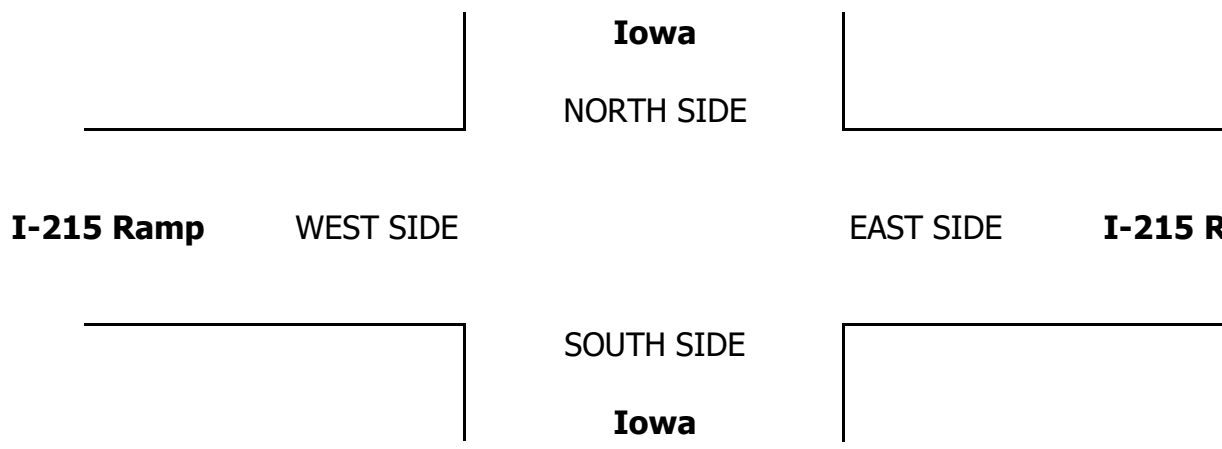
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

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

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	4	0	15	5	14	0	0	4	7	49	0	0	0	0	0
7:15 AM	0	0	0	4	0	14	9	6	0	0	1	5	39	0	0	0	0	0
7:30 AM	0	0	0	3	0	14	6	14	0	0	0	2	39	0	0	0	0	0
7:45 AM	0	0	0	2	0	14	7	19	0	0	0	6	48	0	0	0	0	0
8:00 AM	0	0	0	0	0	11	2	16	0	0	1	5	35	0	0	0	0	0
8:15 AM	0	0	0	2	0	6	9	17	0	0	1	4	39	0	0	0	0	0
8:30 AM	0	0	0	4	0	9	4	10	0	0	2	3	32	0	0	0	0	0
8:45 AM	0	0	0	2	0	6	8	20	0	0	0	8	44	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	0	0	0	21	0	89	50	116	0	0	9	40	325	0	0	0	0	0
APPROACH %	0%	0%	0%	19%	0%	81%	30%	70%	0%	0%	18%	82%						
APP/DEPART	0	/	90	110	/	0	166	/	137	49	/	98	0					
BEGIN PEAK HR	7:00 AM																	
VOLUMES	0	0	0	13	0	57	27	53	0	0	5	20	175					
APPROACH %	0%	0%	0%	19%	0%	81%	34%	66%	0%	0%	20%	80%						
PEAK HR FACTOR	0.000			0.921			0.769			0.568			0.893					
APP/DEPART	0	/	47	70	/	0	80	/	66	25	/	62	0					
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	0	0	0	3	0	13	8	6	0	0	1	9	40	0	0	0	0	0
4:15 PM	0	0	0	1	0	19	4	16	0	0	0	5	45	0	0	0	0	0
4:30 PM	0	0	0	1	0	19	10	9	0	0	0	11	50	0	0	0	0	0
4:45 PM	0	0	0	4	0	16	6	11	0	0	0	5	42	0	0	0	0	0
5:00 PM	0	0	0	1	0	5	2	4	0	0	1	4	17	0	0	0	0	0
5:15 PM	0	0	0	0	0	8	3	5	0	0	0	3	19	0	0	0	0	0
5:30 PM	0	0	0	0	0	8	4	11	0	0	0	9	32	0	0	0	0	0
5:45 PM	0	0	0	0	0	5	4	1	0	0	1	7	18	0	0	0	0	0
VOLUMES	0	0	0	10	0	93	41	63	0	0	3	53	263	0	0	0	0	0
APPROACH %	0%	0%	0%	10%	0%	90%	39%	61%	0%	0%	5%	95%						
APP/DEPART	0	/	94	103	/	0	104	/	73	56	/	96	0					
BEGIN PEAK HR	4:00 PM																	
VOLUMES	0	0	0	9	0	67	28	42	0	0	1	30	177					
APPROACH %	0%	0%	0%	12%	0%	88%	40%	60%	0%	0%	3%	97%						
PEAK HR FACTOR	0.000			0.950			0.875			0.705			0.885					
APP/DEPART	0	/	58	76	/	0	70	/	51	31	/	68	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

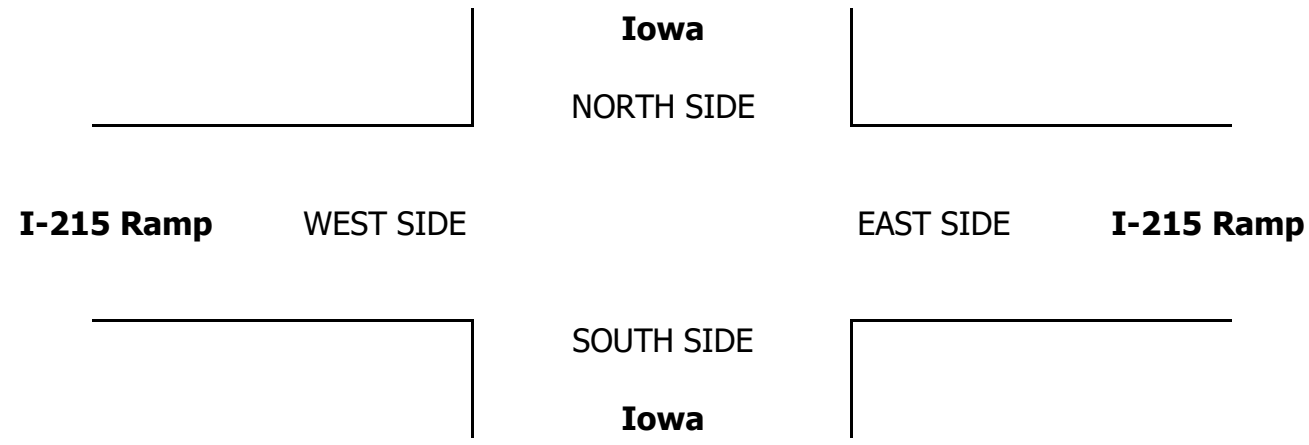
CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	0	2	0	2	0	0	0	1	5	0	0	0	0	0
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	3	0	0	0	1	4	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0
	8:00 AM	0	0	0	0	0	2	0	1	0	0	0	2	5	0	0	0	0	0
	8:15 AM	0	0	0	0	0	3	0	1	0	0	0	0	4	0	0	0	0	0
	8:30 AM	0	0	0	0	0	2	1	0	0	0	0	0	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	4	3	1	0	0	1	1	10	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	0	0	0	0	0	14	4	8	0	0	1	8	35	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	33%	67%	0%	0%	11%	89%						
	APP/DEPART	0	/	12	14	/	0	12	/	8	9	/	15	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	0	0	0	0	11	4	3	0	0	1	3	22					
	APPROACH %	0%	0%	0%	0%	0%	100%	57%	43%	0%	0%	25%	75%						
	PEAK HR FACTOR		0.000			0.688			0.438			0.500		0.550					
	APP/DEPART	0	/	7	11	/	0	7	/	3	4	/	12	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	0	0	0	1	0	4	1	2	0	0	0	4	12	0	0	0	0	0
	4:15 PM	0	0	0	1	0	0	0	1	0	0	0	1	3	0	0	0	0	0
	4:30 PM	0	0	0	1	0	2	0	2	0	0	0	0	5	0	0	0	0	0
	4:45 PM	0	0	0	1	0	2	0	0	0	0	0	0	3	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0
	5:30 PM	0	0	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0
	VOLUMES	0	0	0	4	0	10	1	7	0	0	0	8	30	0	0	0	0	0
	APPROACH %	0%	0%	0%	29%	0%	71%	13%	88%	0%	0%	0%	100%						
	APP/DEPART	0	/	9	14	/	0	8	/	11	8	/	10	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	4	0	8	1	5	0	0	0	5	23					
	APPROACH %	0%	0%	0%	33%	0%	67%	17%	83%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.000			0.600			0.500			0.313		0.479					
	APP/DEPART	0	/	6	12	/	0	6	/	9	5	/	8	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

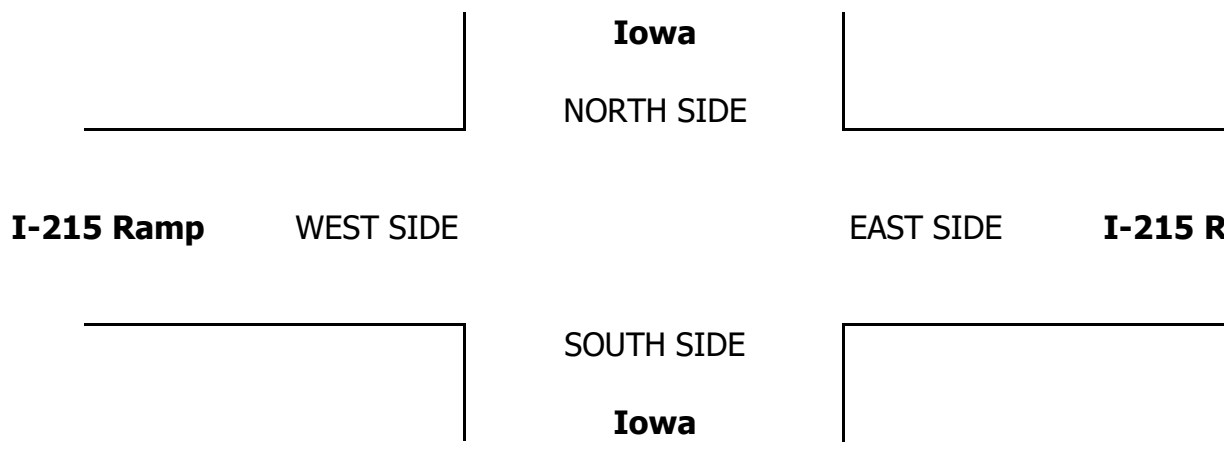
DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

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

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	2	0	6	1	4	0	0	0	3	16	0	0	0	0	0
	7:15 AM	0	0	0	0	0	3	3	0	0	0	0	4	10	0	0	0	0	0
	7:30 AM	0	0	0	0	0	6	1	3	0	0	0	3	13	0	0	0	0	0
	7:45 AM	0	0	0	0	0	6	0	0	0	0	1	0	7	0	0	0	0	0
	8:00 AM	0	0	0	1	0	8	5	2	0	0	0	0	16	0	0	0	0	0
	8:15 AM	0	0	0	1	0	2	1	6	0	0	0	3	13	0	0	0	0	0
	8:30 AM	0	0	0	1	0	4	1	4	0	0	0	6	16	0	0	0	0	0
	8:45 AM	0	0	0	1	0	5	0	6	0	0	2	7	21	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	0	0	0	6	0	40	12	25	0	0	3	26	112	0	0	0	0	0
	APPROACH %	0%	0%	0%	13%	0%	87%	32%	68%	0%	0%	10%	90%						
	APP/DEPART	0	/	38	46	/	0	37	/	31	29	/	43	0					
	BEGIN PEAK HR	8:00 AM																	
	VOLUMES	0	0	0	4	0	19	7	18	0	0	2	16	66					
	APPROACH %	0%	0%	0%	17%	0%	83%	28%	72%	0%	0%	11%	89%						
	PEAK HR FACTOR	0.000			0.639			0.893			0.500			0.786					
	APP/DEPART	0	/	23	23	/	0	25	/	22	18	/	21	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	0	0	0	0	0	3	0	3	0	0	0	0	6	0	0	0	0	0
	4:15 PM	0	0	0	0	0	3	1	3	0	0	0	1	8	0	0	0	0	0
	4:30 PM	0	0	0	0	0	6	2	3	0	0	0	1	12	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	0	4	0	0	1	0	6	0	0	0	0	0
	5:00 PM	0	0	0	2	0	0	1	3	0	0	0	0	6	0	0	0	0	0
	5:15 PM	0	0	0	1	0	0	1	3	0	0	0	2	7	0	0	0	0	0
	5:30 PM	0	0	0	0	0	4	0	4	0	0	1	0	9	0	0	0	0	0
	5:45 PM	0	0	0	1	0	3	3	4	0	0	0	0	11	0	0	0	0	0
	VOLUMES	0	0	0	4	0	20	8	27	0	0	2	4	65	0	0	0	0	0
	APPROACH %	0%	0%	0%	17%	0%	83%	23%	77%	0%	0%	33%	67%						
	APP/DEPART	0	/	12	24	/	0	35	/	31	6	/	22	0					
	BEGIN PEAK HR	5:00 PM																	
	VOLUMES	0	0	0	4	0	7	5	14	0	0	1	2	33					
	APPROACH %	0%	0%	0%	36%	0%	64%	26%	74%	0%	0%	33%	67%						
	PEAK HR FACTOR	0.000			0.688			0.679			0.375			0.750					
	APP/DEPART	0	/	7	11	/	0	19	/	18	3	/	8	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

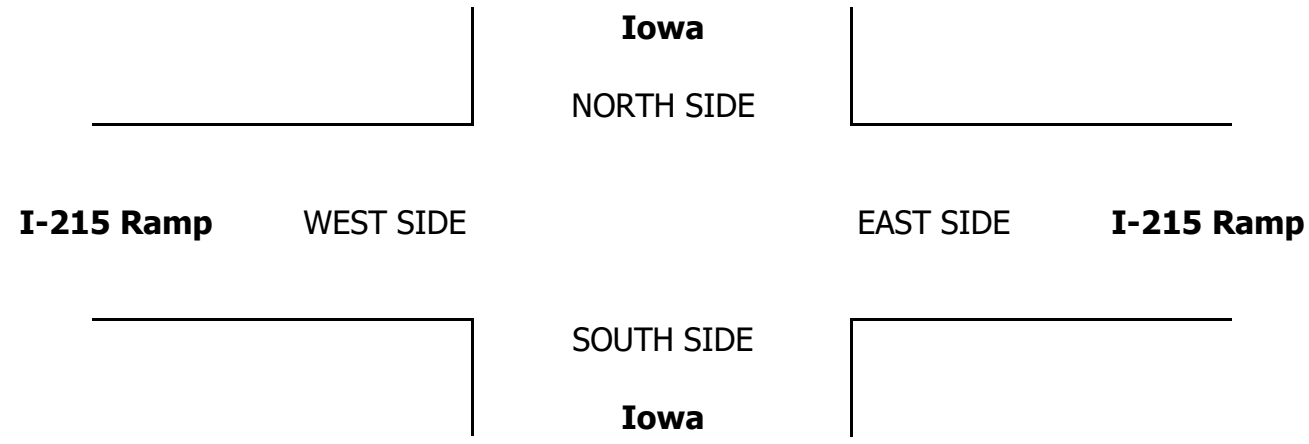
AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	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
	7:30 AM	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
	8:00 AM	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
	8:30 AM	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
	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	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					
	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
	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	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
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	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
	5:00 PM	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
	5:30 PM	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	0	/	1	0	/	0	0	/	0	1	/	0	0					
	BEGIN PEAK HR	3:45 PM																	
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	1	1					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR	0.000			0.000			0.000			0.250			0.250					
	APP/DEPART	0	/	1	0	/	0	0	/	0	1	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

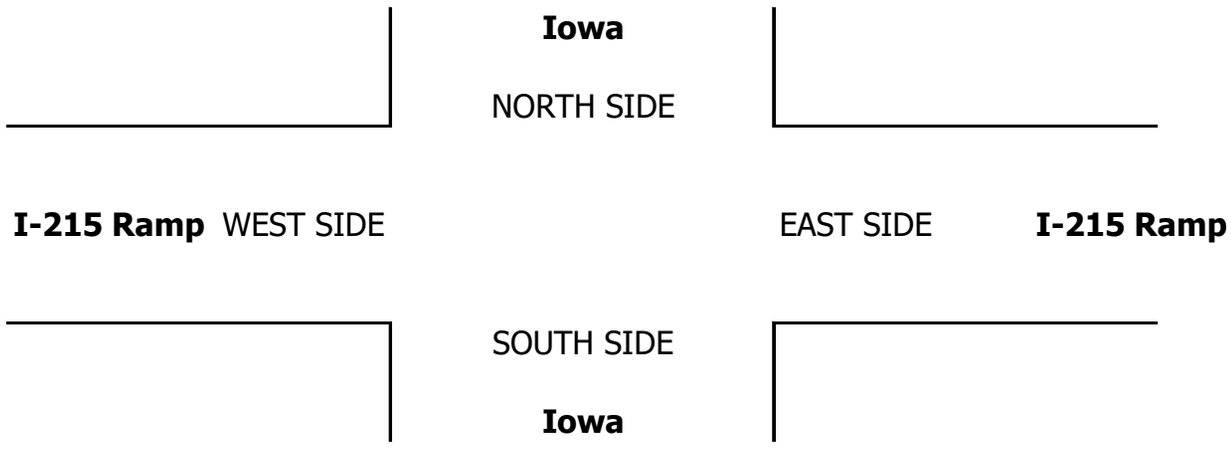
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
12/12/18	LOCATION:	Colton	PROJECT #:	SC
WEDNESDAY	NORTH & SOUTH:	Iowa	LOCATION #:	9
	EAST & WEST:	I-215 Ramp	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

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

	NORTHBOUND Iowa			SOUTHBOUND Iowa			EASTBOUND I-215 Ramp			WESTBOUND I-215 Ramp				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	X	X	X	0	X	0	1	1	X	X	0.5	0.5						
7:00 AM	0	0	0	0	0	0	1	2	0	0	0	0	3	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
7:30 AM	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
8:00 AM	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
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	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
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	0	0	0	0	0	0	1	2	0	0	0	1	4	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	33%	67%	0%	0%	0%	100%						
APP/DEPART	0	/	2	0	/	0	3	/	2	1	/	0	0					
BEGIN PEAK HR	7:00 AM																	
VOLUMES	0	0	0	0	0	0	1	2	0	0	0	0	3					
APPROACH %	0%	0%	0%	0%	0%	0%	33%	67%	0%	0%	0%	0%						
PEAK HR FACTOR	0.000			0.000			0.250			0.000			0.250					
APP/DEPART	0	/	1	0	/	0	3	/	2	0	/	0	0					
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	0	0	0	0	0	0	1	0	0	0	0	0	1	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
4:30 PM	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	1	0	0	0	0	0	0	1	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	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
5:45 PM	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	2	0	0	0	0	0	4	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
APP/DEPART	0	/	2	2	/	0	2	/	0	0	/	2	0					
BEGIN PEAK HR	4:30 PM																	
VOLUMES	0	0	0	0	0	2	1	0	0	0	0	0	3					
APPROACH %	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
PEAK HR FACTOR	0.000			0.500			0.250			0.000			0.750					
APP/DEPART	0	/	1	2	/	0	1	/	0	0	/	2	0					



APPENDIX 3.2:

EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Volume Development
AM Peak Hour

1: Driveway 1 & Agua Mansa Rd.

PHF: _____ Count Date: _____

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**237**	**0**	**0**	**405**	**0**	**642**

2: Driveway 2 & Agua Mansa Rd.

PHF: _____ **7:45 AM** Count Date: 1/0/1900

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**237**	**0**	**0**	**405**	**0**	**642**

3: Driveway 3 & Agua Mansa Rd.

PHF: _____ **7:45 AM** Count Date: 1/0/1900

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**237**	**0**	**0**	**405**	**0**	**642**

4: Driveway 4 & Agua Mansa Rd.

PHF: 0.884 **7:45 AM** Count Date: 1/0/1900

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**237**	**0**	**0**	**405**	**0**	**642**

5: Rancho Av. & I-10 WB Ramps

PHF: 0.928 **7:00 AM** Count Date: 7/27/2016

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**103**	**331**	**0**	**0**	**676**	**319**	**0**	**0**	**0**	**271**	**0**	**357**	**2,056**

Volume Development
AM Peak Hour

6: Rancho Av. & I-10 EB Ramps

	PHF:	0.883		7:15 AM					Count Date:	7/27/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**299**	**166**	**346**	**600**	**0**	**135**	**1**	**318**	**0**	**0**	**0**	**1,865**

7: Rancho Av. & W. N St.

	PHF:	0.836		7:00 AM					Count Date:	2/12/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**284**	**41**	**98**	**1,149**	**0**	**0**	**0**	**0**	**10**	**0**	**63**	**1,645**

8: Rancho Av. & Agua Mansa Rd.

	PHF:	0.887		7:00 AM					Count Date:	2/14/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**65**	**334**	**5**	**32**	**764**	**309**	**181**	**18**	**38**	**0**	**31**	**12**	**1,790**

9: La Cadena Dr. & Valley Bl.

	PHF:	0.906		7:45 AM					Count Date:	10/29/2013		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**104**	**158**	**248**	**31**	**304**	**24**	**28**	**401**	**151**	**429**	**268**	**9**	**2,155**

10: La Cadena Bl & I-10 WB On Ramp

	PHF:	0.881		7:15 AM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**118**	**402**	**0**	**0**	**727**	**177**	**0**	**0**	**0**	**0**	**0**	**0**	**1,424**

Volume Development
AM Peak Hour

11: La Cadena Dr. & W N St

	PHF:	0.868		7:00 AM					Count Date:		2/4/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**20**	**509**	**7**	**8**	**465**	**32**	**54**	**14**	**61**	**18**	**15**	**17**	**1,219**

12: La Cadena Dr. & Rancho Av.

	PHF:	0.980		7:00 AM					Count Date:		2/2/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**258**	**402**	**0**	**0**	**479**	**2**	**14**	**0**	**433**	**0**	**0**	**0**	**1,589**

13: La Cadena Dr. & Barton Rd.

	PHF:	0.942		7:00 AM					Count Date:		5/23/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**529**	**128**	**206**	**1,038**	**0**	**0**	**0**	**0**	**148**	**0**	**173**	**2,222**

14: Iowa Av. & La Cadena Dr.

	PHF:	0.967		7:00 AM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**83**	**574**	**0**	**0**	**520**	**878**	**116**	**0**	**103**	**0**	**0**	**0**	**2,274**

15: La Cadena Dr. & I-215 SB On-Ramp

	PHF:	0.889		7:00 AM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**10**	**123**	**0**	**550**	**401**	**48**	**76**	**18**	**30**	**0**	**0**	**0**	**1,255**

Volume Development
AM Peak Hour

16: Iowa Av. & I-215 SB Off-Ramp

PHF: 0.926 **7:00 AM** Count Date: 12/12/2018

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**627**	**0**	**0**	**623**	**0**	**30**	**0**	**567**	**0**	**0**	**0**	**1,847**

17: Iowa Av. & I-215 NB Ramps

PHF: 0.931 **7:00 AM** Count Date: 12/12/2018

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**120**	**0**	**1,070**	**332**	**584**	**0**	**0**	**38**	**297**	**2,441**

18: 9th St & Valley Bl

PHF: 0.953 **7:00 AM** Count Date: 10/16/2018

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**332**	**162**	**59**	**24**	**124**	**85**	**2**	**225**	**216**	**18**	**328**	**13**	**1,590**

19: 9th St. & I-10 WB Off Ramp

PHF: 0.903 **7:15 AM** Count Date: 10/16/2018

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**1**	**155**	**0**	**0**	**360**	**1**	**1**	**0**	**1**	**3**	**2**	**410**	**934**

20: 9th St & I-10 EB Ramps

PHF: 0.817 **7:15 AM** Count Date: 10/16/2018

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**364**	**0**	**0**	**156**	**3**	**0**	**0**	**0**	**0**	**523**

21: I-215 SB Ramps & Barton Rd.

PHF: 0.915 Count Date:

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**11**	**247**	**22**	**139**	**56**	**388**	**8**	**20**	**434**	**446**	**1,770**

22: I-215 NB Ramps & Barton Rd.

PHF: 0.907 Count Date:

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**46**	**0**	**343**	**0**	**0**	**0**	**90**	**555**	**0**	**0**	**854**	**550**	**2,438**

23: Riverside Av. & Agua Mansa Rd.

PHF: 0.946 Count Date: 12/5/2019

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**176**	**883**	**61**	**62**	**853**	**169**	**160**	**159**	**74**	**108**	**262**	**81**	**3,048**

Volume Development
PM Peak Hour

1: Driveway 1 & Agua Mansa Rd.

PHF: _____ Count Date: _____

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**653**	**0**	**0**	**243**	**0**	**896**

2: Driveway 2 & Agua Mansa Rd.

PHF: _____ Count Date: _____

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**653**	**0**	**0**	**243**	**0**	**896**

3: Driveway 3 & Agua Mansa Rd.

PHF: _____ **4:45 PM** Count Date: _____

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**653**	**0**	**0**	**243**	**0**	**896**

4: Driveway 4 & Agua Mansa Rd.

PHF: _____ **4:30 PM** Count Date: _____

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**653**	**0**	**0**	**243**	**0**	**896**

5: Rancho Av. & I-10 WB Ramps

PHF: 0.979 **5:00 PM** Count Date: 7/27/2016

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**126**	**826**	**0**	**0**	**641**	**198**	**0**	**0**	**0**	**143**	**1**	**423**	**2,358**

Volume Development
PM Peak Hour

6: Rancho Av. & I-10 EB Ramps

PHF: 0.948 **4:45 PM** Count Date: 7/27/2016

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**559**	**344**	**356**	**429**	**0**	**393**	**6**	**346**	**0**	**0**	**0**	**2,433**

7: Rancho Av. & W. N St.

PHF: 0.909 **4:30 PM** Count Date: 2/12/2019

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**551**	**107**	**131**	**948**	**0**	**0**	**0**	**0**	**10**	**0**	**42**	**1,789**

8: Rancho Av. & Agua Mansa Rd.

PHF: 0.945 **4:30 PM** Count Date: 2/14/2018

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**39**	**444**	**2**	**13**	**708**	**178**	**462**	**92**	**100**	**0**	**26**	**10**	**2,073**

9: La Cadena Dr. & Valley Bl.

PHF: 0.951 **4:30 PM** Count Date: 1/29/2019

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**132**	**359**	**356**	**35**	**342**	**36**	**58**	**393**	**135**	**452**	**240**	**18**	**2,557**

10: La Cadena Bl & I-10 WB On Ramp

PHF: 0.939 **4:45 PM** Count Date: 10/16/2018

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**152**	**703**	**0**	**0**	**779**	**156**	**0**	**0**	**0**	**0**	**0**	**0**	**1,789**

Volume Development
PM Peak Hour

11: La Cadena Dr. & W N St

	PHF:	0.965		4:45 PM					Count Date:		2/4/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**25**	**555**	**9**	**21**	**550**	**59**	**92**	**26**	**43**	**20**	**28**	**13**	**1,441**

12: La Cadena Dr. & Rancho Av.

	PHF:	0.966		4:15 PM					Count Date:		2/2/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**317**	**456**	**0**	**0**	**550**	**9**	**25**	**0**	**499**	**0**	**0**	**0**	**1,856**

13: La Cadena Dr. & Barton Rd.

	PHF:	0.973		4:30 AM					Count Date:		5/23/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**746**	**130**	**223**	**963**	**0**	**0**	**0**	**0**	**194**	**0**	**155**	**2,411**

14: Iowa Av. & La Cadena Dr.

	PHF:	0.962		4:30 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**79**	**704**	**0**	**0**	**336**	**916**	**333**	**0**	**166**	**0**	**0**	**0**	**2,535**

15: La Cadena Dr. & I-215 SB On-Ramp

	PHF:	0.919		4:15 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**29**	**476**	**6**	**530**	**395**	**79**	**53**	**10**	**18**	**0**	**0**	**0**	**1,594**

Volume Development
PM Peak Hour

16: Iowa Av. & I-215 SB Off-Ramp

	PHF:	0.968		4:00 PM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**734**	**0**	**0**	**503**	**0**	**49**	**0**	**427**	**0**	**0**	**0**	**1,713**

17: Iowa Av. & I-215 NB Ramps

	PHF:	0.981		4:00 PM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**161**	**0**	**769**	**388**	**711**	**0**	**0**	**18**	**346**	**2,393**

18: 9th St & Valley Bl

	PHF:	0.956		4:45 PM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**292**	**239**	**94**	**30**	**107**	**71**	**28**	**374**	**125**	**41**	**380**	**24**	**1,805**

19: 9th St. & I-10 WB Off Ramp

	PHF:	0.933		4:15 AM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**3**	**263**	**0**	**0**	**277**	**4**	**1**	**0**	**3**	**5**	**2**	**366**	**925**

20: 9th St & I-10 EB Ramps

	PHF:	0.888		4:00 PM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**0**	**0**	**0**	**285**	**0**	**0**	**266**	**2**	**0**	**0**	**0**	**0**	**554**

21: I-215 SB Ramps & Barton Rd.

	PHF:	0.948							Count Date:			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**3**	**0**	**61**	**328**	**3**	**141**	**55**	**466**	**1**	**9**	**348**	**293**	**1,708**

22: I-215 NB Ramps & Barton Rd.

	PHF:	0.973							Count Date:			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**32**	**0**	**448**	**0**	**0**	**0**	**112**	**742**	**0**	**0**	**618**	**316**	**2,268**

23: Riverside Av. & Agua Mansa Rd.

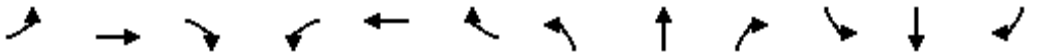
	PHF:	0.959							Count Date:	12/5/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2021 PCE:	**147**	**766**	**96**	**73**	**819**	**110**	**135**	**402**	**296**	**78**	**224**	**80**	**3,226**

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	0	357	103	331	676
Future Volume (vph)	0	357	103	331	676
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	25.4	25.4	11.7	83.7	67.5
Actuated g/C Ratio	0.21	0.21	0.10	0.70	0.56
v/c Ratio	0.76	0.60	0.63	0.14	0.54
Control Delay	57.1	7.7	82.4	1.6	17.9
Queue Delay	0.6	0.0	0.0	0.0	0.0
Total Delay	57.7	7.7	82.4	1.6	17.9
LOS	E	A	F	A	B
Approach Delay	29.2			20.8	17.9
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: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 22.0	Intersection LOS: C
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	271	0	357	103	331	0	0	676	319
Future Volume (veh/h)	0	0	0	271	0	357	103	331	0	0	676	319
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		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	0	1900	1900
Adj Flow Rate, veh/h				291	0	276	111	356	0	0	727	262
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				360	0	320	138	2564	0	0	1550	559
Arrive On Green				0.20	0.00	0.20	0.03	0.23	0.00	0.00	0.60	0.60
Sat Flow, veh/h				1810	0	1610	1810	3705	0	0	2695	937
Grp Volume(v), veh/h				291	0	276	111	356	0	0	505	484
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1731
Q Serve(g_s), s				18.4	0.0	19.9	7.3	9.4	0.0	0.0	18.8	18.8
Cycle Q Clear(g_c), s				18.4	0.0	19.9	7.3	9.4	0.0	0.0	18.8	18.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.54
Lane Grp Cap(c), veh/h				360	0	320	138	2564	0	0	1077	1033
V/C Ratio(X)				0.81	0.00	0.86	0.80	0.14	0.00	0.00	0.47	0.47
Avail Cap(c_a), veh/h				501	0	445	249	2564	0	0	1077	1033
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	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	1.00	1.00
Uniform Delay (d), s/veh				45.9	0.0	46.5	57.6	16.9	0.0	0.0	13.6	13.6
Incr Delay (d2), s/veh				6.7	0.0	11.9	3.9	0.1	0.0	0.0	1.5	1.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.7	0.0	8.8	3.6	4.2	0.0	0.0	7.7	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.6	0.0	58.3	61.5	17.0	0.0	0.0	15.0	15.1
LnGrp LOS				D	A	E	E	B	A	A	B	B
Approach Vol, veh/h					567			467			989	
Approach Delay, s/veh					55.4			27.6			15.1	
Approach LOS					E			C			B	

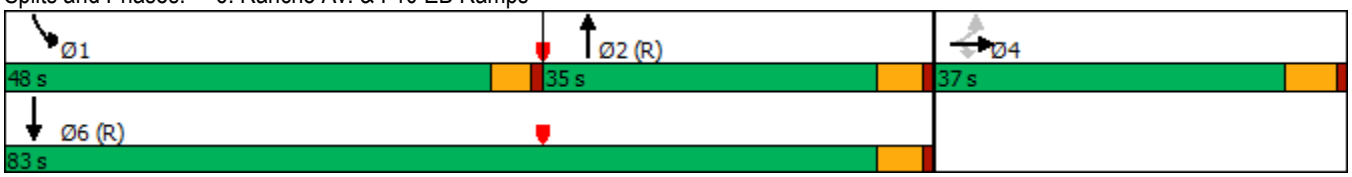
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		90.3			13.7	76.7		29.7				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		11.4			9.3	20.8		21.9				
Green Ext Time (p_c), s		2.5			0.1	7.6		2.0				

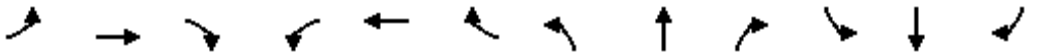
Intersection Summary												
HCM 6th Ctrl Delay			29.3									
HCM 6th LOS			C									

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	1	318	299	346	600
Future Volume (vph)	1	318	299	346	600
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.6	16.6	56.9	31.0	92.5
Actuated g/C Ratio	0.14	0.14	0.47	0.26	0.77
v/c Ratio	0.62	0.78	0.32	0.84	0.25
Control Delay	58.4	24.3	19.0	53.5	4.5
Queue Delay	0.0	0.0	0.0	1.6	0.4
Total Delay	58.4	24.3	19.0	55.1	4.9
LOS	E	C	B	E	A
Approach Delay	34.5		19.0		23.2
Approach LOS	C		B		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: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 24.9	Intersection LOS: C
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	1	318	0	0	0	0	299	166	346	600	0
Future Volume (veh/h)	135	1	318	0	0	0	0	299	166	346	600	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	153	1	276				0	340	144	393	682	0
Peak Hour Factor	0.88	0.88	0.88				0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	348	2	312				0	1114	463	415	2584	0
Arrive On Green	0.19	0.19	0.19				0.00	0.45	0.45	0.46	1.00	0.00
Sat Flow, veh/h	1798	12	1610				0	2580	1034	1810	3705	0
Grp Volume(v), veh/h	154	0	276				0	245	239	393	682	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1805	1714	1810	1805	0
Q Serve(g_s), s	9.0	0.0	20.0				0.0	10.4	10.7	25.0	0.0	0.0
Cycle Q Clear(g_c), s	9.0	0.0	20.0				0.0	10.4	10.7	25.0	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.60	1.00		0.00
Lane Grp Cap(c), veh/h	350	0	312				0	809	768	415	2584	0
V/C Ratio(X)	0.44	0.00	0.89				0.00	0.30	0.31	0.95	0.26	0.00
Avail Cap(c_a), veh/h	471	0	419				0	809	768	654	2584	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	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	42.7	0.0	47.1				0.0	21.1	21.2	31.8	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	15.9				0.0	1.0	1.1	11.5	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	4.0	0.0	9.1				0.0	4.6	4.5	9.5	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.0	63.0				0.0	22.1	22.3	43.3	0.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		430						484			1075	
Approach Delay, s/veh		56.0						22.2			16.0	
Approach LOS		E						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	32.1	58.9		29.0		91.0
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9
Max Q Clear Time (g_c+I1), s	27.0	12.7		22.0		2.0
Green Ext Time (p_c), s	0.5	2.6		1.2		5.3

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

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	63	284	41	98	1149
Future Vol, veh/h	10	63	284	41	98	1149
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	75	338	49	117	1368

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1965	194	0	0	387	0
Stage 1	363	-	-	-	-	-
Stage 2	1602	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	63	821	-	-	1183	-
Stage 1	680	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	57	821	-	-	1183	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	166	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	155	821	1183	-
HCM Lane V/C Ratio	-	-	0.077	0.091	0.099	-
HCM Control Delay (s)	-	-	30.1	9.8	8.4	-
HCM Lane LOS	-	-	D	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.3	-

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	181	18	31	65	334	32	764
Future Volume (vph)	181	18	31	65	334	32	764
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)		22.9	24.2	8.1	43.3	6.7	39.8
Actuated g/C Ratio		0.27	0.28	0.10	0.51	0.08	0.47
v/c Ratio		0.74	0.10	0.48	0.22	0.28	0.77
Control Delay		44.9	21.7	55.5	13.2	51.7	22.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		44.9	21.7	55.5	13.2	51.7	22.3
LOS		D	C	E	B	D	C
Approach Delay		44.9	21.7		20.0		23.1
Approach LOS		D	C		B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 85.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 25.3	Intersection LOS: C
Intersection Capacity Utilization 71.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	18	38	0	31	12	65	334	5	32	764	309
Future Volume (veh/h)	181	18	38	0	31	12	65	334	5	32	764	309
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	203	20	33	0	35	11	73	375	5	36	858	174
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	360	32	41	0	314	99	97	1520	20	62	1184	240
Arrive On Green	0.24	0.24	0.24	0.00	0.24	0.24	0.06	0.44	0.44	0.04	0.42	0.42
Sat Flow, veh/h	1031	132	172	0	1313	413	1619	3456	46	1619	2832	574
Grp Volume(v), veh/h	256	0	0	0	0	46	73	185	195	36	518	514
Grp Sat Flow(s),veh/h/ln	1335	0	0	0	0	1726	1619	1710	1792	1619	1710	1697
Q Serve(g_s), s	9.4	0.0	0.0	0.0	0.0	1.2	2.5	3.9	3.9	1.3	14.5	14.5
Cycle Q Clear(g_c), s	10.6	0.0	0.0	0.0	0.0	1.2	2.5	3.9	3.9	1.3	14.5	14.5
Prop In Lane	0.79		0.13	0.00		0.24	1.00		0.03	1.00		0.34
Lane Grp Cap(c), veh/h	432	0	0	0	0	413	97	752	788	62	715	709
V/C Ratio(X)	0.59	0.00	0.00	0.00	0.00	0.11	0.75	0.25	0.25	0.58	0.72	0.72
Avail Cap(c_a), veh/h	867	0	0	0	0	975	249	1945	2038	209	1903	1888
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	0.0	0.0	0.0	17.0	26.5	10.1	10.1	27.1	13.9	13.9
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.0	0.0	0.1	4.3	0.2	0.2	3.2	1.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.0	0.0	0.5	1.0	1.1	1.2	0.5	4.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	0.0	0.0	0.0	0.0	17.2	30.9	10.3	10.2	30.4	15.3	15.4
LnGrp LOS	C	A	A	A	A	B	C	B	B	C	B	B
Approach Vol, veh/h		256			46			453			1068	
Approach Delay, s/veh		22.3			17.2			13.6			15.9	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	31.0		19.5	8.0	29.8		19.5				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	3.3	5.9		12.6	4.5	16.5		3.2				
Green Ext Time (p_c), s	0.0	2.1		1.2	0.0	7.5		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		16.2	
HCM 6th LOS		B	

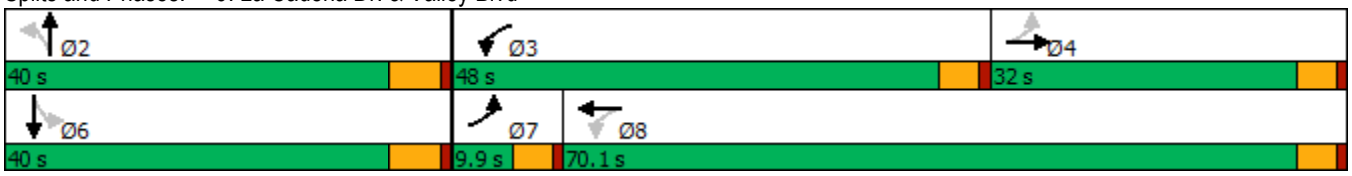
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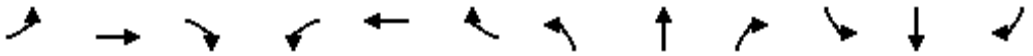
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	28	401	429	268	104	158	31	304
Future Volume (vph)	28	401	429	268	104	158	31	304
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	9.9	32.0	48.0	70.1	40.0	40.0	40.0	40.0
Total Split (%)	8.3%	26.7%	40.0%	58.4%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	26.0	20.2	48.8	43.7	19.0	19.0	19.0	19.0
Actuated g/C Ratio	0.33	0.25	0.61	0.55	0.24	0.24	0.24	0.24
v/c Ratio	0.09	0.70	0.78	0.16	0.56	0.47	0.21	0.44
Control Delay	13.4	32.6	23.3	10.5	42.8	12.9	32.4	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	32.6	23.4	10.5	42.8	12.9	32.4	28.9
LOS	B	C	C	B	D	B	C	C
Approach Delay		31.7		18.3		19.0		29.2
Approach LOS		C		B		B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.4	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 82.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	401	151	429	268	9	104	158	248	31	304	24
Future Volume (veh/h)	28	401	151	429	268	9	104	158	248	31	304	24
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	31	441	166	471	295	10	114	174	273	34	334	26
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	427	614	229	567	1544	52	297	464	414	216	873	68
Arrive On Green	0.03	0.25	0.25	0.24	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1619	2437	909	1619	3375	114	980	1710	1525	905	3216	249
Grp Volume(v), veh/h	31	308	299	471	149	156	114	174	273	34	177	183
Grp Sat Flow(s),veh/h/ln	1619	1710	1636	1619	1710	1779	980	1710	1525	905	1710	1755
Q Serve(g_s), s	0.9	10.4	10.5	12.4	3.3	3.3	6.8	5.2	10.0	2.2	5.3	5.4
Cycle Q Clear(g_c), s	0.9	10.4	10.5	12.4	3.3	3.3	12.1	5.2	10.0	12.2	5.3	5.4
Prop In Lane	1.00		0.56	1.00		0.06	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	427	431	412	567	782	814	297	464	414	216	464	476
V/C Ratio(X)	0.07	0.72	0.73	0.83	0.19	0.19	0.38	0.37	0.66	0.16	0.38	0.38
Avail Cap(c_a), veh/h	510	743	711	1294	1776	1848	562	927	827	461	927	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	21.5	21.6	12.3	10.2	10.2	23.6	18.6	20.4	25.8	18.7	18.7
Incr Delay (d2), s/veh	0.0	2.2	2.4	1.2	0.1	0.1	0.8	0.5	1.8	0.3	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.1	4.0	3.8	1.1	1.2	1.4	1.8	3.3	0.4	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	23.8	24.0	13.5	10.3	10.3	24.4	19.1	22.2	26.1	19.2	19.2
LnGrp LOS	B	C	C	B	B	B	C	B	C	C	B	B
Approach Vol, veh/h		638			776			561			394	
Approach Delay, s/veh		23.5			12.3			21.7			19.8	
Approach LOS		C			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.9	19.7	20.5		22.9	6.7	33.5				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		34.2	43.4	27.4		34.2	5.3	65.5				
Max Q Clear Time (g_c+I1), s		14.1	14.4	12.5		14.2	2.9	5.3				
Green Ext Time (p_c), s		3.0	0.7	3.3		1.9	0.0	1.9				

Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	118	402	727	177
Future Vol, veh/h	0	0	118	402	727	177
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	134	457	826	201

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1424	514	1027	0	-	0
Stage 1	927	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	129	511	684	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	95	511	684	-	-	-
Mov Cap-2 Maneuver	95	-	-	-	-	-
Stage 1	259	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	684	-	-	-	-
HCM Lane V/C Ratio	0.196	-	-	-	-
HCM Control Delay (s)	11.5	1	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	54	14	61	18	15	17	20	509	8	465
Future Volume (vph)	54	14	61	18	15	17	20	509	8	465
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.0	4.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	76.0	76.0	76.0	76.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.0	10.0		10.0	10.0	17.0	17.0	16.7	16.7
Actuated g/C Ratio		0.30	0.30		0.30	0.30	0.51	0.51	0.50	0.50
v/c Ratio		0.19	0.14		0.09	0.04	0.06	0.34	0.02	0.33
Control Delay		10.6	4.1		9.5	4.1	6.9	7.5	6.6	7.6
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		10.6	4.1		9.5	4.1	6.9	7.5	6.6	7.6
LOS		B	A		A	A	A	A	A	A
Approach Delay		7.5			7.7			7.4		7.6
Approach LOS		A			A			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 33.1	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.34	
Intersection Signal Delay: 7.5	Intersection LOS: A
Intersection Capacity Utilization 44.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	14	61	18	15	17	20	509	7	8	465	32
Future Volume (veh/h)	54	14	61	18	15	17	20	509	7	8	465	32
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	62	16	70	21	17	20	23	585	8	9	534	37
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	527	110	426	381	249	426	425	1201	16	418	1128	78
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1087	395	1525	673	891	1525	807	3454	47	791	3245	224
Grp Volume(v), veh/h	78	0	70	38	0	20	23	289	304	9	281	290
Grp Sat Flow(s),veh/h/ln	1482	0	1525	1564	0	1525	807	1710	1792	791	1710	1760
Q Serve(g_s), s	0.5	0.0	1.0	0.0	0.0	0.3	0.7	3.9	3.9	0.3	3.7	3.7
Cycle Q Clear(g_c), s	1.1	0.0	1.0	0.4	0.0	0.3	4.4	3.9	3.9	4.1	3.7	3.7
Prop In Lane	0.79		1.00	0.55		1.00	1.00		0.03	1.00		0.13
Lane Grp Cap(c), veh/h	637	0	426	630	0	426	425	594	623	418	594	612
V/C Ratio(X)	0.12	0.00	0.16	0.06	0.00	0.05	0.05	0.49	0.49	0.02	0.47	0.47
Avail Cap(c_a), veh/h	2216	0	2076	2260	0	2076	2101	4145	4343	2049	4122	4241
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	7.9	7.7	0.0	7.6	9.1	7.4	7.4	9.0	7.4	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.6	0.6	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.2	0.1	0.0	0.1	0.1	0.7	0.7	0.0	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	0.0	8.1	7.7	0.0	7.7	9.1	8.0	8.0	9.1	8.0	8.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		148			58			616			580	
Approach Delay, s/veh		8.0			7.7			8.1			8.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.3		12.7		16.3		12.7				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 70		39.4		69.8		39.4				
Max Q Clear Time (g_c+I1), s		6.4		3.1		6.1		2.4				
Green Ext Time (p_c), s		3.7		0.7		3.3		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		8.0
HCM 6th LOS		A

Notes

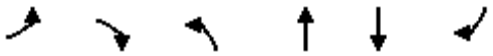
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	14	433	258	402	479
Future Volume (vph)	14	433	258	402	479
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	11.1	11.1	16.3	37.2	16.1
Actuated g/C Ratio	0.18	0.18	0.27	0.61	0.26
v/c Ratio	0.54	0.53	0.67	0.22	0.60
Control Delay	10.7	9.8	30.0	5.3	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	9.8	30.0	5.3	23.8
LOS	B	A	C	A	C
Approach Delay	10.3			15.0	23.8
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 60.8	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 58.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	433	258	402	479	2
Future Volume (veh/h)	14	433	258	402	479	2
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	1620	1620	1530	1620	1620	1620
Adj Flow Rate, veh/h	0	340	263	410	489	2
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	317	564	313	1680	741	3
Arrive On Green	0.00	0.21	0.21	0.55	0.24	0.24
Sat Flow, veh/h	1543	2746	1457	3159	3225	13
Grp Volume(v), veh/h	0	340	263	410	239	252
Grp Sat Flow(s),veh/h/ln	1543	1373	1457	1539	1539	1618
Q Serve(g_s), s	0.0	5.4	8.3	3.4	6.8	6.8
Cycle Q Clear(g_c), s	0.0	5.4	8.3	3.4	6.8	6.8
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	317	564	313	1680	363	381
V/C Ratio(X)	0.00	0.60	0.84	0.24	0.66	0.66
Avail Cap(c_a), veh/h	807	1435	1191	5287	1239	1302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	17.4	18.1	5.7	16.7	16.7
Incr Delay (d2), s/veh	0.0	1.0	2.4	0.1	2.1	2.0
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	0.1	2.4	0.6	2.0	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.4	20.5	5.8	18.7	18.6
LnGrp LOS	A	B	C	A	B	B
Approach Vol, veh/h	340			673	491	
Approach Delay, s/veh	18.4			11.6	18.7	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.5		15.7	14.9	17.6
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		5.4		7.4	10.3	8.8
Green Ext Time (p_c), s		2.6		1.2	0.3	2.6

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

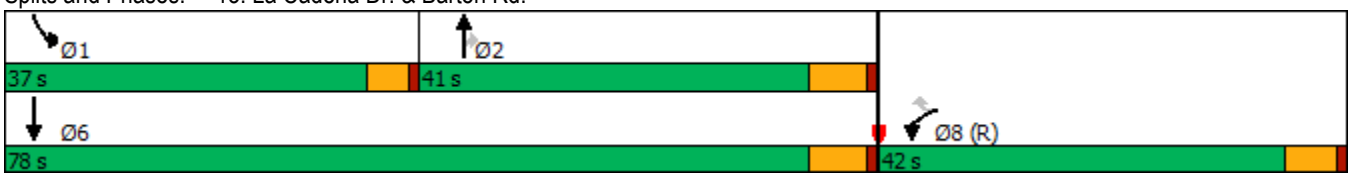
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	148	173	529	128	206	1038
Future Volume (vph)	148	173	529	128	206	1038
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	55.7	55.7	26.2	26.2	21.5	52.3
Actuated g/C Ratio	0.46	0.46	0.22	0.22	0.18	0.44
v/c Ratio	0.21	0.23	0.76	0.31	0.76	0.74
Control Delay	23.0	7.0	50.4	7.6	62.7	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	7.0	50.4	7.6	62.7	30.8
LOS	C	A	D	A	E	C
Approach Delay	14.3		42.1			36.1
Approach LOS	B		D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 34.7	Intersection LOS: C
Intersection Capacity Utilization 51.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	148	173	529	128	206	1038
Future Volume (veh/h)	148	173	529	128	206	1038
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	157	0	563	99	219	1104
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	488		684	305	248	1338
Arrive On Green	0.30	0.00	0.20	0.20	0.15	0.39
Sat Flow, veh/h	1619	1525	3510	1525	1619	3510
Grp Volume(v), veh/h	157	0	563	99	219	1104
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1525	1619	1710
Q Serve(g_s), s	9.0	0.0	18.9	6.7	15.9	34.8
Cycle Q Clear(g_c), s	9.0	0.0	18.9	6.7	15.9	34.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	488		684	305	248	1338
V/C Ratio(X)	0.32		0.82	0.32	0.88	0.82
Avail Cap(c_a), veh/h	488		992	442	437	2046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.90	0.90	0.79	0.79
Uniform Delay (d), s/veh	32.4	0.0	46.0	41.1	49.8	32.8
Incr Delay (d2), s/veh	1.7	0.0	3.4	0.6	8.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	8.0	2.5	6.8	13.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.1	0.0	49.4	41.6	58.0	34.2
LnGrp LOS	C		D	D	E	C
Approach Vol, veh/h	157	A	662			1323
Approach Delay, s/veh	34.1		48.2			38.1
Approach LOS	C		D			D

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	23.0	30.2			53.2	42.0
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8			71.8	36.2
Max Q Clear Time (g_c+I1), s	17.9	20.9			36.8	11.0
Green Ext Time (p_c), s	0.5	3.1			8.5	0.2

Intersection Summary		
HCM 6th Ctrl Delay		41.0
HCM 6th LOS		D

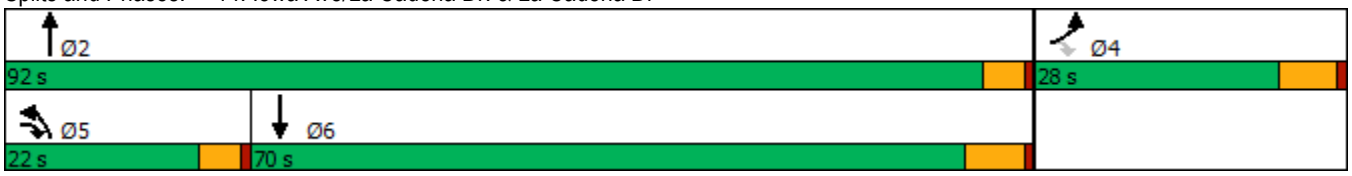
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	116	103	83	574	520	878
Future Volume (vph)	116	103	83	574	520	878
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	12.7	21.9	8.6	43.3	25.9	60.0
Actuated g/C Ratio	0.21	0.36	0.14	0.72	0.43	1.00
v/c Ratio	0.35	0.19	0.37	0.46	0.69	0.36
Control Delay	29.6	14.7	33.5	6.9	20.9	0.4
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	29.6	14.7	33.5	7.0	20.9	0.4
LOS	C	B	C	A	C	A
Approach Delay	22.6			10.4	8.0	
Approach LOS	C			B	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 60	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 56.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	116	103	83	574	520	878
Future Volume (veh/h)	116	103	83	574	520	878
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	1700	1800	1700	1800	1800	1700
Adj Flow Rate, veh/h	120	80	86	592	536	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	316	407	116	979	677	
Arrive On Green	0.20	0.20	0.07	0.54	0.38	0.00
Sat Flow, veh/h	1619	1525	1619	1800	1800	2536
Grp Volume(v), veh/h	120	80	86	592	536	0
Grp Sat Flow(s),veh/h/ln	1619	1525	1619	1800	1800	1268
Q Serve(g_s), s	3.1	1.9	2.5	10.6	12.6	0.0
Cycle Q Clear(g_c), s	3.1	1.9	2.5	10.6	12.6	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	316	407	116	979	677	
V/C Ratio(X)	0.38	0.20	0.74	0.60	0.79	
Avail Cap(c_a), veh/h	742	808	592	3308	2415	
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	0.00
Uniform Delay (d), s/veh	16.6	13.5	21.7	7.4	13.2	0.0
Incr Delay (d2), s/veh	0.8	0.2	3.5	0.6	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.9	0.9	2.1	3.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.4	13.7	25.2	8.0	15.3	0.0
LnGrp LOS	B	B	C	A	B	
Approach Vol, veh/h	200			678	536	A
Approach Delay, s/veh	15.9			10.2	15.3	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.1		15.5	8.0	24.1
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		12.6		5.1	4.5	14.6
Green Ext Time (p_c), s		3.8		0.5	0.1	3.3

Intersection Summary		
HCM 6th Ctrl Delay	12.9	
HCM 6th LOS	B	

Notes

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

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

Intersection	
Intersection Delay, s/veh	39.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	18	30	0	0	0	10	123	0	550	401	48
Future Vol, veh/h	76	18	30	0	0	0	10	123	0	550	401	48
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	85	20	34	0	0	0	11	138	0	618	451	54
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	12.9	9.1	46.9
HCM LOS	B	A	E

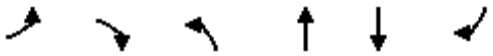
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	61%	100%	0%
Vol Thru, %	0%	100%	100%	15%	0%	89%
Vol Right, %	0%	0%	0%	24%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	62	62	124	550	449
LT Vol	10	0	0	76	550	0
Through Vol	0	62	62	18	0	401
RT Vol	0	0	0	30	0	48
Lane Flow Rate	11	69	69	139	618	504
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.022	0.123	0.09	0.281	1.023	0.754
Departure Headway (Hd)	6.919	6.419	4.698	7.273	5.962	5.382
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	513	554	753	493	612	676
Service Time	4.716	4.209	2.484	5.023	3.678	3.098
HCM Lane V/C Ratio	0.021	0.125	0.092	0.282	1.01	0.746
HCM Control Delay	9.9	10.1	8	12.9	66.6	22.7
HCM Lane LOS	A	B	A	B	F	C
HCM 95th-tile Q	0.1	0.4	0.3	1.1	16.1	6.9

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	30	567	627	623
Future Volume (vph)	30	567	627	623
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.8	33.8
Actuated g/C Ratio	0.12	0.12	0.23	0.41
v/c Ratio	0.15	1.06	1.54	0.85
Control Delay	37.3	68.4	281.3	32.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	37.3	68.4	281.3	32.6
LOS	D	E	F	C
Approach Delay	66.8		281.3	32.6
Approach LOS	E		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.5	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.54	
Intersection Signal Delay: 128.0	Intersection LOS: F
Intersection Capacity Utilization 78.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	567	0	627	623	0
Future Volume (veh/h)	30	567	0	627	623	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	33	468	0	674	670	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	440	392	0	865	865	0
Arrive On Green	0.24	0.24	0.00	0.46	0.46	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	33	468	0	674	670	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	0.6	10.0	0.0	12.3	12.2	0.0
Cycle Q Clear(g_c), s	0.6	10.0	0.0	12.3	12.2	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	440	392	0	865	865	0
V/C Ratio(X)	0.07	1.20	0.00	0.78	0.77	0.00
Avail Cap(c_a), veh/h	440	392	0	865	3363	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.0	15.6	0.0	9.5	9.4	0.0
Incr Delay (d2), s/veh	0.1	110.3	0.0	4.6	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	15.1	0.0	3.6	2.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.1	125.9	0.0	14.0	10.9	0.0
LnGrp LOS	B	F	A	B	B	A
Approach Vol, veh/h	501			674	670	
Approach Delay, s/veh	118.4			14.0	10.9	
Approach LOS	F			B	B	

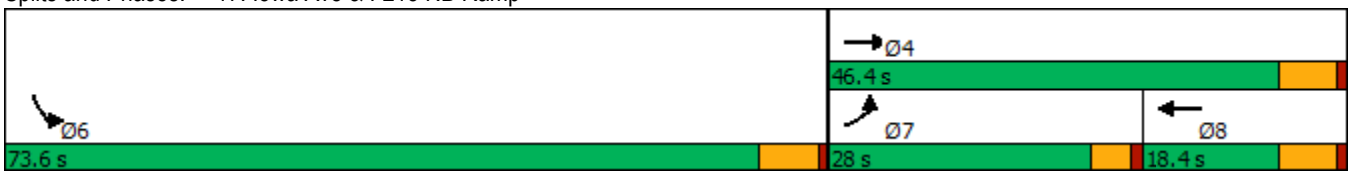
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		24.9		16.2		24.9
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		14.3		12.0		14.2
Green Ext Time (p_c), s		1.6		0.0		4.5

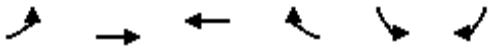
Intersection Summary		
HCM 6th Ctrl Delay	41.2	
HCM 6th LOS	D	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	332	584	38	120
Future Volume (vph)	332	584	38	120
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.02	0.99	0.89	1.07
Control Delay	100.5	72.9	40.8	60.7
Queue Delay	0.0	0.0	0.0	6.1
Total Delay	100.5	72.9	40.8	66.8
LOS	F	E	D	E
Approach Delay		82.9	40.8	66.8
Approach LOS		F	D	E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 69.3	Intersection LOS: E
Intersection Capacity Utilization 125.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	584	38	297	120	1070
Future Volume (veh/h)	332	584	38	297	120	1070
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	357	628	41	260	129	877
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	353	636	23	144	118	799
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	224	1420	209	1423
Grp Volume(v), veh/h	357	628	0	301	1007	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1644	1633	0
Q Serve(g_s), s	23.4	39.4	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	39.4	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.86	0.13	0.87
Lane Grp Cap(c), veh/h	353	637	0	167	917	0
V/C Ratio(X)	1.01	0.99	0.00	1.80	1.10	0.00
Avail Cap(c_a), veh/h	353	637	0	167	917	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.6	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	50.9	32.2	0.0	383.0	60.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	23.8	0.0	22.8	38.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	99.2	71.8	0.0	436.9	86.4	0.0
LnGrp LOS	F	E	A	F	F	A
Approach Vol, veh/h		985	301		1007	
Approach Delay, s/veh		81.7	436.9		86.4	
Approach LOS		F	F		F	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			46.4		73.6	28.0	18.4
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			40.2		67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s			41.4		69.4	25.4	14.2
Green Ext Time (p_c), s			0.0		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	130.4
HCM 6th LOS	F

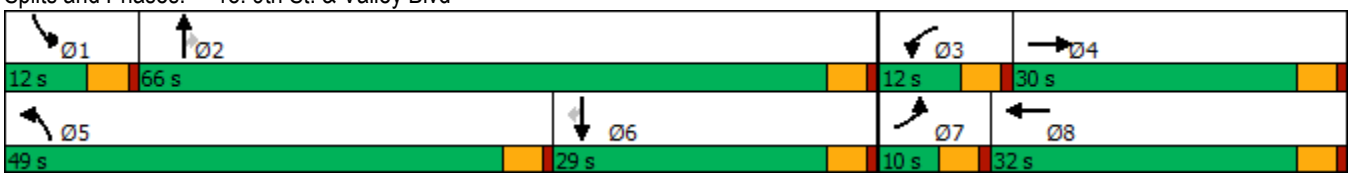
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	2	225	18	328	332	162	59	24	124	85
Future Volume (vph)	2	225	18	328	332	162	59	24	124	85
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	26.6	9.6	26.6	9.6	22.6	22.6	9.6	22.6	22.6
Total Split (s)	10.0	30.0	12.0	32.0	49.0	66.0	66.0	12.0	29.0	29.0
Total Split (%)	8.3%	25.0%	10.0%	26.7%	40.8%	55.0%	55.0%	10.0%	24.2%	24.2%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	5.5	13.9	6.0	15.9	19.5	33.6	33.6	6.2	12.5	12.5
Actuated g/C Ratio	0.09	0.22	0.09	0.25	0.30	0.52	0.52	0.10	0.19	0.19
v/c Ratio	0.01	0.56	0.13	0.43	0.71	0.18	0.07	0.16	0.38	0.22
Control Delay	39.0	18.2	38.1	23.7	30.4	12.5	1.4	38.2	31.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	18.2	38.1	23.7	30.4	12.5	1.4	38.2	31.6	3.0
LOS	D	B	D	C	C	B	A	D	C	A
Approach Delay		18.3		24.4		22.1			21.9	
Approach LOS		B		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 64.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 57.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	225	216	18	328	13	332	162	59	24	124	85
Future Volume (veh/h)	2	225	216	18	328	13	332	162	59	24	124	85
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	2	237	227	19	345	14	349	171	62	25	131	89
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	4	374	334	37	800	32	405	720	610	47	322	273
Arrive On Green	0.00	0.22	0.22	0.02	0.24	0.24	0.25	0.40	0.40	0.03	0.18	0.18
Sat Flow, veh/h	1619	1710	1525	1619	3350	136	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	2	237	227	19	176	183	349	171	62	25	131	89
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1776	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	0.1	7.0	7.6	0.6	4.9	4.9	11.5	3.5	1.4	0.9	3.6	2.8
Cycle Q Clear(g_c), s	0.1	7.0	7.6	0.6	4.9	4.9	11.5	3.5	1.4	0.9	3.6	2.8
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	374	334	37	408	424	405	720	610	47	322	273
V/C Ratio(X)	0.45	0.63	0.68	0.51	0.43	0.43	0.86	0.24	0.10	0.54	0.41	0.33
Avail Cap(c_a), veh/h	157	778	694	215	839	871	1287	1979	1677	215	787	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	19.8	20.0	27.0	18.0	18.0	20.0	11.1	10.5	26.7	20.3	20.0
Incr Delay (d2), s/veh	24.4	1.8	2.4	4.0	0.7	0.7	2.2	0.2	0.1	3.5	0.8	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	0.1	2.7	2.7	0.3	1.8	1.9	4.1	1.2	0.4	0.4	1.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	21.6	22.5	31.0	18.7	18.7	22.2	11.3	10.5	30.3	21.1	20.7
LnGrp LOS	D	C	C	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		466			378			582			245	
Approach Delay, s/veh		22.1			19.4			17.7			21.9	
Approach LOS		C			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	26.9	5.9	16.8	18.6	14.6	4.8	17.9
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	61.4	7.4	25.4	44.4	24.4	5.4	27.4
Max Q Clear Time (g_c+I1), s	2.9	5.5	2.6	9.6	13.5	5.6	2.1	6.9
Green Ext Time (p_c), s	0.0	1.3	0.0	2.6	0.5	0.9	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	410	155	0	0	360
Future Vol, veh/h	3	410	155	0	0	360
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	456	172	0	0	400

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	572	172	0	-	-	-
Stage 1	172	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	485	877	-	0	0	-
Stage 1	863	-	-	0	0	-
Stage 2	681	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	485	877	-	-	-	-
Mov Cap-2 Maneuver	561	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	873	-
HCM Lane V/C Ratio	-	0.526	-
HCM Control Delay (s)	-	13.6	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	3.1	-

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	156	3	0	0	364	0
Future Vol, veh/h	156	3	0	0	364	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	190	4	0	0	444	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	10.2	13.6
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	159	364
LT Vol	156	364
Through Vol	3	0
RT Vol	0	0
Lane Flow Rate	194	444
Geometry Grp	1	1
Degree of Util (X)	0.279	0.569
Departure Headway (Hd)	5.173	4.618
Convergence, Y/N	Yes	Yes
Cap	692	781
Service Time	3.217	2.649
HCM Lane V/C Ratio	0.28	0.569
HCM Control Delay	10.2	13.6
HCM Lane LOS	B	B
HCM 95th-tile Q	1.1	3.6

Intersection	
Intersection Delay, s/veh	6.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	492	979	44	443
Demand Flow Rate, veh/h	492	979	44	443
Vehicles Circulating, veh/h	314	61	751	494
Vehicles Exiting, veh/h	623	734	55	546
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	6.2	5.4	7.2
Approach LOS	A	A	A	A

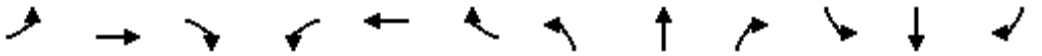
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.659	0.341
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	231	261	460	519	44	292	151
Cap Entry Lane, veh/h	1011	1087	1276	1348	750	857	933
Entry HV Adj Factor	1.001	0.999	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	231	261	460	519	44	292	151
Cap Entry, veh/h	1012	1086	1277	1348	750	857	933
V/C Ratio	0.228	0.240	0.360	0.385	0.059	0.341	0.162
Control Delay, s/veh	5.7	5.6	6.2	6.3	5.4	8.1	5.4
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	1	1	2	2	0	2	1

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	90	555	854	550	46	0	343
Future Volume (vph)	90	555	854	550	46	0	343
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	22.0	94.0	72.0	72.0	26.0	26.0	26.0
Total Split (%)	18.3%	78.3%	60.0%	60.0%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.4	40.3	30.1	30.1	9.1	10.6	10.6
Actuated g/C Ratio	0.13	0.64	0.48	0.48	0.15	0.17	0.17
v/c Ratio	0.41	0.26	0.54	0.58	0.20	0.33	0.33
Control Delay	33.8	4.4	12.9	3.7	29.4	1.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	4.4	12.9	3.7	29.4	1.5	1.5
LOS	C	A	B	A	C	A	A
Approach Delay		8.5	9.3			4.9	
Approach LOS		A	A			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 62.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 8.4	Intersection LOS: A
Intersection Capacity Utilization 60.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	555	0	0	854	550	46	0	343	0	0	0
Future Volume (veh/h)	90	555	0	0	854	550	46	0	343	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	99	610	0	0	938	456	51	0	284			
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	0	0	0	0	0	0	0	0			
Cap, veh/h	138	2368	0	0	1748	759	262	0	466			
Arrive On Green	0.08	0.66	0.00	0.00	0.48	0.48	0.14	0.00	0.14			
Sat Flow, veh/h	1810	3705	0	0	3705	1567	1810	0	3220			
Grp Volume(v), veh/h	99	610	0	0	938	456	51	0	284			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1567	1810	0	1610			
Q Serve(g_s), s	2.6	3.4	0.0	0.0	8.7	10.2	1.2	0.0	4.0			
Cycle Q Clear(g_c), s	2.6	3.4	0.0	0.0	8.7	10.2	1.2	0.0	4.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	138	2368	0	0	1748	759	262	0	466			
V/C Ratio(X)	0.72	0.26	0.00	0.00	0.54	0.60	0.19	0.00	0.61			
Avail Cap(c_a), veh/h	654	6665	0	0	5015	2177	808	0	1438			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.7	3.4	0.0	0.0	8.7	9.0	18.1	0.0	19.3			
Incr Delay (d2), s/veh	2.6	0.1	0.0	0.0	0.3	0.8	0.4	0.0	1.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	0.6	0.0	0.0	2.5	2.6	0.4	0.0	1.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	3.5	0.0	0.0	8.9	9.8	18.5	0.0	20.6			
LnGrp LOS	C	A	A	A	A	A	B	A	C			
Approach Vol, veh/h		709			1394			335				
Approach Delay, s/veh		6.4			9.2			20.3				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.7			8.3	28.4		11.5				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		88.9			17.4	66.9		21.5				
Max Q Clear Time (g_c+I1), s		5.4			4.6	12.2		6.0				
Green Ext Time (p_c), s		4.6			0.1	11.1		1.1				

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

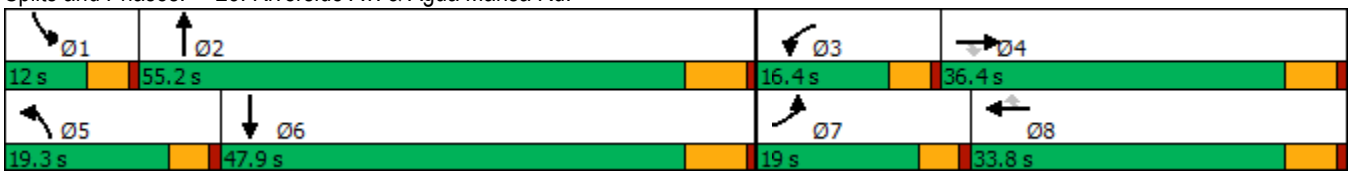
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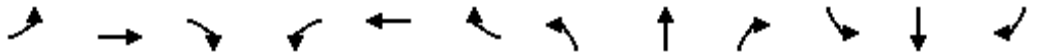
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	160	159	74	108	262	81	176	883	62	853
Future Volume (vph)	160	159	74	108	262	81	176	883	62	853
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.8	33.8	9.6	29.5	9.6	31.5
Total Split (s)	19.0	36.4	36.4	16.4	33.8	33.8	19.3	55.2	12.0	47.9
Total Split (%)	15.8%	30.3%	30.3%	13.7%	28.2%	28.2%	16.1%	46.0%	10.0%	39.9%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	5.8	4.6	5.8	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	12.2	23.8	23.8	10.2	20.7	20.7	13.8	46.7	6.9	37.3
Actuated g/C Ratio	0.11	0.22	0.22	0.10	0.19	0.19	0.13	0.44	0.06	0.35
v/c Ratio	0.82	0.40	0.16	0.67	0.75	0.20	0.80	0.64	0.57	0.87
Control Delay	78.2	39.7	0.7	68.7	55.2	1.0	72.6	27.2	71.8	41.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	39.7	0.7	68.7	55.2	1.0	72.6	27.2	71.8	41.5
LOS	E	D	A	E	E	A	E	C	E	D
Approach Delay		48.0			48.8			34.3		43.2
Approach LOS		D			D			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.9	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 41.4	Intersection LOS: D
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	159	74	108	262	81	176	883	61	62	853	169
Future Volume (veh/h)	160	159	74	108	262	81	176	883	61	62	853	169
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	168	167	41	114	276	66	185	929	57	65	898	140
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	185	406	343	144	342	289	221	1452	89	84	1079	168
Arrive On Green	0.10	0.21	0.21	0.08	0.18	0.18	0.12	0.42	0.42	0.05	0.34	0.34
Sat Flow, veh/h	1810	1900	1608	1810	1900	1607	1810	3455	212	1810	3129	488
Grp Volume(v), veh/h	168	167	41	114	276	66	185	485	501	65	518	520
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1607	1810	1805	1862	1810	1805	1811
Q Serve(g_s), s	8.2	6.8	1.8	5.5	12.5	3.1	9.0	19.1	19.1	3.2	23.6	23.6
Cycle Q Clear(g_c), s	8.2	6.8	1.8	5.5	12.5	3.1	9.0	19.1	19.1	3.2	23.6	23.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.27
Lane Grp Cap(c), veh/h	185	406	343	144	342	289	221	759	782	84	622	625
V/C Ratio(X)	0.91	0.41	0.12	0.79	0.81	0.23	0.84	0.64	0.64	0.77	0.83	0.83
Avail Cap(c_a), veh/h	271	649	549	238	594	502	297	981	1012	149	834	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	30.4	28.4	40.5	35.2	31.4	38.5	20.6	20.6	42.2	27.0	27.0
Incr Delay (d2), s/veh	19.8	0.7	0.2	3.6	4.5	0.4	11.2	0.9	0.9	5.6	5.4	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	3.0	0.7	2.5	5.9	1.2	4.4	7.1	7.3	1.5	9.9	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	31.0	28.6	44.1	39.8	31.8	49.7	21.5	21.5	47.8	32.4	32.4
LnGrp LOS	E	C	C	D	D	C	D	C	C	D	C	C
Approach Vol, veh/h		376			456			1171			1103	
Approach Delay, s/veh		43.5			39.7			25.9			33.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	44.2	11.7	24.9	15.5	37.4	14.8	21.9
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	7.4	48.7	11.8	30.6	14.7	41.4	14.4	28.0
Max Q Clear Time (g_c+I1), s	5.2	21.1	7.5	8.8	11.0	25.6	10.2	14.5
Green Ext Time (p_c), s	0.0	5.8	0.0	0.9	0.1	5.3	0.1	1.3

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	1	423	126	826	641
Future Volume (vph)	1	423	126	826	641
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	25.0	25.0	12.6	84.1	67.0
Actuated g/C Ratio	0.21	0.21	0.10	0.70	0.56
v/c Ratio	0.39	0.89	0.68	0.33	0.44
Control Delay	42.2	45.5	77.4	7.9	17.2
Queue Delay	0.4	0.0	0.0	0.3	0.0
Total Delay	42.6	45.5	77.4	8.2	17.2
LOS	D	D	E	A	B
Approach Delay	44.8			17.4	17.2
Approach LOS	D			B	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: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 81.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	143	1	423	126	826	0	0	641	198
Future Volume (veh/h)	0	0	0	143	1	423	126	826	0	0	641	198
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	0	1900	1900
Adj Flow Rate, veh/h				146	1	330	129	843	0	0	654	125
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				406	3	364	155	2467	0	0	1693	323
Arrive On Green				0.23	0.23	0.23	0.11	0.91	0.00	0.00	0.56	0.56
Sat Flow, veh/h				1798	12	1610	1810	3705	0	0	3119	577
Grp Volume(v), veh/h				147	0	330	129	843	0	0	390	389
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1796
Q Serve(g_s), s				8.2	0.0	23.9	8.4	3.7	0.0	0.0	14.6	14.6
Cycle Q Clear(g_c), s				8.2	0.0	23.9	8.4	3.7	0.0	0.0	14.6	14.6
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.32
Lane Grp Cap(c), veh/h				409	0	364	155	2467	0	0	1011	1006
V/C Ratio(X)				0.36	0.00	0.91	0.83	0.34	0.00	0.00	0.39	0.39
Avail Cap(c_a), veh/h				501	0	445	249	2467	0	0	1011	1006
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.63	0.63	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				39.1	0.0	45.2	52.3	1.9	0.0	0.0	14.8	14.8
Incr Delay (d2), s/veh				0.5	0.0	19.6	3.9	0.2	0.0	0.0	1.1	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.6	0.0	11.2	3.8	1.1	0.0	0.0	6.1	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.7	0.0	64.8	56.2	2.1	0.0	0.0	15.9	16.0
LnGrp LOS				D	A	E	E	A	A	A	B	B
Approach Vol, veh/h					477			972			779	
Approach Delay, s/veh					57.0			9.3			15.9	
Approach LOS					E			A			B	

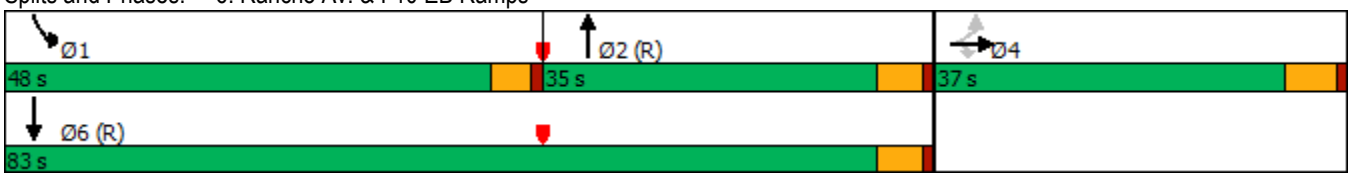
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		87.1			14.8	72.3		32.9				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		5.7			10.4	16.6		25.9				
Green Ext Time (p_c), s		7.0			0.1	5.5		1.2				

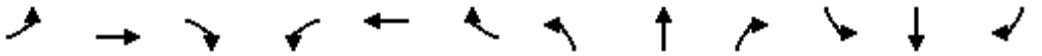
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	6	346	559	356	429
Future Volume (vph)	6	346	559	356	429
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	30.1	30.1	44.6	29.8	79.0
Actuated g/C Ratio	0.25	0.25	0.37	0.25	0.66
v/c Ratio	0.93	0.61	0.71	0.84	0.19
Control Delay	71.5	15.9	33.7	69.4	7.7
Queue Delay	0.0	0.0	0.0	2.1	0.3
Total Delay	71.5	15.9	33.7	71.6	8.0
LOS	E	B	C	E	A
Approach Delay	45.7		33.7		36.8
Approach LOS	D		C		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: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 38.4	Intersection LOS: D
Intersection Capacity Utilization 81.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	6	346	0	0	0	0	559	344	356	429	0
Future Volume (veh/h)	393	6	346	0	0	0	0	559	344	356	429	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	414	6	285				0	588	320	375	452	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	445	6	402				0	907	493	397	2381	0
Arrive On Green	0.25	0.25	0.25				0.00	0.40	0.40	0.44	1.00	0.00
Sat Flow, veh/h	1785	26	1610				0	2352	1228	1810	3705	0
Grp Volume(v), veh/h	420	0	285				0	470	438	375	452	0
Grp Sat Flow(s),veh/h/ln	1811	0	1610				0	1805	1679	1810	1805	0
Q Serve(g_s), s	27.2	0.0	19.4				0.0	25.3	25.3	23.8	0.0	0.0
Cycle Q Clear(g_c), s	27.2	0.0	19.4				0.0	25.3	25.3	23.8	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.73	1.00		0.00
Lane Grp Cap(c), veh/h	452	0	402				0	725	675	397	2381	0
V/C Ratio(X)	0.93	0.00	0.71				0.00	0.65	0.65	0.94	0.19	0.00
Avail Cap(c_a), veh/h	471	0	419				0	725	675	654	2381	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	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	44.0	0.0	41.1				0.0	29.0	29.0	33.0	0.0	0.0
Incr Delay (d2), s/veh	24.6	0.0	5.3				0.0	4.5	4.8	10.5	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	14.8	0.0	8.0				0.0	11.6	10.9	9.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	0.0	46.3				0.0	33.5	33.8	43.4	0.2	0.0
LnGrp LOS	E	A	D				A	C	C	D	A	A
Approach Vol, veh/h		705						908			827	
Approach Delay, s/veh		59.6						33.6			19.8	
Approach LOS		E						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.9	53.3		35.7		84.3
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9
Max Q Clear Time (g_c+I1), s	25.8	27.3		29.2		2.0
Green Ext Time (p_c), s	0.5	1.4		0.7		3.3

Intersection Summary		
HCM 6th Ctrl Delay		36.4
HCM 6th LOS		D

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	42	551	107	131	948
Future Vol, veh/h	10	42	551	107	131	948
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	46	605	118	144	1042

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1994	362	0	0	723	0
Stage 1	664	-	-	-	-	-
Stage 2	1330	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	60	641	-	-	889	-
Stage 1	479	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	641	-	-	889	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	479	-	-	-	-	-
Stage 2	209	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	1.2
HCM LOS	B		

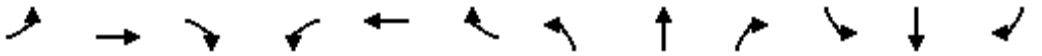
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	185	641	889	-
HCM Lane V/C Ratio	-	-	0.059	0.072	0.162	-
HCM Control Delay (s)	-	-	25.7	11.1	9.8	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.6	-

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	462	92	26	39	444	13	708
Future Volume (vph)	462	92	26	39	444	13	708
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)		32.1	33.3	6.7	34.0	5.6	29.3
Actuated g/C Ratio		0.40	0.42	0.08	0.43	0.07	0.37
v/c Ratio		1.28	0.05	0.30	0.33	0.12	0.76
Control Delay		163.6	15.5	44.7	15.6	42.9	25.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		163.6	15.5	44.7	15.6	42.9	25.9
LOS		F	B	D	B	D	C
Approach Delay		163.6	15.5		17.9		26.2
Approach LOS		F	B		B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.9	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 67.4	Intersection LOS: E
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	92	100	0	26	10	39	444	2	13	708	178
Future Volume (veh/h)	462	92	100	0	26	10	39	444	2	13	708	178
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	491	98	96	0	28	9	41	472	1	14	753	25
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	530	88	87	0	570	183	63	1120	2	27	1006	33
Arrive On Green	0.44	0.44	0.44	0.00	0.44	0.44	0.04	0.32	0.32	0.02	0.30	0.30
Sat Flow, veh/h	1015	203	198	0	1305	419	1619	3501	7	1619	3378	112
Grp Volume(v), veh/h	685	0	0	0	0	37	41	231	242	14	381	397
Grp Sat Flow(s),veh/h/ln	1416	0	0	0	0	1724	1619	1710	1799	1619	1710	1780
Q Serve(g_s), s	30.3	0.0	0.0	0.0	0.0	0.9	1.8	7.6	7.6	0.6	14.4	14.4
Cycle Q Clear(g_c), s	31.2	0.0	0.0	0.0	0.0	0.9	1.8	7.6	7.6	0.6	14.4	14.4
Prop In Lane	0.72		0.14	0.00		0.24	1.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h	705	0	0	0	0	753	63	547	575	27	509	530
V/C Ratio(X)	0.97	0.00	0.00	0.00	0.00	0.05	0.65	0.42	0.42	0.51	0.75	0.75
Avail Cap(c_a), veh/h	705	0	0	0	0	782	199	1560	1641	168	1526	1589
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	0.0	0.0	11.6	33.9	19.1	19.1	34.8	22.7	22.7
Incr Delay (d2), s/veh	27.0	0.0	0.0	0.0	0.0	0.0	4.1	0.5	0.5	5.3	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	0.0	0.0	0.0	0.0	0.3	0.7	2.7	2.9	0.3	5.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	0.0	0.0	0.0	0.0	11.6	38.0	19.6	19.6	40.2	24.9	24.8
LnGrp LOS	D	A	A	A	A	B	D	B	B	D	C	C
Approach Vol, veh/h		685			37			514			792	
Approach Delay, s/veh		49.1			11.6			21.1			25.1	
Approach LOS		D			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	28.7		37.0	7.4	27.1		37.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	2.6	9.6		33.2	3.8	16.4		2.9				
Green Ext Time (p_c), s	0.0	2.7		0.0	0.0	4.9		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		31.9
HCM 6th LOS		C

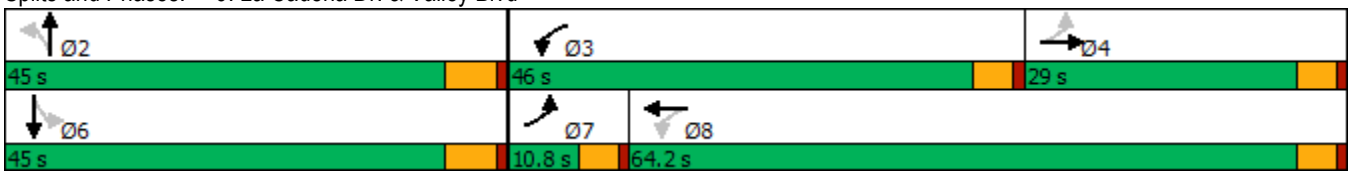
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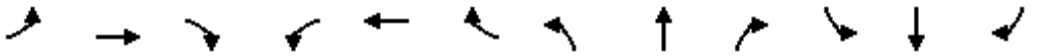
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	58	393	452	240	132	359	35	342
Future Volume (vph)	58	393	452	240	132	359	35	342
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	10.8	29.0	46.0	64.2	45.0	45.0	45.0	45.0
Total Split (%)	9.0%	24.2%	38.3%	53.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	25.9	19.7	49.7	41.6	24.2	24.2	24.2	24.2
Actuated g/C Ratio	0.30	0.23	0.58	0.49	0.28	0.28	0.28	0.28
v/c Ratio	0.18	0.71	0.81	0.16	0.62	0.71	0.40	0.41
Control Delay	15.6	36.8	28.1	13.6	42.9	24.1	43.2	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	36.8	28.2	13.6	42.9	24.1	43.2	27.0
LOS	B	D	C	B	D	C	D	C
Approach Delay		34.7		22.8		27.0		28.3
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 85.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 27.8	Intersection LOS: C
Intersection Capacity Utilization 92.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	393	135	452	240	18	132	359	356	35	342	36
Future Volume (veh/h)	58	393	135	452	240	18	132	359	356	35	342	36
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	61	414	142	476	253	19	139	378	375	37	360	38
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	410	550	187	551	1350	101	325	560	500	172	1023	107
Arrive On Green	0.05	0.22	0.22	0.25	0.42	0.42	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1619	2506	851	1619	3226	241	946	1710	1525	681	3123	328
Grp Volume(v), veh/h	61	281	275	476	133	139	139	378	375	37	196	202
Grp Sat Flow(s),veh/h/ln	1619	1710	1647	1619	1710	1757	946	1710	1525	681	1710	1741
Q Serve(g_s), s	2.1	11.2	11.4	15.4	3.6	3.6	9.6	13.9	16.0	3.7	6.4	6.4
Cycle Q Clear(g_c), s	2.1	11.2	11.4	15.4	3.6	3.6	16.0	13.9	16.0	19.7	6.4	6.4
Prop In Lane	1.00		0.52	1.00		0.14	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	410	375	361	551	716	735	325	560	500	172	560	570
V/C Ratio(X)	0.15	0.75	0.76	0.86	0.19	0.19	0.43	0.67	0.75	0.21	0.35	0.35
Avail Cap(c_a), veh/h	469	571	550	1068	1396	1434	523	918	819	315	918	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	26.6	26.7	15.2	13.4	13.4	24.8	21.2	21.9	30.7	18.7	18.7
Incr Delay (d2), s/veh	0.1	3.0	3.3	1.6	0.1	0.1	0.9	1.4	2.3	0.6	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.7	4.6	5.2	1.3	1.4	2.0	5.1	5.3	0.6	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	29.7	30.0	16.8	13.5	13.5	25.7	22.6	24.2	31.3	19.0	19.1
LnGrp LOS	C	C	C	B	B	B	C	C	C	C	B	B
Approach Vol, veh/h		617			748			892			435	
Approach Delay, s/veh		28.9			15.6			23.8			20.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.7	22.7	20.6		29.7	8.1	35.2				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		39.2	41.4	24.4		39.2	6.2	59.6				
Max Q Clear Time (g_c+I1), s		18.0	17.4	13.4		21.7	4.1	5.6				
Green Ext Time (p_c), s		5.3	0.7	2.6		2.2	0.0	1.7				

Intersection Summary												
HCM 6th Ctrl Delay			22.1									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	152	703	779	156
Future Vol, veh/h	0	0	152	703	779	156
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	162	748	829	166

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1610	498	995	0	-	0
Stage 1	912	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	97	523	703	-	-	-
Stage 1	357	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	59	523	703	-	-	-
Mov Cap-2 Maneuver	59	-	-	-	-	-
Stage 1	216	-	-	-	-	-
Stage 2	460	-	-	-	-	-

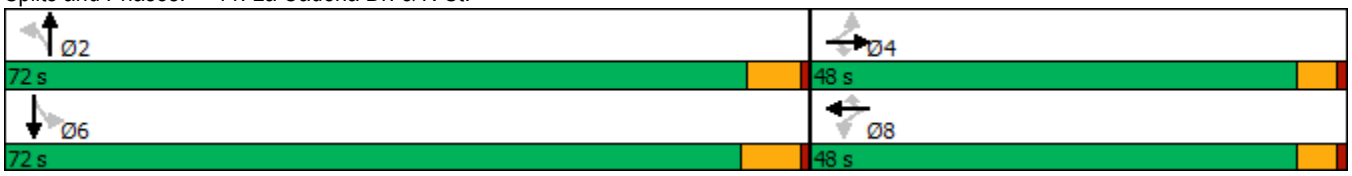
Approach	EB	NB	SB
HCM Control Delay, s	0	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	703	-	-	-	-
HCM Lane V/C Ratio	0.23	-	-	-	-
HCM Control Delay (s)	11.6	1.6	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.9	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	92	26	43	20	28	13	25	555	21	550
Future Volume (vph)	92	26	43	20	28	13	25	555	21	550
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.4	10.4		10.4	10.4	17.9	17.9	17.6	17.6
Actuated g/C Ratio		0.30	0.30		0.30	0.30	0.52	0.52	0.51	0.51
v/c Ratio		0.30	0.09		0.11	0.03	0.07	0.33	0.06	0.37
Control Delay		12.5	4.8		10.3	3.3	7.2	7.5	7.3	7.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.5	4.8		10.3	3.3	7.2	7.5	7.3	7.9
LOS		B	A		B	A	A	A	A	A
Approach Delay		10.4			8.8			7.5		7.8
Approach LOS		B			A			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 34.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 8.0	Intersection LOS: A
Intersection Capacity Utilization 47.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	26	43	20	28	13	25	555	9	21	550	59
Future Volume (veh/h)	92	26	43	20	28	13	25	555	9	21	550	59
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	96	27	45	21	29	14	26	578	9	22	573	61
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	511	118	432	302	332	432	402	1239	19	421	1122	119
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1056	415	1525	470	1173	1525	761	3447	54	795	3119	331
Grp Volume(v), veh/h	123	0	45	50	0	14	26	287	300	22	314	320
Grp Sat Flow(s),veh/h/ln	1471	0	1525	1643	0	1525	761	1710	1790	795	1710	1740
Q Serve(g_s), s	1.3	0.0	0.7	0.0	0.0	0.2	0.8	3.9	3.9	0.7	4.4	4.4
Cycle Q Clear(g_c), s	1.9	0.0	0.7	0.6	0.0	0.2	5.2	3.9	3.9	4.6	4.4	4.4
Prop In Lane	0.78		1.00	0.42		1.00	1.00		0.03	1.00		0.19
Lane Grp Cap(c), veh/h	629	0	432	635	0	432	402	615	644	421	615	626
V/C Ratio(X)	0.20	0.00	0.10	0.08	0.00	0.03	0.06	0.47	0.47	0.05	0.51	0.51
Avail Cap(c_a), veh/h	2308	0	2188	2451	0	2188	1793	3741	3917	1864	3718	3785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	8.0	8.0	0.0	7.8	9.7	7.5	7.5	9.2	7.6	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.6	0.5	0.1	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.2	0.2	0.0	0.0	0.1	0.7	0.7	0.1	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	0.0	8.1	8.0	0.0	7.9	9.7	8.0	8.0	9.3	8.3	8.3
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		168			64			613			656	
Approach Delay, s/veh		8.5			8.0			8.1			8.3	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.1		13.2		17.1		13.2				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 66		43.4		65.8		43.4				
Max Q Clear Time (g_c+I1), s		7.2		3.9		6.6		2.6				
Green Ext Time (p_c), s		3.7		0.9		3.8		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			8.2									
HCM 6th LOS			A									

Notes

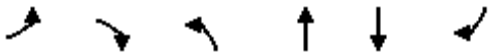
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	25	499	317	456	550
Future Volume (vph)	25	499	317	456	550
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	12.1	12.1	21.6	46.9	20.4
Actuated g/C Ratio	0.17	0.17	0.30	0.65	0.28
v/c Ratio	0.62	0.60	0.75	0.23	0.66
Control Delay	13.6	11.2	35.1	5.1	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	11.2	35.1	5.1	27.9
LOS	B	B	D	A	C
Approach Delay	12.4			17.4	27.9
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	499	317	456	550	9
Future Volume (veh/h)	25	499	317	456	550	9
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	1620	1620	1530	1620	1620	1620
Adj Flow Rate, veh/h	0	423	327	470	567	9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	315	560	372	1813	788	13
Arrive On Green	0.00	0.20	0.26	0.59	0.25	0.25
Sat Flow, veh/h	1543	2746	1457	3159	3182	49
Grp Volume(v), veh/h	0	423	327	470	281	295
Grp Sat Flow(s),veh/h/ln	1543	1373	1457	1539	1539	1611
Q Serve(g_s), s	0.0	8.4	12.5	4.3	9.7	9.7
Cycle Q Clear(g_c), s	0.0	8.4	12.5	4.3	9.7	9.7
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	315	560	372	1813	391	410
V/C Ratio(X)	0.00	0.75	0.88	0.26	0.72	0.72
Avail Cap(c_a), veh/h	670	1192	989	4392	1029	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.7	20.7	5.8	19.7	19.8
Incr Delay (d2), s/veh	0.0	2.1	2.7	0.1	2.5	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	0.0	0.2	3.7	0.8	3.1	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	23.8	23.4	5.9	22.2	22.1
LnGrp LOS	A	C	C	A	C	C
Approach Vol, veh/h	423			797	576	
Approach Delay, s/veh	23.8			13.0	22.2	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.4		17.6	19.4	21.0
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		6.3		10.4	14.5	11.7
Green Ext Time (p_c), s		3.0		1.4	0.4	3.1

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	194	155	746	130	223	963
Future Volume (vph)	194	155	746	130	223	963
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	48.2	48.2	32.9	32.9	22.4	59.8
Actuated g/C Ratio	0.40	0.40	0.27	0.27	0.19	0.50
v/c Ratio	0.31	0.24	0.82	0.26	0.77	0.58
Control Delay	29.0	12.1	48.5	6.3	62.4	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	12.1	48.5	6.3	62.4	22.1
LOS	C	B	D	A	E	C
Approach Delay	21.5		42.3			29.7
Approach LOS	C		D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 33.1	Intersection LOS: C
Intersection Capacity Utilization 61.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	194	155	746	130	223	963
Future Volume (veh/h)	194	155	746	130	223	963
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	200	0	769	98	230	993
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	488		875	390	259	1552
Arrive On Green	0.30	0.00	0.26	0.26	0.16	0.45
Sat Flow, veh/h	1619	1525	3510	1525	1619	3510
Grp Volume(v), veh/h	200	0	769	98	230	993
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1525	1619	1710
Q Serve(g_s), s	11.8	0.0	25.9	6.1	16.7	26.8
Cycle Q Clear(g_c), s	11.8	0.0	25.9	6.1	16.7	26.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	488		875	390	259	1552
V/C Ratio(X)	0.41		0.88	0.25	0.89	0.64
Avail Cap(c_a), veh/h	488		992	442	437	2046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.57	0.57	0.72	0.72
Uniform Delay (d), s/veh	33.4	0.0	42.9	35.5	49.4	25.2
Incr Delay (d2), s/veh	2.5	0.0	5.1	0.2	8.7	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	4.9	0.0	11.0	2.2	7.1	10.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.9	0.0	47.9	35.7	58.1	25.5
LnGrp LOS	D		D	D	E	C
Approach Vol, veh/h	200	A	867			1223
Approach Delay, s/veh	35.9		46.6			31.7
Approach LOS	D		D			C

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	23.8	36.9				60.7	42.0
Change Period (Y+Rc), s	4.6	6.2				6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8				71.8	36.2
Max Q Clear Time (g_c+I1), s	18.7	27.9				28.8	13.8
Green Ext Time (p_c), s	0.5	2.8				7.5	0.3

Intersection Summary		
HCM 6th Ctrl Delay	37.7	
HCM 6th LOS	D	

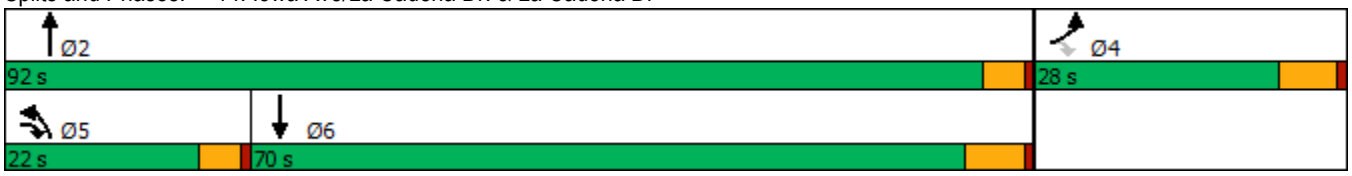
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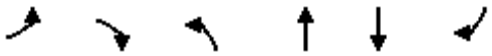
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	333	166	79	704	336	916
Future Volume (vph)	333	166	79	704	336	916
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	22.1	36.1	7.8	32.0	18.0	65.0
Actuated g/C Ratio	0.34	0.56	0.12	0.49	0.28	1.00
v/c Ratio	0.63	0.20	0.42	0.82	0.69	0.37
Control Delay	26.7	9.1	35.0	22.4	29.1	0.4
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	26.7	9.1	35.0	22.5	29.1	0.4
LOS	C	A	D	C	C	A
Approach Delay	20.8			23.8	8.1	
Approach LOS	C			C	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 65	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 15.4	Intersection LOS: B
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	333	166	79	704	336	916
Future Volume (veh/h)	333	166	79	704	336	916
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	1700	1800	1700	1800	1800	1700
Adj Flow Rate, veh/h	343	145	81	726	346	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	423	501	110	880	591	
Arrive On Green	0.26	0.26	0.07	0.49	0.33	0.00
Sat Flow, veh/h	1619	1525	1619	1800	1800	2536
Grp Volume(v), veh/h	343	145	81	726	346	0
Grp Sat Flow(s),veh/h/ln	1619	1525	1619	1800	1800	1268
Q Serve(g_s), s	9.9	3.5	2.4	17.1	7.9	0.0
Cycle Q Clear(g_c), s	9.9	3.5	2.4	17.1	7.9	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	423	501	110	880	591	
V/C Ratio(X)	0.81	0.29	0.74	0.82	0.58	
Avail Cap(c_a), veh/h	711	774	568	3171	2315	
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	0.00
Uniform Delay (d), s/veh	17.2	12.4	22.7	10.9	13.8	0.0
Incr Delay (d2), s/veh	3.8	0.3	3.6	2.0	0.9	0.0
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	0.9	4.4	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.0	12.7	26.3	12.9	14.8	0.0
LnGrp LOS	C	B	C	B	B	
Approach Vol, veh/h	488			807	346	A
Approach Delay, s/veh	18.5			14.2	14.8	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.5		19.1	8.0	22.5
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		19.1		11.9	4.4	9.9
Green Ext Time (p_c), s		5.1		1.1	0.1	1.9

Intersection Summary		
HCM 6th Ctrl Delay	15.6	
HCM 6th LOS	B	

Notes

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

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

Intersection	
Intersection Delay, s/veh	45.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	10	18	0	0	0	29	476	6	530	395	79
Future Vol, veh/h	53	10	18	0	0	0	29	476	6	530	395	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	58	11	20	0	0	0	32	517	7	576	429	86
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	12.8	16.1	62.5
HCM LOS	B	C	F

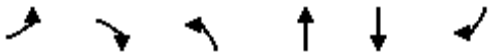
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	65%	100%	0%
Vol Thru, %	0%	100%	96%	12%	0%	83%
Vol Right, %	0%	0%	4%	22%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	317	165	81	530	474
LT Vol	29	0	0	53	530	0
Through Vol	0	317	159	10	0	395
RT Vol	0	0	6	18	0	79
Lane Flow Rate	32	345	179	88	576	515
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.06	0.607	0.314	0.194	1.074	0.871
Departure Headway (Hd)	7.01	6.504	6.478	8.139	6.71	6.088
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	559	558	444	542	598
Service Time	4.71	4.204	4.178	5.839	4.439	3.817
HCM Lane V/C Ratio	0.062	0.617	0.321	0.198	1.063	0.861
HCM Control Delay	10.2	18.7	12.1	12.8	85.5	36.7
HCM Lane LOS	B	C	B	B	F	E
HCM 95th-tile Q	0.2	4	1.3	0.7	17.3	9.9

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	49	427	734	503
Future Volume (vph)	49	427	734	503
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.7	24.7
Actuated g/C Ratio	0.14	0.14	0.26	0.34
v/c Ratio	0.20	0.73	1.54	0.80
Control Delay	32.2	11.9	276.6	31.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.2	11.9	276.6	31.5
LOS	C	B	F	C
Approach Delay	14.0		276.6	31.5
Approach LOS	B		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 72.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.54	
Intersection Signal Delay: 131.6	Intersection LOS: F
Intersection Capacity Utilization 63.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	427	0	734	503	0
Future Volume (veh/h)	49	427	0	734	503	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	51	304	0	757	519	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	446	397	0	840	840	0
Arrive On Green	0.25	0.25	0.00	0.44	0.44	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	51	304	0	757	519	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	0.9	7.0	0.0	14.7	8.3	0.0
Cycle Q Clear(g_c), s	0.9	7.0	0.0	14.7	8.3	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	446	397	0	840	840	0
V/C Ratio(X)	0.11	0.77	0.00	0.90	0.62	0.00
Avail Cap(c_a), veh/h	455	405	0	888	3476	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	13.9	0.0	10.3	8.5	0.0
Incr Delay (d2), s/veh	0.1	8.4	0.0	11.9	0.7	0.0
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	3.0	0.0	5.8	1.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.7	22.3	0.0	22.2	9.3	0.0
LnGrp LOS	B	C	A	C	A	A
Approach Vol, veh/h	355			757	519	
Approach Delay, s/veh	20.8			22.2	9.3	
Approach LOS	C			C	A	

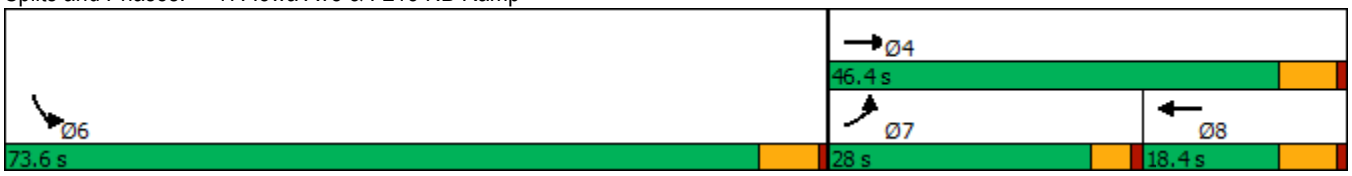
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		23.8		16.0		23.8
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		16.7		9.0		10.3
Green Ext Time (p_c), s		0.9		0.1		3.2

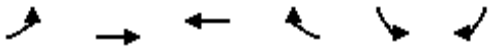
Intersection Summary		
HCM 6th Ctrl Delay		17.8
HCM 6th LOS		B

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	388	711	18	161
Future Volume (vph)	388	711	18	161
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.8	40.9	12.4	53.0
Actuated g/C Ratio	0.22	0.38	0.12	0.50
v/c Ratio	0.98	1.00	0.73	0.95
Control Delay	84.8	67.9	16.3	35.6
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	84.8	67.9	16.3	35.7
LOS	F	E	B	D
Approach Delay		73.9	16.3	35.7
Approach LOS		E	B	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 50.3	Intersection LOS: D
Intersection Capacity Utilization 114.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	388	711	18	346	161	769
Future Volume (veh/h)	388	711	18	346	161	769
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	396	726	18	297	164	525
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	429	796	12	202	176	562
Arrive On Green	0.24	0.42	0.13	0.13	0.45	0.45
Sat Flow, veh/h	1810	1900	93	1532	393	1258
Grp Volume(v), veh/h	396	726	0	315	690	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1624	1654	0
Q Serve(g_s), s	19.7	33.2	0.0	12.2	36.6	0.0
Cycle Q Clear(g_c), s	19.7	33.2	0.0	12.2	36.6	0.0
Prop In Lane	1.00			0.94	0.24	0.76
Lane Grp Cap(c), veh/h	429	796	0	215	739	0
V/C Ratio(X)	0.92	0.91	0.00	1.47	0.93	0.00
Avail Cap(c_a), veh/h	459	828	0	215	1208	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.4	25.2	0.0	40.1	24.2	0.0
Incr Delay (d2), s/veh	22.8	14.0	0.0	233.9	8.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	17.2	0.0	18.7	14.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.2	39.2	0.0	274.0	33.0	0.0
LnGrp LOS	E	D	A	F	C	A
Approach Vol, veh/h		1122	315		690	
Approach Delay, s/veh		45.6	274.0		33.0	
Approach LOS		D	F		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			44.9		47.4	26.5	18.4
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			40.2		67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s			35.2		38.6	21.7	14.2
Green Ext Time (p_c), s			2.2		2.7	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.3
HCM 6th LOS	E

Notes

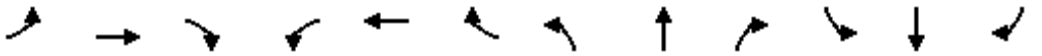
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	28	374	41	380	292	239	94	30	107	71
Future Volume (vph)	28	374	41	380	292	239	94	30	107	71
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.6	26.6	8.6	26.6	8.6	22.6	22.6	8.6	22.6	22.6
Total Split (s)	12.0	35.0	15.0	38.0	43.0	58.0	58.0	12.0	27.0	27.0
Total Split (%)	10.0%	29.2%	12.5%	31.7%	35.8%	48.3%	48.3%	10.0%	22.5%	22.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	6.7	18.8	7.5	21.5	20.2	28.6	28.6	6.8	11.5	11.5
Actuated g/C Ratio	0.10	0.28	0.11	0.31	0.30	0.42	0.42	0.10	0.17	0.17
v/c Ratio	0.18	0.56	0.24	0.39	0.64	0.33	0.14	0.19	0.37	0.20
Control Delay	42.5	26.0	41.1	22.8	32.0	18.3	5.1	42.6	36.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	26.0	41.1	22.8	32.0	18.3	5.1	42.6	36.9	1.2
LOS	D	C	D	C	C	B	A	D	D	A
Approach Delay		26.9		24.5		22.7			25.5	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 68.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 24.7	Intersection LOS: C
Intersection Capacity Utilization 57.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	374	125	41	380	24	292	239	94	30	107	71
Future Volume (veh/h)	28	374	125	41	380	24	292	239	94	30	107	71
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	29	390	130	43	396	25	304	249	98	31	111	74
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	623	205	59	836	53	365	560	475	46	205	174
Arrive On Green	0.03	0.25	0.25	0.04	0.26	0.26	0.23	0.31	0.31	0.03	0.11	0.11
Sat Flow, veh/h	1619	2528	832	1619	3267	206	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	29	262	258	43	207	214	304	249	98	31	111	74
Grp Sat Flow(s),veh/h/ln	1619	1710	1650	1619	1710	1763	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	0.9	6.6	6.8	1.3	5.0	5.0	8.7	5.4	2.3	0.9	2.8	2.2
Cycle Q Clear(g_c), s	0.9	6.6	6.8	1.3	5.0	5.0	8.7	5.4	2.3	0.9	2.8	2.2
Prop In Lane	1.00		0.50	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	421	407	59	438	451	365	560	475	46	205	174
V/C Ratio(X)	0.67	0.62	0.63	0.73	0.47	0.48	0.83	0.44	0.21	0.68	0.54	0.43
Avail Cap(c_a), veh/h	246	1068	1031	346	1174	1210	1278	1975	1674	246	829	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	16.3	16.4	23.2	15.3	15.3	18.0	13.4	12.3	23.4	20.4	20.1
Incr Delay (d2), s/veh	6.6	1.5	1.6	6.4	0.8	0.8	1.9	0.6	0.2	6.5	2.2	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.4	2.4	0.6	1.8	1.8	3.0	1.9	0.7	0.4	1.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	17.8	18.0	29.6	16.1	16.1	19.9	14.0	12.6	29.9	22.6	21.7
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	C	C
Approach Vol, veh/h		549			464			651			216	
Approach Delay, s/veh		18.6			17.4			16.5			23.3	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	19.7	6.4	16.6	15.6	10.1	5.9	17.1
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	53.4	10.4	30.4	38.4	22.4	7.4	33.4
Max Q Clear Time (g_c+I1), s	2.9	7.4	3.3	8.8	10.7	4.8	2.9	7.0
Green Ext Time (p_c), s	0.0	1.9	0.0	3.2	0.4	0.7	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	366	263	0	0	277
Future Vol, veh/h	5	366	263	0	0	277
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	394	283	0	0	298

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	581	283	0	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	479	761	-	0	0	-
Stage 1	770	-	-	0	0	-
Stage 2	758	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	479	761	-	-	-	-
Mov Cap-2 Maneuver	567	-	-	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	758	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	758	-
HCM Lane V/C Ratio	-	0.526	-
HCM Control Delay (s)	-	14.9	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	3.1	-

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	266	2	0	0	285	0
Future Vol, veh/h	266	2	0	0	285	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	299	2	0	0	320	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11.4	11.6
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	268	285
LT Vol	266	285
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	301	320
Geometry Grp	1	1
Degree of Util (X)	0.411	0.433
Departure Headway (Hd)	4.91	4.868
Convergence, Y/N	Yes	Yes
Cap	732	740
Service Time	2.951	2.909
HCM Lane V/C Ratio	0.411	0.432
HCM Control Delay	11.4	11.6
HCM Lane LOS	B	B
HCM 95th-tile Q	2	2.2

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	550	683	67	496
Demand Flow Rate, veh/h	550	683	67	496
Vehicles Circulating, veh/h	357	61	894	378
Vehicles Exiting, veh/h	517	900	13	366
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.2	5.0	6.5	6.9
Approach LOS	A	A	A	A

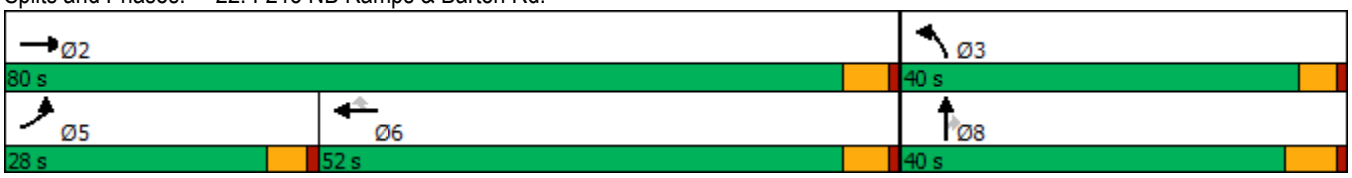
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.469	0.531	0.470	0.530	1.000	0.702	0.298
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	258	292	321	362	67	348	148
Cap Entry Lane, veh/h	972	1048	1276	1348	664	953	1030
Entry HV Adj Factor	1.002	0.998	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	258	292	321	362	67	348	148
Cap Entry, veh/h	974	1047	1276	1348	664	953	1030
V/C Ratio	0.265	0.279	0.252	0.268	0.101	0.365	0.144
Control Delay, s/veh	6.4	6.2	5.0	5.0	6.5	7.8	4.8
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	0	2	1

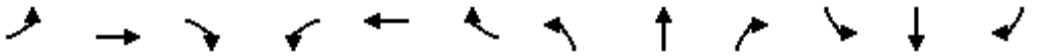


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	112	742	618	316	32	0	448
Future Volume (vph)	112	742	618	316	32	0	448
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	28.0	80.0	52.0	52.0	40.0	40.0	40.0
Total Split (%)	23.3%	66.7%	43.3%	43.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.4	28.0	17.8	17.8	11.0	11.1	11.1
Actuated g/C Ratio	0.17	0.55	0.35	0.35	0.22	0.22	0.22
v/c Ratio	0.38	0.38	0.50	0.43	0.33	0.46	0.46
Control Delay	25.6	6.4	15.1	3.9	22.1	7.9	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	6.4	15.1	3.9	22.1	7.9	7.9
LOS	C	A	B	A	C	A	A
Approach Delay		8.9	11.3			11.0	
Approach LOS		A	B			B	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 50.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 48.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	742	0	0	618	316	32	0	448	0	0	0
Future Volume (veh/h)	112	742	0	0	618	316	32	0	448	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	115	765	0	0	637	248	128	0	349			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.25	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	166	2015	0	0	1255	543	350	0	623			
Arrive On Green	0.09	0.56	0.00	0.00	0.35	0.35	0.19	0.00	0.19			
Sat Flow, veh/h	1810	3705	0	0	3705	1563	1810	0	3220			
Grp Volume(v), veh/h	115	765	0	0	637	248	128	0	349			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1563	1810	0	1610			
Q Serve(g_s), s	2.4	4.6	0.0	0.0	5.4	4.8	2.4	0.0	3.8			
Cycle Q Clear(g_c), s	2.4	4.6	0.0	0.0	5.4	4.8	2.4	0.0	3.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	166	2015	0	0	1255	543	350	0	623			
V/C Ratio(X)	0.69	0.38	0.00	0.00	0.51	0.46	0.37	0.00	0.56			
Avail Cap(c_a), veh/h	1095	6993	0	0	4379	1896	1661	0	2957			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	17.0	4.8	0.0	0.0	10.0	9.8	13.5	0.0	14.1			
Incr Delay (d2), s/veh	1.9	0.1	0.0	0.0	0.3	0.6	0.6	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	0.9	0.8	0.0	0.0	1.6	1.2	0.8	0.0	1.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	4.9	0.0	0.0	10.3	10.4	14.2	0.0	14.9			
LnGrp LOS	B	A	A	A	B	B	B	A	B			
Approach Vol, veh/h		880			885			477				
Approach Delay, s/veh		6.7			10.3			14.7				
Approach LOS		A			B			B				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		26.7			8.1	18.5		12.0				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		74.9			23.4	46.9		35.5				
Max Q Clear Time (g_c+I1), s		6.6			4.4	7.4		5.8				
Green Ext Time (p_c), s		6.2			0.1	5.8		1.7				

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

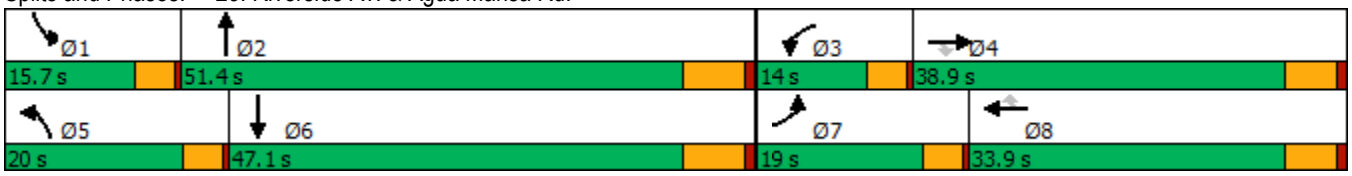
Notes

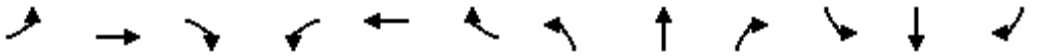
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	135	402	296	78	224	80	147	766	73	819
Future Volume (vph)	135	402	296	78	224	80	147	766	73	819
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.1	34.8	34.8	9.1	33.8	33.8	9.1	29.5	9.1	31.5
Total Split (s)	19.0	38.9	38.9	14.0	33.9	33.9	20.0	51.4	15.7	47.1
Total Split (%)	15.8%	32.4%	32.4%	11.7%	28.3%	28.3%	16.7%	42.8%	13.1%	39.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	5.8	4.1	5.8	5.8	4.1	6.5	4.1	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	11.9	29.1	29.1	8.4	22.7	22.7	12.6	40.3	8.7	33.6
Actuated g/C Ratio	0.12	0.28	0.28	0.08	0.22	0.22	0.12	0.39	0.08	0.33
v/c Ratio	0.67	0.78	0.47	0.55	0.55	0.17	0.69	0.64	0.50	0.83
Control Delay	64.0	47.6	8.5	65.6	42.8	0.7	63.5	29.5	61.5	39.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	47.6	8.5	65.6	42.8	0.7	63.5	29.5	61.5	39.6
LOS	E	D	A	E	D	A	E	C	E	D
Approach Delay		36.4			38.7			34.5		41.1
Approach LOS		D			D			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.4	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 37.5	Intersection LOS: D
Intersection Capacity Utilization 77.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	402	296	78	224	80	147	766	96	73	819	110
Future Volume (veh/h)	135	402	296	78	224	80	147	766	96	73	819	110
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	141	419	183	81	233	71	153	798	85	76	853	76
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	177	503	426	105	428	363	190	1215	129	99	1068	95
Arrive On Green	0.10	0.26	0.26	0.06	0.23	0.23	0.11	0.37	0.37	0.05	0.32	0.32
Sat Flow, veh/h	1810	1900	1608	1810	1900	1610	1810	3291	351	1810	3352	299
Grp Volume(v), veh/h	141	419	183	81	233	71	153	438	445	76	459	470
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1610	1810	1805	1837	1810	1805	1846
Q Serve(g_s), s	6.2	16.8	7.6	3.6	8.8	2.9	6.7	16.3	16.3	3.4	18.8	18.8
Cycle Q Clear(g_c), s	6.2	16.8	7.6	3.6	8.8	2.9	6.7	16.3	16.3	3.4	18.8	18.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.16
Lane Grp Cap(c), veh/h	177	503	426	105	428	363	190	666	678	99	575	588
V/C Ratio(X)	0.80	0.83	0.43	0.77	0.54	0.20	0.80	0.66	0.66	0.77	0.80	0.80
Avail Cap(c_a), veh/h	333	777	658	221	660	559	356	1002	1019	259	906	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	28.0	24.7	37.6	27.7	25.4	35.4	21.2	21.3	37.8	25.2	25.2
Incr Delay (d2), s/veh	3.1	4.6	0.7	4.5	1.1	0.3	3.0	1.1	1.1	4.7	2.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.6	2.7	1.6	3.8	1.1	2.8	6.1	6.2	1.5	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	32.7	25.4	42.1	28.8	25.7	38.4	22.4	22.3	42.5	27.9	27.9
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		743			385			1036			1005	
Approach Delay, s/veh		32.0			31.0			24.7			29.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	36.4	8.8	27.2	12.6	32.3	12.0	24.0
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	11.6	44.9	9.9	33.1	15.9	40.6	14.9	28.1
Max Q Clear Time (g_c+I1), s	5.4	18.3	5.6	18.8	8.7	20.8	8.2	10.8
Green Ext Time (p_c), s	0.0	5.0	0.0	2.5	0.1	5.0	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

APPENDIX 3.3:

EXISTING (2021) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

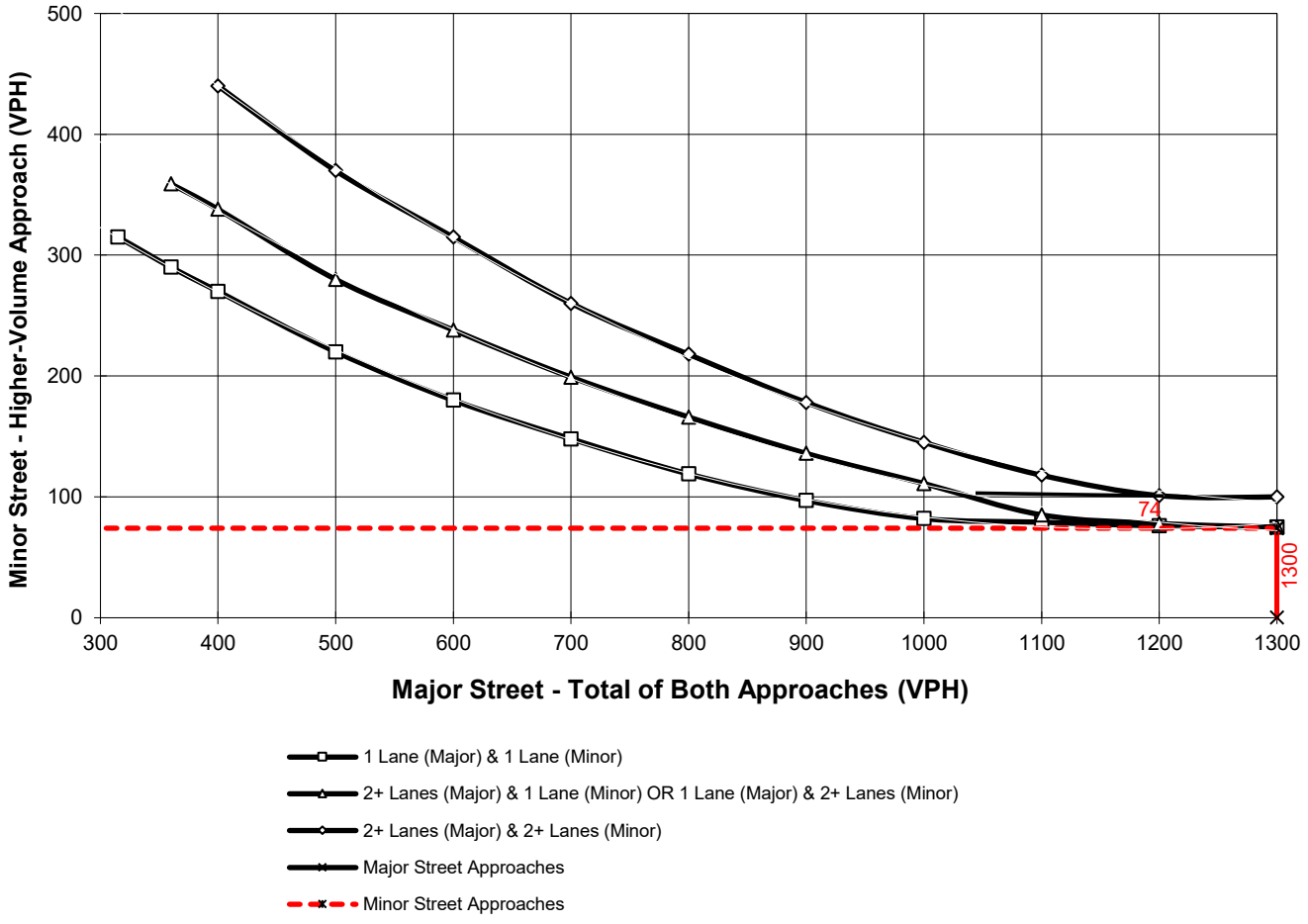
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing Conditions - Weekday AM Peak Hour**

Major Street Name = **Rancho Av.**
Total of Both Approaches (VPH) = **1571**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **W. N St.**
High Volume Approach (VPH) = **74**
Number of Approach Lanes Minor Street = **2**

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)

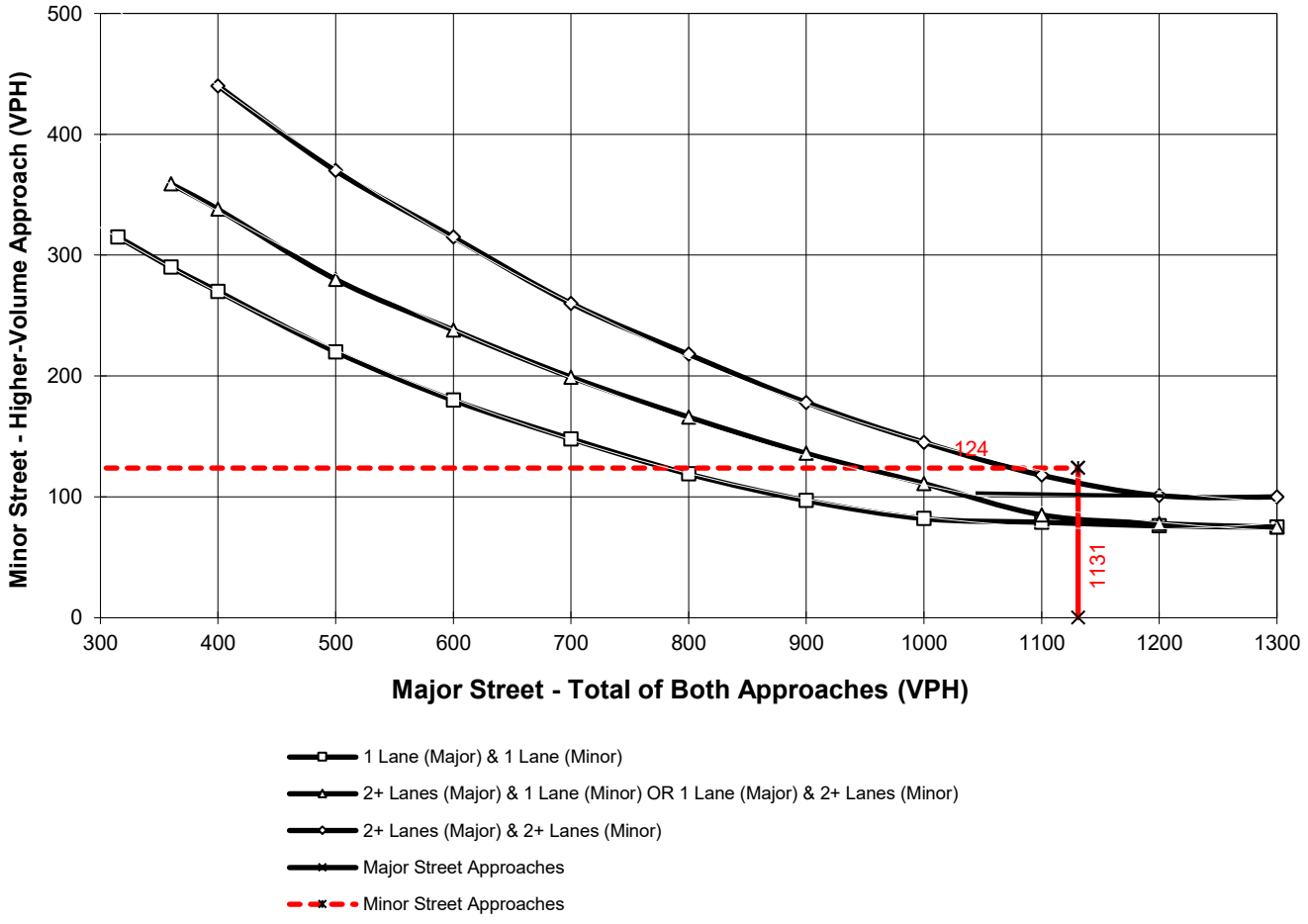
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing Conditions - Weekday AM Peak Hour**

Major Street Name = **La Cadena Dr.** Total of Both Approaches (VPH) = **1131**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **I-215 SB On-Ramp** High Volume Approach (VPH) = **124**
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)

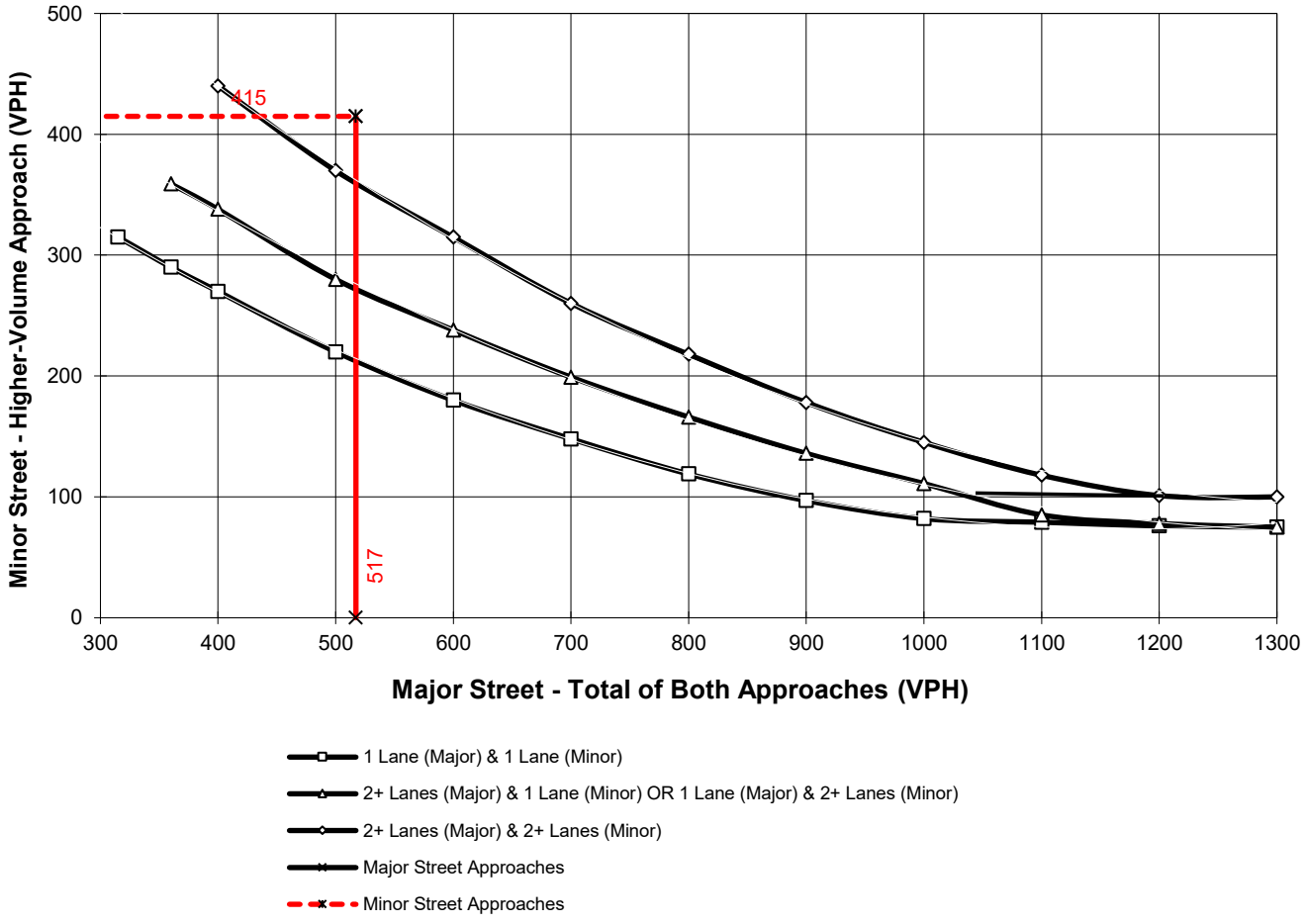
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing Conditions - Weekday AM Peak Hour**

Major Street Name = **9th St.** Total of Both Approaches (VPH) = **517**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-10 WB Off-Ramp** High Volume Approach (VPH) = **415**
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)

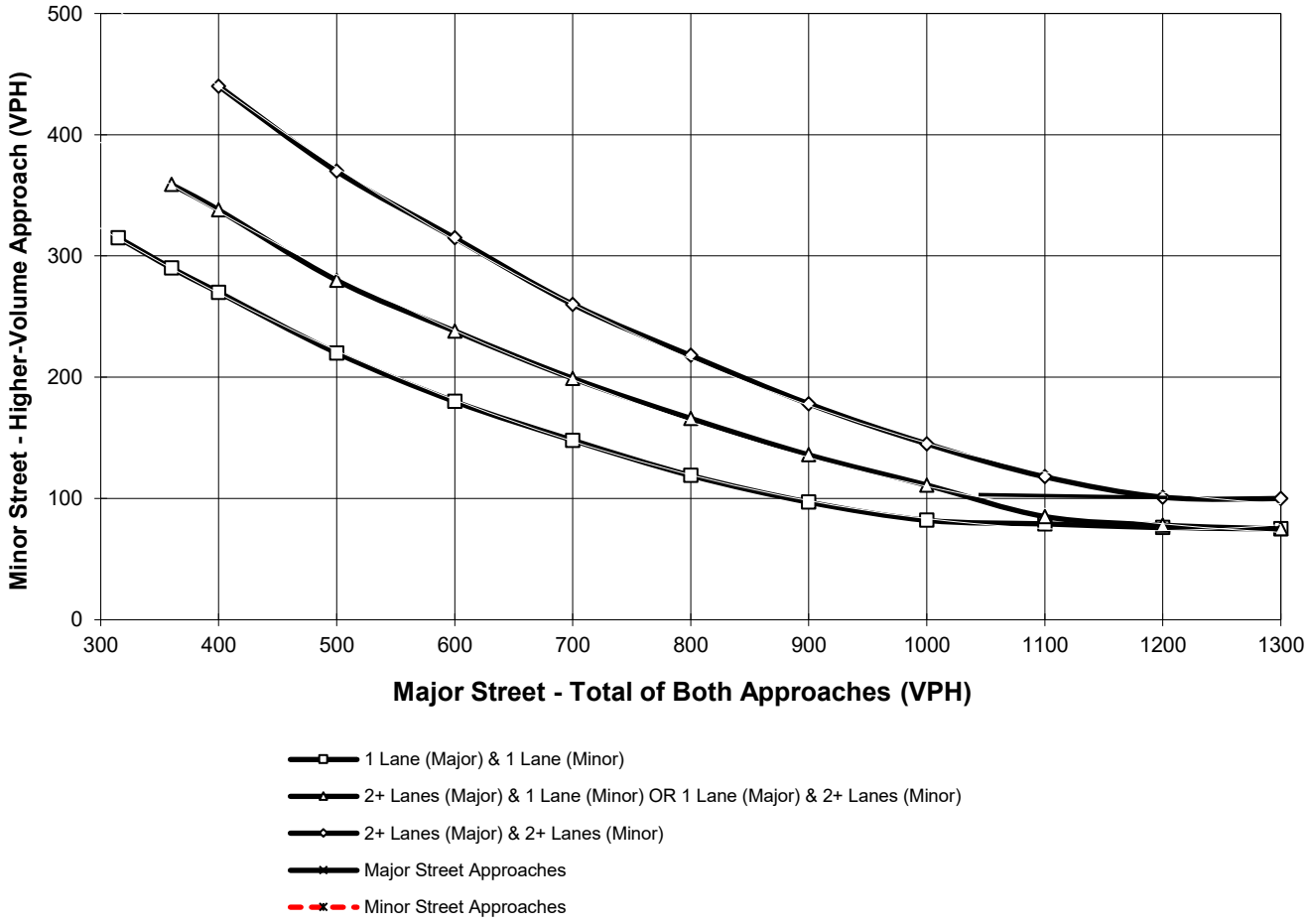
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing Conditions - Weekday PM Peak Hour**

Major Street Name = **9th St**
Total of Both Approaches (VPH) = **285**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-10 EB Ramps**
High Volume Approach (VPH) = **268**
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 (2021) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	291	384	111	356	1070
v/c Ratio	0.76	0.60	0.63	0.14	0.54
Control Delay	57.1	7.7	82.4	1.6	17.9
Queue Delay	0.6	0.0	0.0	0.0	0.0
Total Delay	57.7	7.7	82.4	1.6	17.9
Queue Length 50th (ft)	213	1	79	5	240
Queue Length 95th (ft)	289	77	153	17	381
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	499	723	248	2517	1970
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	45	0	0	0	40
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.53	0.45	0.14	0.55

Intersection Summary

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	154	361	529	393	682
v/c Ratio	0.62	0.78	0.32	0.84	0.25
Control Delay	58.4	24.3	19.0	53.5	4.5
Queue Delay	0.0	0.0	0.0	1.6	0.4
Total Delay	58.4	24.3	19.0	55.1	4.9
Queue Length 50th (ft)	115	60	105	254	43
Queue Length 95th (ft)	165	148	187	408	127
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	625	1664	652	2783
Starvation Cap Reductn	0	0	0	123	1508
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.58	0.32	0.74	0.53

Intersection Summary

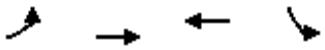


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	33	610	674	670
v/c Ratio	0.15	1.06	1.54	0.85
Control Delay	37.3	68.4	281.3	32.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	37.3	68.4	281.3	32.6
Queue Length 50th (ft)	15	~135	~485	297
Queue Length 95th (ft)	47	#383	#832	430
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	223	575	438	1699
Starvation Cap Reductn	0	0	0	277
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	1.06	1.54	0.47

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	357	628	360	1280
v/c Ratio	1.02	0.99	0.89	1.07
Control Delay	100.5	72.9	40.8	60.7
Queue Delay	0.0	0.0	0.0	6.1
Total Delay	100.5	72.9	40.8	66.8
Queue Length 50th (ft)	~285	481	77	~874
Queue Length 95th (ft)	#480	#727	#253	#1140
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	403	1201
Starvation Cap Reductn	0	0	0	17
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.02	0.99	0.89	1.08

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	410	155	0	0	360
Future Vol, veh/h	3	410	155	0	0	360
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	456	172	0	0	400

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	572	172	0	-	-	-
Stage 1	172	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	485	877	-	0	0	-
Stage 1	863	-	-	0	0	-
Stage 2	681	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	485	877	-	-	-	-
Mov Cap-2 Maneuver	561	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	873	-
HCM Lane V/C Ratio	-	0.526	-
HCM Control Delay (s)	-	13.6	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	3.1	-

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	156	3	0	0	364	0
Future Vol, veh/h	156	3	0	0	364	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	190	4	0	0	444	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	10.2	13.6
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	159	364
LT Vol	156	364
Through Vol	3	0
RT Vol	0	0
Lane Flow Rate	194	444
Geometry Grp	1	1
Degree of Util (X)	0.279	0.569
Departure Headway (Hd)	5.173	4.618
Convergence, Y/N	Yes	Yes
Cap	692	781
Service Time	3.217	2.649
HCM Lane V/C Ratio	0.28	0.569
HCM Control Delay	10.2	13.6
HCM Lane LOS	B	B
HCM 95th-tile Q	1.1	3.6

Intersection	
Intersection Delay, s/veh	6.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	492	979	44	443
Demand Flow Rate, veh/h	492	979	44	443
Vehicles Circulating, veh/h	314	61	751	494
Vehicles Exiting, veh/h	623	734	55	546
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	6.2	5.4	7.2
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.659	0.341
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	231	261	460	519	44	292	151
Cap Entry Lane, veh/h	1011	1087	1276	1348	750	857	933
Entry HV Adj Factor	1.001	0.999	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	231	261	460	519	44	292	151
Cap Entry, veh/h	1012	1086	1277	1348	750	857	933
V/C Ratio	0.228	0.240	0.360	0.385	0.059	0.341	0.162
Control Delay, s/veh	5.7	5.6	6.2	6.3	5.4	8.1	5.4
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	1	1	2	2	0	2	1



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	99	610	938	604	51	189	188
v/c Ratio	0.41	0.26	0.54	0.58	0.20	0.33	0.33
Control Delay	33.8	4.4	12.9	3.7	29.4	1.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	4.4	12.9	3.7	29.4	1.5	1.5
Queue Length 50th (ft)	35	40	127	5	17	0	0
Queue Length 95th (ft)	93	55	196	52	56	0	0
Internal Link Dist (ft)		528	718			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	533	3610	3441	1506	655	773	773
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	0.19	0.17	0.27	0.40	0.08	0.24	0.24

Intersection Summary



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	147	432	129	843	856
v/c Ratio	0.39	0.89	0.68	0.33	0.44
Control Delay	42.2	45.5	77.4	7.9	17.2
Queue Delay	0.4	0.0	0.0	0.3	0.0
Total Delay	42.6	45.5	77.4	8.2	17.2
Queue Length 50th (ft)	97	190	107	90	190
Queue Length 95th (ft)	148	303	m138	m113	291
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	501	584	248	2529	1965
Starvation Cap Reductn	0	0	0	1000	0
Spillback Cap Reductn	121	0	0	0	73
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.74	0.52	0.55	0.45

Intersection Summary

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



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	420	364	950	375	452
v/c Ratio	0.93	0.61	0.71	0.84	0.19
Control Delay	71.5	15.9	33.7	69.4	7.7
Queue Delay	0.0	0.0	0.0	2.1	0.3
Total Delay	71.5	15.9	33.7	71.6	8.0
Queue Length 50th (ft)	315	64	300	309	56
Queue Length 95th (ft)	#499	167	#457	408	91
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	612	1330	652	2376
Starvation Cap Reductn	0	0	0	155	1324
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.59	0.71	0.75	0.43

Intersection Summary

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

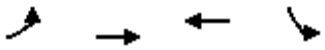


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	51	440	757	519
v/c Ratio	0.20	0.73	1.54	0.80
Control Delay	32.2	11.9	276.6	31.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.2	11.9	276.6	31.5
Queue Length 50th (ft)	20	0	~476	205
Queue Length 95th (ft)	56	#116	#789	311
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	252	604	493	1845
Starvation Cap Reductn	0	0	0	173
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.73	1.54	0.31

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	396	726	371	949
v/c Ratio	0.98	1.00	0.73	0.95
Control Delay	84.8	67.9	16.3	35.6
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	84.8	67.9	16.3	35.7
Queue Length 50th (ft)	~299	~556	12	433
Queue Length 95th (ft)	#551	#893	#124	#788
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	403	729	505	1193
Starvation Cap Reductn	0	0	0	10
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.98	1.00	0.73	0.80

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.

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	366	263	0	0	277
Future Vol, veh/h	5	366	263	0	0	277
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	394	283	0	0	298

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	581	283	0	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	479	761	-	0	0	-
Stage 1	770	-	-	0	0	-
Stage 2	758	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	479	761	-	-	-	-
Mov Cap-2 Maneuver	567	-	-	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	758	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	758	-
HCM Lane V/C Ratio	-	0.526	-
HCM Control Delay (s)	-	14.9	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	3.1	-

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	266	2	0	0	285	0
Future Vol, veh/h	266	2	0	0	285	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	299	2	0	0	320	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11.4	11.6
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	268	285
LT Vol	266	285
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	301	320
Geometry Grp	1	1
Degree of Util (X)	0.411	0.433
Departure Headway (Hd)	4.91	4.868
Convergence, Y/N	Yes	Yes
Cap	732	740
Service Time	2.951	2.909
HCM Lane V/C Ratio	0.411	0.432
HCM Control Delay	11.4	11.6
HCM Lane LOS	B	B
HCM 95th-tile Q	2	2.2

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	550	683	67	496
Demand Flow Rate, veh/h	550	683	67	496
Vehicles Circulating, veh/h	357	61	894	378
Vehicles Exiting, veh/h	517	900	13	366
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.2	5.0	6.5	6.9
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.469	0.531	0.470	0.530	1.000	0.702	0.298
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	258	292	321	362	67	348	148
Cap Entry Lane, veh/h	972	1048	1276	1348	664	953	1030
Entry HV Adj Factor	1.002	0.998	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	258	292	321	362	67	348	148
Cap Entry, veh/h	974	1047	1276	1348	664	953	1030
V/C Ratio	0.265	0.279	0.252	0.268	0.101	0.365	0.144
Control Delay, s/veh	6.4	6.2	5.0	5.0	6.5	7.8	4.8
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	0	2	1



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	115	765	637	326	128	231	231
v/c Ratio	0.38	0.38	0.50	0.43	0.33	0.46	0.46
Control Delay	25.6	6.4	15.1	3.9	22.1	7.9	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	6.4	15.1	3.9	22.1	7.9	7.9
Queue Length 50th (ft)	31	53	77	0	32	3	3
Queue Length 95th (ft)	85	90	141	44	22	60	60
Internal Link Dist (ft)		520	699			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	884	3610	3220	1419	1299	1146	1146
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	0.13	0.21	0.20	0.23	0.10	0.20	0.20

Intersection Summary

APPENDIX 3.5:

EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH CONDITIONS

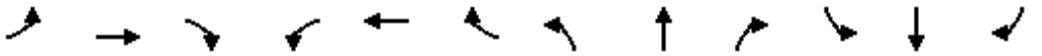
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Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	18	10	123	550	401
Future Volume (vph)	18	10	123	550	401
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	4.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	25.0	10.0	23.0	72.0	85.0
Total Split (%)	20.8%	8.3%	19.2%	60.0%	70.8%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	12.4	5.4	10.7	32.1	46.2
Actuated g/C Ratio	0.17	0.08	0.15	0.45	0.65
v/c Ratio	0.46	0.09	0.27	0.85	0.44
Control Delay	32.6	40.4	32.8	29.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	40.4	32.8	29.5	8.2
LOS	C	D	C	C	A
Approach Delay	32.6		33.3		19.9
Approach LOS	C		C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 63.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	18	30	0	0	0	10	123	0	550	401	48
Future Volume (veh/h)	76	18	30	0	0	0	10	123	0	550	401	48
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	1800	1800	1800				1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	85	20	34				11	138	0	618	451	54
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	157	37	63				23	585	0	667	898	108
Arrive On Green	0.15	0.15	0.15				0.01	0.17	0.00	0.41	0.57	0.57
Sat Flow, veh/h	1024	241	410				1619	3510	0	1619	1577	189
Grp Volume(v), veh/h	139	0	0				11	138	0	618	0	505
Grp Sat Flow(s),veh/h/ln	1675	0	0				1619	1710	0	1619	0	1766
Q Serve(g_s), s	4.5	0.0	0.0				0.4	2.0	0.0	21.2	0.0	10.1
Cycle Q Clear(g_c), s	4.5	0.0	0.0				0.4	2.0	0.0	21.2	0.0	10.1
Prop In Lane	0.61		0.24				1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	257	0	0				23	585	0	667	0	1005
V/C Ratio(X)	0.54	0.00	0.00				0.49	0.24	0.00	0.93	0.00	0.50
Avail Cap(c_a), veh/h	585	0	0				150	983	0	1867	0	2381
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	0.00				1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	0.0				28.6	20.9	0.0	16.3	0.0	7.6
Incr Delay (d2), s/veh	1.8	0.0	0.0				5.9	0.2	0.0	2.5	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	1.8	0.0	0.0				0.2	0.7	0.0	6.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	0.0				34.5	21.1	0.0	18.9	0.0	8.0
LnGrp LOS	C	A	A				C	C	A	B	A	A
Approach Vol, veh/h		139						149			1123	
Approach Delay, s/veh		24.6						22.1			14.0	
Approach LOS		C						C			B	

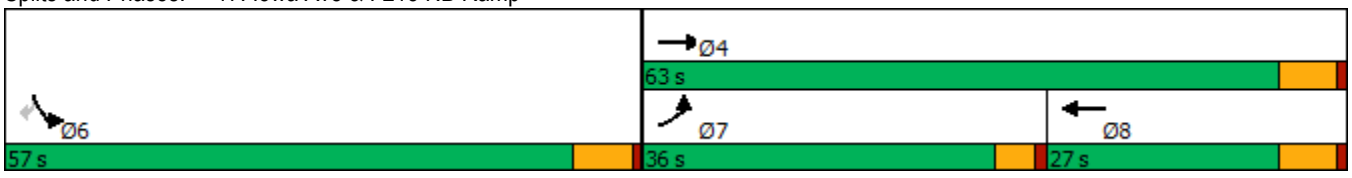
Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	28.7	16.2		13.6	5.4	39.5
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	67.4	16.8		20.4	5.4	78.8
Max Q Clear Time (g_c+I1), s	23.2	4.0		6.5	2.4	12.1
Green Ext Time (p_c), s	0.9	0.5		0.6	0.0	3.1

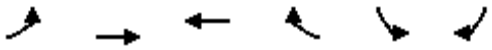
Intersection Summary			
HCM 6th Ctrl Delay			15.9
HCM 6th LOS			B

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	332	584	38	120	1070
Future Volume (vph)	332	584	38	120	1070
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2	24.2
Total Split (s)	36.0	63.0	27.0	57.0	57.0
Total Split (%)	30.0%	52.5%	22.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
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)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	22.0	40.4	13.4	33.3	33.3
Actuated g/C Ratio	0.25	0.46	0.15	0.38	0.38
v/c Ratio	0.78	0.71	0.73	0.85	0.65
Control Delay	45.8	25.7	19.9	28.8	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	25.7	19.9	28.8	5.3
LOS	D	C	B	C	A
Approach Delay		33.0	19.9	17.2	
Approach LOS		C	B	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 87.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 23.5	Intersection LOS: C
Intersection Capacity Utilization 81.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	584	38	297	120	1070
Future Volume (veh/h)	332	584	38	297	120	1070
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	357	628	41	260	0	1015
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	399	920	47	297	667	1188
Arrive On Green	0.22	0.48	0.21	0.21	0.00	0.37
Sat Flow, veh/h	1810	1900	224	1420	1810	3220
Grp Volume(v), veh/h	357	628	0	301	0	1015
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1644	1810	1610
Q Serve(g_s), s	16.1	21.5	0.0	14.9	0.0	24.5
Cycle Q Clear(g_c), s	16.1	21.5	0.0	14.9	0.0	24.5
Prop In Lane	1.00			0.86	1.00	1.00
Lane Grp Cap(c), veh/h	399	920	0	343	667	1188
V/C Ratio(X)	0.89	0.68	0.00	0.88	0.00	0.85
Avail Cap(c_a), veh/h	674	1280	0	406	1090	1941
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.9	16.8	0.0	32.3	0.0	24.5
Incr Delay (d2), s/veh	4.7	0.9	0.0	17.0	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	8.8	0.0	7.4	0.0	19.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.5	17.7	0.0	49.3	0.0	26.7
LnGrp LOS	D	B	A	D	A	C
Approach Vol, veh/h		985	301		1015	
Approach Delay, s/veh		24.5	49.3		26.7	
Approach LOS		C	D		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			47.0		37.3	23.2	23.8
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			56.8		50.8	31.4	20.8
Max Q Clear Time (g_c+I1), s			23.5		26.5	18.1	16.9
Green Ext Time (p_c), s			4.8		4.6	0.5	0.7

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

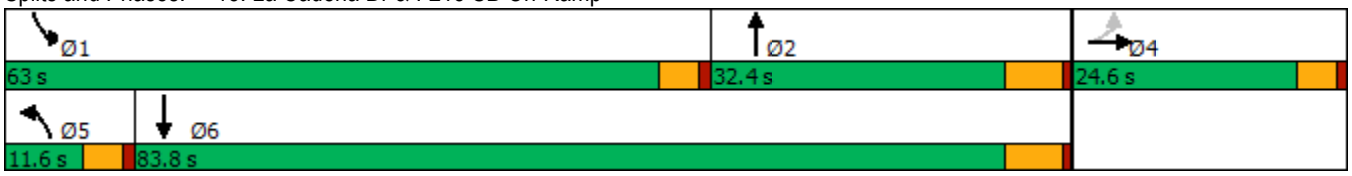
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	10	29	476	530	395
Future Volume (vph)	10	29	476	530	395
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	11.6	32.4	63.0	83.8
Total Split (%)	20.5%	9.7%	27.0%	52.5%	69.8%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	12.6	6.7	18.7	33.5	54.5
Actuated g/C Ratio	0.16	0.09	0.24	0.44	0.71
v/c Ratio	0.31	0.23	0.63	0.81	0.41
Control Delay	37.0	46.7	32.9	30.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	46.7	32.9	30.5	8.5
LOS	D	D	C	C	A
Approach Delay	37.0		33.7		20.1
Approach LOS	D		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 76.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 25.3	Intersection LOS: C
Intersection Capacity Utilization 68.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	10	18	0	0	0	29	476	6	530	395	79
Future Volume (veh/h)	53	10	18	0	0	0	29	476	6	530	395	79
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800				1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	58	11	20				32	517	7	576	429	86
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	144	27	50				56	741	10	627	825	165
Arrive On Green	0.13	0.13	0.13				0.03	0.21	0.21	0.39	0.57	0.57
Sat Flow, veh/h	1093	207	377				1619	3455	47	1619	1456	292
Grp Volume(v), veh/h	89	0	0				32	256	268	576	0	515
Grp Sat Flow(s),veh/h/ln	1677	0	0				1619	1710	1792	1619	0	1747
Q Serve(g_s), s	2.8	0.0	0.0				1.1	8.0	8.0	19.5	0.0	10.4
Cycle Q Clear(g_c), s	2.8	0.0	0.0				1.1	8.0	8.0	19.5	0.0	10.4
Prop In Lane	0.65		0.22				1.00		0.03	1.00		0.17
Lane Grp Cap(c), veh/h	221	0	0				56	367	384	627	0	990
V/C Ratio(X)	0.40	0.00	0.00				0.57	0.70	0.70	0.92	0.00	0.52
Avail Cap(c_a), veh/h	581	0	0				196	776	813	1638	0	2349
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	0.00				1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	0.0				27.4	20.9	20.9	16.8	0.0	7.7
Incr Delay (d2), s/veh	1.2	0.0	0.0				3.3	2.4	2.3	2.5	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	1.1	0.0	0.0				0.4	2.9	3.0	5.8	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	0.0	0.0				30.8	23.3	23.2	19.3	0.0	8.1
LnGrp LOS	C	A	A				C	C	C	B	A	A
Approach Vol, veh/h		89						556			1091	
Approach Delay, s/veh		24.2						23.7			14.0	
Approach LOS		C						C			B	

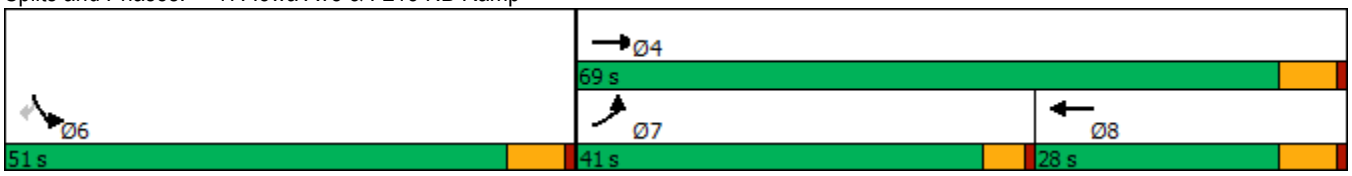
Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	26.9	18.6		12.2	6.6	38.9
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	58.4	26.2		20.0	7.0	77.6
Max Q Clear Time (g_c+I1), s	21.5	10.0		4.8	3.1	12.4
Green Ext Time (p_c), s	0.8	2.4		0.3	0.0	3.2

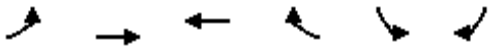
Intersection Summary		
HCM 6th Ctrl Delay		17.6
HCM 6th LOS		B

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	388	711	18	161	769
Future Volume (vph)	388	711	18	161	769
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2	24.2
Total Split (s)	41.0	69.0	28.0	51.0	51.0
Total Split (%)	34.2%	57.5%	23.3%	42.5%	42.5%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
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)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	22.9	41.0	13.2	27.1	27.1
Actuated g/C Ratio	0.28	0.50	0.16	0.33	0.33
v/c Ratio	0.78	0.76	0.66	0.78	0.57
Control Delay	40.9	23.7	11.8	30.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	23.7	11.8	30.4	5.3
LOS	D	C	B	C	A
Approach Delay		29.7	11.8	18.2	
Approach LOS		C	B	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.5	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 82.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	388	711	18	346	161	769
Future Volume (veh/h)	388	711	18	346	161	769
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	396	726	18	297	332	344
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	450	1046	22	356	476	423
Arrive On Green	0.25	0.55	0.23	0.23	0.26	0.26
Sat Flow, veh/h	1810	1900	93	1532	1810	1610
Grp Volume(v), veh/h	396	726	0	315	332	344
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1624	1810	1610
Q Serve(g_s), s	14.0	18.5	0.0	12.3	11.0	13.3
Cycle Q Clear(g_c), s	14.0	18.5	0.0	12.3	11.0	13.3
Prop In Lane	1.00			0.94	1.00	1.00
Lane Grp Cap(c), veh/h	450	1046	0	378	476	423
V/C Ratio(X)	0.88	0.69	0.00	0.83	0.70	0.81
Avail Cap(c_a), veh/h	991	1795	0	533	1219	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	10.9	0.0	24.3	22.1	23.0
Incr Delay (d2), s/veh	2.2	0.8	0.0	7.8	1.9	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	6.6	0.0	5.2	4.2	11.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.2	11.7	0.0	32.1	24.0	26.8
LnGrp LOS	C	B	A	C	C	C
Approach Vol, veh/h		1122	315		676	
Approach Delay, s/veh		16.8	32.1		25.4	
Approach LOS		B	C		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			42.8		23.7	21.2	21.7
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			62.8		44.8	36.4	21.8
Max Q Clear Time (g_c+I1), s			20.5		15.3	16.0	14.3
Green Ext Time (p_c), s			6.2		2.2	0.6	1.2

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX 4.1:

POST-PROCESS WORKSHEETS

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: Rancho Av. & I-10 Westbound 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	103	120	17	16%	126	178	52	41%
	Through	331	396	65	20%	826	992	166	20%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	434	516	82	19%	951	1,170	219	23%
SOUTH BOUND	Left	0	0	0	#DIV/0!	1	0	-1	-100%
	Through	676	815	139	21%	641	700	59	9%
	Right	319	380	61	19%	198	241	43	22%
	SB Total	995	1,195	200	20%	840	941	101	12%
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	271	295	24	9%	143	160	17	12%
	Through	0	0	0	#DIV/0!	1	1	0	-9%
	Right	357	394	37	10%	423	448	25	6%
	WB Total	627	689	62	10%	567	609	42	7%
TOTAL ENTERING VOLUME		2,056	2,400	344.054595	17%	2,359	2,720	361	15%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,195	941			
North Leg	Outbound	790	1,440			
North Leg	**TOTAL**	**1,985**	**2,381**	**7%**	**8%**	**29,512**
South Leg	Inbound	516	1,170			
South Leg	Outbound	1,110	860			
South Leg	**TOTAL**	**1,626**	**2,030**	**7%**	**8%**	**24,878**
East Leg	Inbound	689	609			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**689**	**609**	**9%**	**8%**	**7,744**
West Leg	Inbound	0	0			
West Leg	Outbound	500	420			
West Leg	**TOTAL**	**500**	**420**	**11%**	**9%**	**4,725**
OVERALL TOTAL		***4,800***	***5,440***	***7%***	***8%***	***66,859***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: Rancho Av. & I-10 Eastbound 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	299	364	65	22%	559	737	178	32%
	Right	166	176	10	6%	344	383	39	11%
	NB Total	465	540	75	16%	903	1,120	217	24%
SOUTH BOUND	Left	346	348	2	1%	356	374	18	5%
	Through	600	762	162	27%	429	496	67	15%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	946	1,110	164	17%	785	870	85	11%
EAST BOUND	Left	135	150	15	11%	393	438	45	11%
	Through	1	1	0	-9%	6	5	-1	-9%
	Right	318	389	71	22%	346	357	11	3%
	EB Total	454	540	86	19%	745	800	55	7%
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		1,865	2,190	324.519766	17%	2,433	2,790	357	15%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,110	870			
North Leg	Outbound	514	1,175			
North Leg	**TOTAL**	**1,624**	**2,045**	**7%**	**8%**	**24,882**
South Leg	Inbound	540	1,120			
South Leg	Outbound	1,151	853			
South Leg	**TOTAL**	**1,691**	**1,973**	**7%**	**8%**	**24,435**
East Leg	Inbound	0	0			
East Leg	Outbound	525	762			
East Leg	**TOTAL**	**525**	**762**	**6%**	**8%**	**9,434**
West Leg	Inbound	540	800			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**540**	**800**	**5%**	**7%**	**10,869**
OVERALL TOTAL		***4,380***	***5,580***	**6%**	***8%***	***69,620***

Z:\Shared\UcJobs_13600-14000_13700\13781\02_LOS\Post Processing\[06 Rancho_I10 EB.xls]Output (3)

Project: Agua Mansa Commerce Center TA
Scenario: Horizon Year (2040) Without Project

Job #: 13781
Analyst: CP
Date: 2/24/21

LOCATION: Rancho Avenue & N Street
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	284	292	8	3%	551	678	127	23%
	Right	41	49	8	21%	107	156	49	46%
	NB Total	325	341	16	5%	659	834	175	27%
SOUTH BOUND	Left	98	91	-7	-7%	131	106	-25	-19%
	Through	1,149	1,390	241	21%	948	1,031	83	9%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	1,246	1,481	235	19%	1,079	1,137	58	5%
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	10	20	10	92%	10	14	4	35%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	63	78	15	23%	42	35	-7	-16%
	WB Total	74	98	24	33%	52	49	-3	-6%
TOTAL ENTERING VOLUME		1,645	1,920	275.1276	17%	1,789	2,020	231	13%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,481	1,137			
North Leg	Outbound	370	713			
North Leg	**TOTAL**	**1,851**	**1,850**	**7%**	**7%**	**26,588**
South Leg	Inbound	341	834			
South Leg	Outbound	1,410	1,045			
South Leg	**TOTAL**	**1,751**	**1,879**	**7%**	**7%**	**25,122**
East Leg	Inbound	98	49			
East Leg	Outbound	140	262			
East Leg	**TOTAL**	**238**	**311**	**6%**	**8%**	**3,953**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
OVERALL TOTAL		***3,840***	***4,040***	***7%***	***7%***	***55,663***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: Rancho Avenue & Auga Mansa Road
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	65	93	28	42%	39	69	30	76%
	Through	334	385	51	15%	444	623	179	40%
	Right	5	6	1	13%	2	3	1	41%
	NB Total	405	484	79	20%	486	695	209	43%
SOUTH BOUND	Left	32	35	3	8%	13	10	-3	-21%
	Through	764	962	198	26%	708	808	100	14%
	Right	309	396	87	28%	178	189	11	6%
	SB Total	1,105	1,393	288	26%	899	1,007	108	12%
EAST BOUND	Left	181	186	5	3%	462	558	96	21%
	Through	18	19	1	9%	92	98	6	7%
	Right	38	48	10	26%	100	162	62	62%
	EB Total	237	253	16	7%	653	818	165	25%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	31	31	0	-1%	26	31	5	19%
	Right	12	9	-3	-23%	10	9	-1	-6%
	WB Total	43	40	-3	-7%	36	40	4	13%
TOTAL ENTERING VOLUME		1,790	2,170	380.272708	21%	2,073	2,560	487	23%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,393	1,007			
North Leg	Outbound	580	1,190			
North Leg	**TOTAL**	**1,973**	**2,197**	**7%**	**8%**	**26,944**
South Leg	Inbound	484	695			
South Leg	Outbound	1,010	970			
South Leg	**TOTAL**	**1,494**	**1,665**	**7%**	**8%**	**20,633**
East Leg	Inbound	40	40			
East Leg	Outbound	60	111			
East Leg	**TOTAL**	**100**	**151**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	253	818			
West Leg	Outbound	520	289			
West Leg	**TOTAL**	**773**	**1,107**	**5%**	**7%**	**14,800**
OVERALL TOTAL		***4,340***	***5,120***	***7%***	***8%***	***62,378***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: La Cadena Drive & Valley Boulevard
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	104	121	17	16%	132	166	34	26%
	Through	158	176	18	11%	359	410	51	14%
	Right	248	253	5	2%	356	393	37	10%
	NB Total	510	550	40	8%	847	969	122	14%
SOUTH BOUND	Left	31	32	1	3%	35	37	2	5%
	Through	304	361	57	19%	342	380	38	11%
	Right	24	28	4	17%	36	43	7	18%
	SB Total	359	421	62	17%	414	460	46	11%
EAST BOUND	Left	28	35	7	25%	58	71	13	22%
	Through	401	455	54	14%	393	460	67	17%
	Right	151	200	49	33%	135	169	34	25%
	EB Total	580	690	110	19%	587	700	113	19%
WEST BOUND	Left	429	479	50	12%	452	511	59	13%
	Through	268	292	24	9%	240	290	50	21%
	Right	9	10	1	7%	18	19	1	7%
	WB Total	706	781	75	11%	710	820	110	16%
TOTAL ENTERING VOLUME		2,155	2,442	287.3316	13%	2,557	2,949	392	15%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	421	460			
North Leg	Outbound	221	500			
North Leg	**TOTAL**	**642**	**960**	**5%**	**8%**	**11,998**
South Leg	Inbound	550	969			
South Leg	Outbound	1,040	1,060			
South Leg	**TOTAL**	**1,590**	**2,029**	**7%**	**9%**	**21,667**
East Leg	Inbound	781	820			
East Leg	Outbound	740	890			
East Leg	**TOTAL**	**1,521**	**1,710**	**9%**	**10%**	**17,698**
West Leg	Inbound	690	700			
West Leg	Outbound	441	499			
West Leg	**TOTAL**	**1,131**	**1,199**	**15%**	**16%**	**7,409**
OVERALL TOTAL		***4,884***	***5,898***	***8%***	***10%***	***58,772***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/21/21

LOCATION: La Cadena Drive & I-10 Westbound 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	118	152	34	29%	152	183	31	21%
	Through	402	430	28	7%	703	824	121	17%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	520	582	62	12%	854	1,007	153	18%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	727	900	173	24%	779	894	115	15%
	Right	177	168	-9	-5%	156	169	13	8%
	SB Total	904	1,068	164	18%	935	1,063	128	14%
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	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		1,424	1,650	225.858864	16%	1,789	2,070	281	16%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,068	1,063			
North Leg	Outbound	430	824			
North Leg	**TOTAL**	**1,498**	**1,887**	**7%**	**8%**	**22,335**
South Leg	Inbound	582	1,007			
South Leg	Outbound	900	894			
South Leg	**TOTAL**	**1,482**	**1,901**	**7%**	**8%**	**22,508**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	0	0			
West Leg	Outbound	320	352			
West Leg	**TOTAL**	**320**	**352**	**8%**	**9%**	**3,893**
OVERALL TOTAL		***3,300***	***4,140***	***7%***	***8%***	***48,735***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: La Cadena Drive & N Street
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	20	20	0	1%	25	24	-1	-5%
	Through	509	582	73	14%	555	654	99	18%
	Right	7	7	0	6%	9	9	0	2%
	NB Total	535	609	74	14%	590	687	97	17%
SOUTH BOUND	Left	8	9	1	16%	21	27	6	29%
	Through	465	594	129	28%	550	636	86	16%
	Right	32	36	4	12%	59	70	11	20%
	SB Total	505	639	134	27%	629	733	104	16%
EAST BOUND	Left	54	60	6	11%	92	100	8	9%
	Through	14	14	0	-2%	26	24	-2	-9%
	Right	61	67	6	10%	43	36	-7	-16%
	EB Total	129	141	12	9%	161	160	-1	-1%
WEST BOUND	Left	18	19	1	8%	20	18	-2	-9%
	Through	15	14	-1	-9%	28	26	-2	-6%
	Right	17	18	1	9%	13	16	3	21%
	WB Total	50	51	1	3%	61	60	-1	-1%
TOTAL ENTERING VOLUME		1,219	1,440	221.094793	18%	1,441	1,640	199	14%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	639	733			
North Leg	Outbound	660	770			
North Leg	**TOTAL**	**1,299**	**1,503**	**11%**	**13%**	**11,998**
South Leg	Inbound	609	687			
South Leg	Outbound	680	690			
South Leg	**TOTAL**	**1,289**	**1,377**	**6%**	**6%**	**21,667**
East Leg	Inbound	51	60			
East Leg	Outbound	30	60			
East Leg	**TOTAL**	**81**	**120**	**0%**	**1%**	**17,698**
West Leg	Inbound	141	160			
West Leg	Outbound	70	120			
West Leg	**TOTAL**	**211**	**280**	**3%**	**4%**	**7,409**
OVERALL TOTAL		***2,880***	***3,280***	**5%**	***6%***	***58,772***

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Project: Agua Mansa Commerce Center TA
Scenario: Horizon Year (2040) Without Project

Job #: 13781
Analyst: CP
Date: 2/24/21

LOCATION: La Cadena Drive & Rancho Avenue
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	258	318	60	23%	317	461	144	45%
	Through	402	467	65	16%	456	569	113	25%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	660	785	125	19%	773	1,030	257	33%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	479	692	213	44%	550	682	132	24%
	Right	2	2	0	-9%	9	9	0	2%
	SB Total	481	694	213	44%	559	691	132	24%
EAST BOUND	Left	14	13	-1	-9%	25	21	-4	-17%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	433	628	195	45%	499	608	109	22%
	EB Total	447	641	194	43%	524	629	105	20%
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		1,589	2,120	531.227724	33%	1,856	2,350	494	27%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	694	691			
North Leg	Outbound	480	590			
North Leg	**TOTAL**	**1,174**	**1,281**	**7%**	**8%**	**15,710**
South Leg	Inbound	785	1,030			
South Leg	Outbound	1,320	1,290			
South Leg	**TOTAL**	**2,105**	**2,320**	**7%**	**8%**	**29,591**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	641	629			
West Leg	Outbound	320	470			
West Leg	**TOTAL**	**961**	**1,099**	**7%**	**8%**	**14,207**
OVERALL TOTAL		***4,240***	***4,700***	***7%***	***8%***	***59,508***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: La Cadena Drive & Barton Road
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	529	613	84	16%	746	1,017	271	36%
	Right	128	284	156	121%	130	266	136	105%
	NB Total	657	897	240	37%	877	1,283	406	46%
SOUTH BOUND	Left	206	286	80	39%	223	254	31	14%
	Through	1,038	1,370	332	32%	963	1,161	198	21%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	1,244	1,656	412	33%	1,186	1,415	229	19%
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	148	320	172	117%	194	472	278	144%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	173	207	34	19%	155	239	84	54%
	WB Total	321	527	206	64%	349	711	362	104%
TOTAL ENTERING VOLUME		2,222	3,080	858.2258	39%	2,411	3,409	998	41%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,656	1,415			
North Leg	Outbound	820	1,256			
North Leg	**TOTAL**	**2,476**	**2,671**	**8%**	**8%**	**32,661**
South Leg	Inbound	897	1,283			
South Leg	Outbound	1,690	1,633			
South Leg	**TOTAL**	**2,587**	**2,916**	**7%**	**8%**	**37,503**
East Leg	Inbound	527	711			
East Leg	Outbound	570	520			
East Leg	**TOTAL**	**1,097**	**1,231**	**6%**	**7%**	**16,907**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
OVERALL TOTAL		***6,160***	***6,818***	**7%**	***8%***	***87,071***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: I-215 Northbound Ramps & Iowa Avenue
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	120	58	-62	-52%	161	122	-39	-24%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1,070	1,187	117	11%	769	816	47	6%
	SB Total	1,190	1,245	55	5%	930	938	8	1%
EAST BOUND	Left	332	458	126	38%	388	469	81	21%
	Through	584	672	88	15%	711	755	44	6%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	916	1,130	214	23%	1,099	1,224	125	11%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	38	64	26	70%	18	21	3	20%
	Right	297	261	-36	-12%	346	337	-9	-3%
	WB Total	334	325	-9	-3%	363	358	-5	-2%
TOTAL ENTERING VOLUME		2,441	2,700	259.364284	11%	2,393	2,520	127	5%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,245	938			
North Leg	Outbound	719	806			
North Leg	**TOTAL**	**1,964**	**1,744**	**10%**	**8%**	**20,542**
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
East Leg	Inbound	325	358			
East Leg	Outbound	730	877			
East Leg	**TOTAL**	**1,055**	**1,235**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	1,130	1,224			
West Leg	Outbound	1,251	837			
West Leg	**TOTAL**	**2,381**	**2,061**	**8%**	**7%**	**28,315**
OVERALL TOTAL		***5,400***	***5,040***	**11%**	***10%***	***48,857***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: 9th Street & Valley Boulevard
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	332	339	7	2%	292	343	51	18%
	Through	162	163	1	0%	239	238	-1	0%
	Right	59	64	5	8%	94	100	6	6%
	NB Total	554	566	12	2%	625	681	56	9%
SOUTH BOUND	Left	24	25	1	2%	30	30	0	1%
	Through	124	125	1	1%	107	101	-6	-6%
	Right	85	83	-2	-2%	71	79	8	11%
	SB Total	233	233	0	0%	208	210	2	1%
EAST BOUND	Left	2	2	0	-6%	28	32	4	16%
	Through	225	261	36	16%	374	456	82	22%
	Right	216	243	27	12%	125	142	17	13%
	EB Total	444	506	62	14%	526	630	104	20%
WEST BOUND	Left	18	22	4	22%	41	40	-1	-3%
	Through	328	388	60	18%	380	437	57	15%
	Right	13	15	2	18%	24	24	0	-2%
	WB Total	359	425	66	18%	446	501	55	12%
TOTAL ENTERING VOLUME		1,590	1,730	140.310416	9%	1,805	2,022	217	12%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	233	210			
North Leg	Outbound	180	294			
North Leg	**TOTAL**	**413**	**504**	**18%**	**22%**	**2,285**
South Leg	Inbound	566	681			
South Leg	Outbound	390	283			
South Leg	**TOTAL**	**956**	**964**	**8%**	**8%**	**11,940**
East Leg	Inbound	425	501			
East Leg	Outbound	350	586			
East Leg	**TOTAL**	**775**	**1,087**	**7%**	**10%**	**10,695**
West Leg	Inbound	506	630			
West Leg	Outbound	810	859			
West Leg	**TOTAL**	**1,316**	**1,489**	**7%**	**8%**	**17,698**
OVERALL TOTAL		***3,460***	***4,044***	***8%***	***9%***	***42,618***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: 9th Street & I-10 WB Off-Ramp
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	1	0	-1	-100%	3	3	0	-6%
	Through	155	160	5	3%	263	281	18	7%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	156	160	4	3%	266	284	18	7%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	360	391	31	9%	277	294	17	6%
	Right	1	0	-1	-100%	4	4	0	-6%
	SB Total	361	391	30	8%	281	298	17	6%
EAST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	0	-1	-100%	3	0	-3	-100%
	EB Total	2	0	-2	-100%	4	0	-4	-100%
WEST BOUND	Left	3	3	0	-6%	5	6	1	13%
	Through	2	0	-2	-100%	2	2	0	-6%
	Right	410	426	16	4%	366	409	43	12%
	WB Total	415	429	14	3%	374	417	43	12%
TOTAL ENTERING VOLUME		934	980	46.13696	5%	925	999	74	8%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	391	298			
North Leg	Outbound	586	690			
North Leg	**TOTAL**	**977**	**988**	**8%**	**8%**	**11,940**
South Leg	Inbound	160	284			
South Leg	Outbound	394	300			
South Leg	**TOTAL**	**554**	**584**	**7%**	**8%**	**7,641**
East Leg	Inbound	429	417			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**429**	**417**	**10%**	**10%**	**4,300**
West Leg	Inbound	0	0			
West Leg	Outbound	0	9			
West Leg	**TOTAL**	**0**	**9**	**#DIV/0!**	**#DIV/0!**	**-**
OVERALL TOTAL		***1,960***	***1,998***	***8%***	***8%***	***23,881***

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Project:	Agua Mansa Commerce Center TA	Job #:	13781
Scenario:	Horizon Year (2040) Without Project	Analyst:	CP
		Date:	2/24/21

LOCATION: 9th Street & I-10 EB 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	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	364	397	33	9%	285	298	13	4%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	364	397	33	9%	285	298	13	4%
EAST BOUND	Left	156	160	4	3%	266	280	14	5%
	Through	3	3	0	-6%	2	2	0	-6%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	159	163	4	2%	268	282	14	5%
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		523	560	37.00808	7%	554	580	26	5%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	397	298			
North Leg	Outbound	160	280			
North Leg	**TOTAL**	**557**	**578**	**7%**	**8%**	**7,641**
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
East Leg	Inbound	0	0			
East Leg	Outbound	400	300			
East Leg	**TOTAL**	**400**	**300**	**13%**	**10%**	**2,964**
West Leg	Inbound	163	282			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**163**	**282**	**3%**	**6%**	**4,676**
OVERALL TOTAL		***1,120***	***1,160***	**7%**	***8%***	***15,281***

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APPENDIX 5.1:

OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

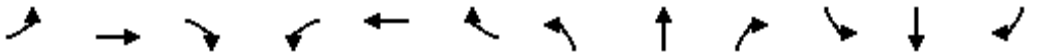
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Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	0	378	111	408	749
Future Volume (vph)	0	378	111	408	749
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	8		5	2	6
Permitted Phases		8			
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	26.3	26.3	12.1	82.8	66.2
Actuated g/C Ratio	0.22	0.22	0.10	0.69	0.55
v/c Ratio	0.78	0.62	0.65	0.18	0.60
Control Delay	57.7	9.3	89.3	1.5	19.9
Queue Delay	1.6	0.0	0.0	0.0	0.0
Total Delay	59.3	9.3	89.3	1.5	19.9
LOS	E	A	F	A	B
Approach Delay	30.9			20.2	19.9
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: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 66.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	287	0	378	111	408	0	0	749	339
Future Volume (veh/h)	0	0	0	287	0	378	111	408	0	0	749	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				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				309	0	298	119	439	0	0	805	284
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				384	0	342	147	2516	0	0	1514	534
Arrive On Green				0.21	0.00	0.21	0.03	0.23	0.00	0.00	0.58	0.58
Sat Flow, veh/h				1810	0	1610	1810	3705	0	0	2712	922
Grp Volume(v), veh/h				309	0	298	119	439	0	0	555	534
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1734
Q Serve(g_s), s				19.5	0.0	21.5	7.9	11.7	0.0	0.0	22.5	22.5
Cycle Q Clear(g_c), s				19.5	0.0	21.5	7.9	11.7	0.0	0.0	22.5	22.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.53
Lane Grp Cap(c), veh/h				384	0	342	147	2516	0	0	1044	1003
V/C Ratio(X)				0.81	0.00	0.87	0.81	0.17	0.00	0.00	0.53	0.53
Avail Cap(c_a), veh/h				501	0	445	249	2516	0	0	1044	1003
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.92	0.92	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				44.9	0.0	45.7	57.5	18.5	0.0	0.0	15.4	15.4
Incr Delay (d2), s/veh				7.2	0.0	13.9	3.7	0.1	0.0	0.0	1.9	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				9.2	0.0	9.6	3.9	5.7	0.0	0.0	9.3	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.1	0.0	59.7	61.2	18.6	0.0	0.0	17.3	17.4
LnGrp LOS				D	A	E	E	B	A	A	B	B
Approach Vol, veh/h					607			558			1089	
Approach Delay, s/veh					55.8			27.7			17.4	
Approach LOS					E			C			B	

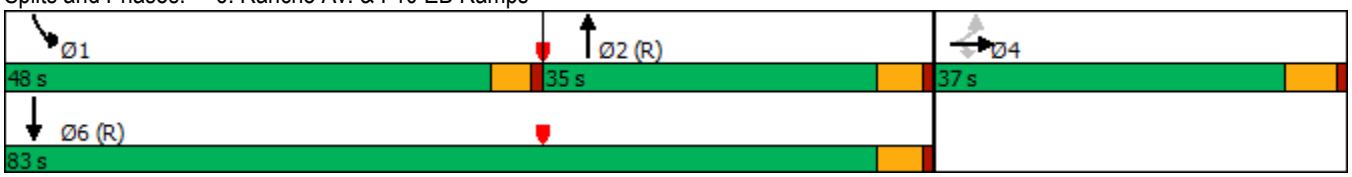
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.7			14.2	74.5		31.3				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		13.7			9.9	24.5		23.5				
Green Ext Time (p_c), s		3.1			0.1	8.4		2.0				

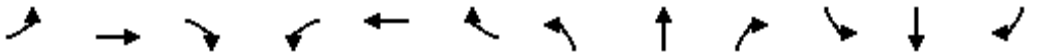
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			C									

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	1	339	376	367	669
Future Volume (vph)	1	339	376	367	669
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	19.5	19.5	52.5	32.6	89.6
Actuated g/C Ratio	0.16	0.16	0.44	0.27	0.75
v/c Ratio	0.56	0.84	0.41	0.85	0.28
Control Delay	52.0	33.7	24.7	55.0	6.5
Queue Delay	0.0	0.0	0.0	3.7	0.5
Total Delay	52.0	33.7	24.7	58.7	7.0
LOS	D	C	C	E	A
Approach Delay	39.2		24.7		25.4
Approach LOS	D		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: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 28.4	Intersection LOS: C
Intersection Capacity Utilization 66.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	1	339	0	0	0	0	376	176	367	669	0
Future Volume (veh/h)	143	1	339	0	0	0	0	376	176	367	669	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	162	1	300				0	427	155	417	760	0
Peak Hour Factor	0.88	0.88	0.88				0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	374	2	334				0	1096	394	438	2532	0
Arrive On Green	0.21	0.21	0.21				0.00	0.42	0.42	0.48	1.00	0.00
Sat Flow, veh/h	1799	11	1610				0	2697	935	1810	3705	0
Grp Volume(v), veh/h	163	0	300				0	295	287	417	760	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1805	1732	1810	1805	0
Q Serve(g_s), s	9.4	0.0	21.8				0.0	13.6	13.8	26.5	0.0	0.0
Cycle Q Clear(g_c), s	9.4	0.0	21.8				0.0	13.6	13.8	26.5	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	376	0	334				0	760	729	438	2532	0
V/C Ratio(X)	0.43	0.00	0.90				0.00	0.39	0.39	0.95	0.30	0.00
Avail Cap(c_a), veh/h	471	0	419				0	760	729	654	2532	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	1.00	1.00	0.76	0.76	0.00
Uniform Delay (d), s/veh	41.4	0.0	46.3				0.0	24.0	24.1	30.3	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	18.6				0.0	1.5	1.6	13.0	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
%ile BackOfQ(50%),veh/ln	4.2	0.0	10.1				0.0	6.0	5.9	10.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	0.0	64.9				0.0	25.5	25.7	43.3	0.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		463						582			1177	
Approach Delay, s/veh		56.9						25.6			15.5	
Approach LOS		E						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.6	55.6		30.7		89.3
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9
Max Q Clear Time (g_c+I1), s	28.5	15.8		23.8		2.0
Green Ext Time (p_c), s	0.6	3.0		1.2		6.1

Intersection Summary		
HCM 6th Ctrl Delay		26.8
HCM 6th LOS		C

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	67	360	43	104	1253
Future Vol, veh/h	11	67	360	43	104	1253
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	80	429	51	124	1492

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2195	240	0	0	480	0
Stage 1	455	-	-	-	-	-
Stage 2	1740	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	45	767	-	-	1093	-
Stage 1	611	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	40	767	-	-	1093	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	139	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.7
HCM LOS	B		

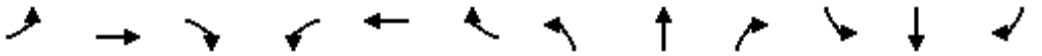
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	130	767	1093	-
HCM Lane V/C Ratio	-	-	0.101	0.104	0.113	-
HCM Control Delay (s)	-	-	35.8	10.2	8.7	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.4	-

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	204	19	33	158	413	34	846
Future Volume (vph)	204	19	33	158	413	34	846
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)		30.1	31.4	8.9	56.5	6.5	49.5
Actuated g/C Ratio		0.29	0.30	0.08	0.54	0.06	0.47
v/c Ratio		0.88	0.09	1.30	0.26	0.38	0.85
Control Delay		59.7	24.3	219.6	14.2	62.6	28.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		59.7	24.3	219.6	14.2	62.6	28.5
LOS		E	C	F	B	E	C
Approach Delay		59.7	24.3		70.5		29.4
Approach LOS		E	C		E		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.30	
Intersection Signal Delay: 44.6	Intersection LOS: D
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	19	84	0	33	12	158	413	6	34	846	348
Future Volume (veh/h)	204	19	84	0	33	12	158	413	6	34	846	348
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	229	21	84	0	37	11	178	464	6	38	951	218
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	327	24	94	0	375	111	166	1711	22	56	1180	270
Arrive On Green	0.28	0.28	0.28	0.00	0.28	0.28	0.10	0.49	0.49	0.03	0.43	0.43
Sat Flow, veh/h	912	84	334	0	1333	396	1619	3457	45	1619	2764	633
Grp Volume(v), veh/h	334	0	0	0	0	48	178	229	241	38	588	581
Grp Sat Flow(s),veh/h/ln	1330	0	0	0	0	1729	1619	1710	1792	1619	1710	1686
Q Serve(g_s), s	19.2	0.0	0.0	0.0	0.0	1.8	8.8	6.7	6.7	2.0	25.7	25.8
Cycle Q Clear(g_c), s	21.0	0.0	0.0	0.0	0.0	1.8	8.8	6.7	6.7	2.0	25.7	25.8
Prop In Lane	0.69		0.25	0.00		0.23	1.00		0.02	1.00		0.38
Lane Grp Cap(c), veh/h	445	0	0	0	0	487	166	846	887	56	730	720
V/C Ratio(X)	0.75	0.00	0.00	0.00	0.00	0.10	1.07	0.27	0.27	0.68	0.81	0.81
Avail Cap(c_a), veh/h	564	0	0	0	0	654	166	1301	1363	140	1273	1255
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	0.0	0.0	0.0	22.8	38.5	12.6	12.6	40.9	21.5	21.5
Incr Delay (d2), s/veh	4.2	0.0	0.0	0.0	0.0	0.1	89.9	0.2	0.2	5.2	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.0	0.0	0.0	0.7	7.4	2.3	2.4	0.8	9.5	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	0.0	0.0	0.0	22.8	128.3	12.8	12.8	46.1	23.6	23.7
LnGrp LOS	C	A	A	A	A	C	F	B	B	D	C	C
Approach Vol, veh/h		334			48			648			1207	
Approach Delay, s/veh		34.7			22.8			44.5			24.4	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	48.2		29.9	13.4	42.4		29.9				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	4.0	8.7		23.0	10.8	27.8		3.8				
Green Ext Time (p_c), s	0.0	2.7		1.1	0.0	8.8		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		31.7	
HCM 6th LOS		C	

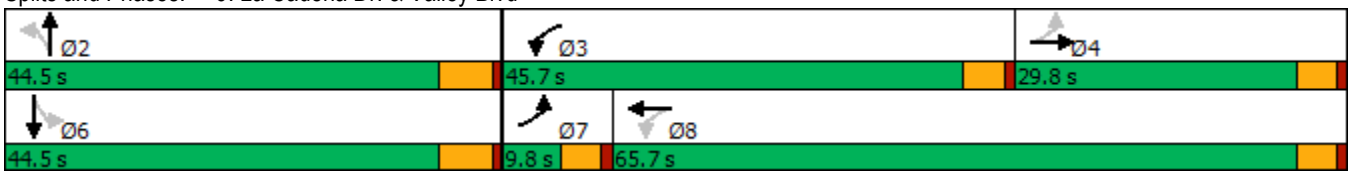
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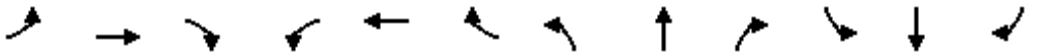
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	425	492	285	170	227	33	359
Future Volume (vph)	30	425	492	285	170	227	33	359
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	9.8	29.8	45.7	65.7	44.5	44.5	44.5	44.5
Total Split (%)	8.2%	24.8%	38.1%	54.8%	37.1%	37.1%	37.1%	37.1%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	28.6	23.3	62.5	57.3	31.4	31.4	31.4	31.4
Actuated g/C Ratio	0.27	0.22	0.60	0.55	0.30	0.30	0.30	0.30
v/c Ratio	0.11	0.85	0.90	0.17	0.86	0.48	0.21	0.41
Control Delay	18.0	50.4	45.0	13.8	71.0	16.7	33.3	31.0
Queue Delay	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	50.4	46.0	13.8	71.0	16.7	33.3	31.0
LOS	B	D	D	B	E	B	C	C
Approach Delay		48.8		33.9		30.7		31.2
Approach LOS		D		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104.8	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 36.3	Intersection LOS: D
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	425	160	492	285	10	170	227	263	33	359	25
Future Volume (veh/h)	30	425	160	492	285	10	170	227	263	33	359	25
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	467	176	541	313	11	187	249	289	36	395	27
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	349	546	204	572	1631	57	296	570	508	221	1082	74
Arrive On Green	0.03	0.22	0.22	0.29	0.48	0.48	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1619	2435	911	1619	3371	118	926	1710	1525	832	3249	221
Grp Volume(v), veh/h	33	327	316	541	158	166	187	249	289	36	207	215
Grp Sat Flow(s),veh/h/ln	1619	1710	1636	1619	1710	1779	926	1710	1525	832	1710	1760
Q Serve(g_s), s	1.5	18.0	18.2	25.6	5.2	5.2	18.9	11.2	15.3	3.7	9.0	9.1
Cycle Q Clear(g_c), s	1.5	18.0	18.2	25.6	5.2	5.2	28.0	11.2	15.3	18.9	9.0	9.1
Prop In Lane	1.00		0.56	1.00		0.07	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	349	383	367	572	827	860	296	570	508	221	570	586
V/C Ratio(X)	0.09	0.85	0.86	0.95	0.19	0.19	0.63	0.44	0.57	0.16	0.36	0.37
Avail Cap(c_a), veh/h	386	439	420	781	1065	1108	353	675	602	272	675	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	36.5	36.6	22.7	14.4	14.4	35.5	25.5	26.9	34.7	24.8	24.8
Incr Delay (d2), s/veh	0.0	13.5	15.0	15.0	0.1	0.1	2.7	0.5	1.0	0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.8	8.7	11.6	2.0	2.1	4.2	4.3	5.4	0.7	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	50.0	51.6	37.6	14.5	14.5	38.2	26.1	27.9	35.1	25.2	25.2
LnGrp LOS	C	D	D	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		676			865			725			458	
Approach Delay, s/veh		49.7			29.0			29.9			26.0	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		38.5	33.0	26.6		38.5	7.6	52.1				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		38.7	41.1	25.2		38.7	5.2	61.1				
Max Q Clear Time (g_c+I1), s		30.0	27.6	20.2		20.9	3.5	7.2				
Green Ext Time (p_c), s		2.7	0.8	1.8		2.2	0.0	2.1				

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	154	546	845	188
Future Vol, veh/h	0	0	154	546	845	188
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	175	620	960	214

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1727	587	1174	0	-	0
Stage 1	1067	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	81	458	602	-	-	-
Stage 1	296	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	45	458	602	-	-	-
Mov Cap-2 Maneuver	45	-	-	-	-	-
Stage 1	165	-	-	-	-	-
Stage 2	481	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	4.4	0
HCM LOS	A		

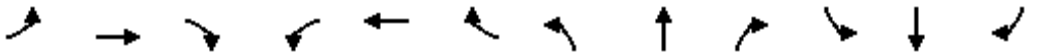
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	602	-	-	-	-
HCM Lane V/C Ratio	0.291	-	-	-	-
HCM Control Delay (s)	13.4	1.9	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	57	15	64	19	16	18	21	688	8	567
Future Volume (vph)	57	15	64	19	16	18	21	688	8	567
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.0	4.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	76.0	76.0	76.0	76.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.2	10.2		10.2	10.2	19.9	19.9	19.6	19.6
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.55	0.55	0.54	0.54
v/c Ratio		0.22	0.15		0.10	0.05	0.07	0.42	0.03	0.37
Control Delay		12.8	4.9		11.5	5.1	6.4	7.6	6.2	7.4
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.8	4.9		11.5	5.1	6.4	7.6	6.2	7.4
LOS		B	A		B	A	A	A	A	A
Approach Delay		9.1			9.3			7.5		7.4
Approach LOS		A			A			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 36	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 7.7	Intersection LOS: A
Intersection Capacity Utilization 49.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	15	64	19	16	18	21	688	7	8	567	34
Future Volume (veh/h)	57	15	64	19	16	18	21	688	7	8	567	34
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	66	17	74	22	18	21	24	791	8	9	652	39
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	487	103	404	351	234	404	405	1396	14	369	1319	79
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1086	388	1525	675	884	1525	722	3469	35	653	3279	196
Grp Volume(v), veh/h	83	0	74	40	0	21	24	390	409	9	340	351
Grp Sat Flow(s),veh/h/ln	1474	0	1525	1559	0	1525	722	1710	1794	653	1710	1765
Q Serve(g_s), s	0.8	0.0	1.2	0.0	0.0	0.3	0.8	5.7	5.7	0.4	4.8	4.8
Cycle Q Clear(g_c), s	1.3	0.0	1.2	0.5	0.0	0.3	5.7	5.7	5.7	6.1	4.8	4.8
Prop In Lane	0.80		1.00	0.55		1.00	1.00		0.02	1.00		0.11
Lane Grp Cap(c), veh/h	590	0	404	585	0	404	405	688	722	369	688	710
V/C Ratio(X)	0.14	0.00	0.18	0.07	0.00	0.05	0.06	0.57	0.57	0.02	0.49	0.49
Avail Cap(c_a), veh/h	1973	0	1851	2012	0	1851	1676	3698	3879	1510	3677	3794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	9.2	9.0	0.0	8.9	9.3	7.5	7.5	9.9	7.2	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	0.1	0.1	0.7	0.7	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.2	0.0	0.1	0.1	1.1	1.1	0.0	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	0.0	9.4	9.0	0.0	8.9	9.4	8.2	8.2	9.9	7.8	7.8
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		157			61			823			700	
Approach Delay, s/veh		9.4			9.0			8.3			7.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.3		13.2		19.3		13.2				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 70		39.4		69.8		39.4				
Max Q Clear Time (g_c+I1), s		7.7		3.3		8.1		2.5				
Green Ext Time (p_c), s		5.3		0.7		4.2		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			8.2									
HCM 6th LOS			A									

Notes

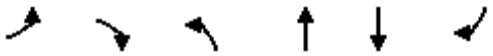
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	16	536	418	574	580
Future Volume (vph)	16	536	418	574	580
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	11.9	11.9	30.5	57.9	22.6
Actuated g/C Ratio	0.14	0.14	0.37	0.70	0.27
v/c Ratio	0.66	0.65	0.79	0.27	0.71
Control Delay	14.4	12.9	36.5	4.8	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	12.9	36.5	4.8	32.9
LOS	B	B	D	A	C
Approach Delay	13.6			18.2	32.9
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 82.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 75.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	536	418	574	580	5
Future Volume (veh/h)	16	536	418	574	580	5
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	1620	1620	1530	1620	1620	1620
Adj Flow Rate, veh/h	0	447	427	586	592	5
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	313	557	463	1938	774	7
Arrive On Green	0.00	0.20	0.32	0.63	0.25	0.25
Sat Flow, veh/h	1543	2746	1457	3159	3209	26
Grp Volume(v), veh/h	0	447	427	586	291	306
Grp Sat Flow(s),veh/h/ln	1543	1373	1457	1539	1539	1615
Q Serve(g_s), s	0.0	11.1	20.2	6.2	12.6	12.6
Cycle Q Clear(g_c), s	0.0	11.1	20.2	6.2	12.6	12.6
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	313	557	463	1938	381	400
V/C Ratio(X)	0.00	0.80	0.92	0.30	0.77	0.77
Avail Cap(c_a), veh/h	543	966	802	3559	834	875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	27.2	23.6	6.1	25.0	25.0
Incr Delay (d2), s/veh	0.0	2.8	5.5	0.1	3.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	6.6	1.3	4.4	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	29.9	29.1	6.2	28.2	28.1
LnGrp LOS	A	C	C	A	C	C
Approach Vol, veh/h	447			1013	597	
Approach Delay, s/veh	29.9			15.8	28.2	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.3		20.3	27.4	23.9
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		8.2		13.1	22.2	14.6
Green Ext Time (p_c), s		3.9		1.4	0.5	3.1

Intersection Summary		
HCM 6th Ctrl Delay		22.5
HCM 6th LOS		C

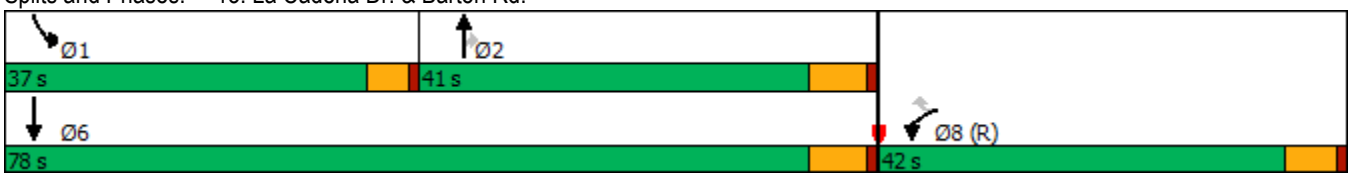
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	248	333	693	307	473	1182
Future Volume (vph)	248	333	693	307	473	1182
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	39.4	39.4	31.6	31.6	32.4	68.6
Actuated g/C Ratio	0.33	0.33	0.26	0.26	0.27	0.57
v/c Ratio	0.50	0.57	0.82	0.51	1.15	0.64
Control Delay	37.3	21.3	49.5	6.5	132.3	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	21.3	49.5	6.5	132.3	18.9
LOS	D	C	D	A	F	B
Approach Delay	28.1		36.3			51.3
Approach LOS	C		D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 42.5	Intersection LOS: D
Intersection Capacity Utilization 78.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	248	333	693	307	473	1182
Future Volume (veh/h)	248	333	693	307	473	1182
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	264	0	737	290	503	1257
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	488		858	383	437	1913
Arrive On Green	0.30	0.00	0.25	0.25	0.27	0.56
Sat Flow, veh/h	1619	1525	3510	1525	1619	3510
Grp Volume(v), veh/h	264	0	737	290	503	1257
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1525	1619	1710
Q Serve(g_s), s	16.3	0.0	24.7	21.1	32.4	30.7
Cycle Q Clear(g_c), s	16.3	0.0	24.7	21.1	32.4	30.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	488		858	383	437	1913
V/C Ratio(X)	0.54		0.86	0.76	1.15	0.66
Avail Cap(c_a), veh/h	488		992	442	437	2046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.57	0.57	0.67	0.67
Uniform Delay (d), s/veh	35.0	0.0	42.9	41.6	43.8	18.4
Incr Delay (d2), s/veh	4.2	0.0	4.1	3.7	84.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	10.4	8.0	22.6	11.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.2	0.0	47.0	45.3	128.5	18.9
LnGrp LOS	D		D	D	F	B
Approach Vol, veh/h	264		1027			1760
Approach Delay, s/veh	39.2		46.5			50.2
Approach LOS	D		D			D

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	37.0	36.3				73.3	42.0
Change Period (Y+Rc), s	4.6	6.2				6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8				71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	26.7				32.7	18.3
Green Ext Time (p_c), s	0.0	3.4				10.5	0.3

Intersection Summary	
HCM 6th Ctrl Delay	48.0
HCM 6th LOS	D

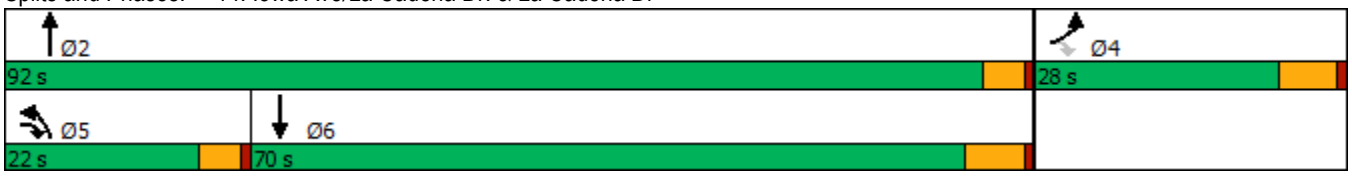
Notes

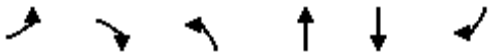
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	376	198	212	688	623	1033
Future Volume (vph)	376	198	212	688	623	1033
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	22.1	45.2	16.8	62.3	39.3	95.4
Actuated g/C Ratio	0.23	0.47	0.18	0.65	0.41	1.00
v/c Ratio	1.04	0.28	0.77	0.60	0.87	0.42
Control Delay	95.7	19.0	59.1	11.6	38.4	0.5
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	95.7	19.0	59.1	12.1	38.4	0.5
LOS	F	B	E	B	D	A
Approach Delay	69.3			23.2	14.8	
Approach LOS	E			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 27.2	Intersection LOS: C
Intersection Capacity Utilization 85.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	376	198	212	688	623	1033
Future Volume (veh/h)	376	198	212	688	623	1033
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	1700	1800	1700	1800	1800	1700
Adj Flow Rate, veh/h	388	178	219	709	642	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	403	617	252	1097	723	
Arrive On Green	0.25	0.25	0.16	0.61	0.40	0.00
Sat Flow, veh/h	1619	1525	1619	1800	1800	2536
Grp Volume(v), veh/h	388	178	219	709	642	0
Grp Sat Flow(s),veh/h/ln	1619	1525	1619	1800	1800	1268
Q Serve(g_s), s	20.7	6.9	11.6	22.2	29.1	0.0
Cycle Q Clear(g_c), s	20.7	6.9	11.6	22.2	29.1	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	403	617	252	1097	723	
V/C Ratio(X)	0.96	0.29	0.87	0.65	0.89	
Avail Cap(c_a), veh/h	403	617	322	1797	1312	
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	0.00
Uniform Delay (d), s/veh	32.5	17.6	36.1	11.0	24.4	0.0
Incr Delay (d2), s/veh	35.1	0.3	15.6	0.6	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	6.9	5.3	6.9	11.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.5	17.8	51.7	11.7	28.4	0.0
LnGrp LOS	E	B	D	B	C	
Approach Vol, veh/h	566			928	642	
Approach Delay, s/veh	51.9			21.1	28.4	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.6		28.0	18.2	41.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		24.2		22.7	13.6	31.1
Green Ext Time (p_c), s		4.9		0.0	0.1	4.1

Intersection Summary		
HCM 6th Ctrl Delay		31.5
HCM 6th LOS		C

Notes

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

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

Intersection	
Intersection Delay, s/veh	128.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	81	19	32	0	0	0	10	471	0	584	652	51
Future Vol, veh/h	81	19	32	0	0	0	10	471	0	584	652	51
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	91	21	36	0	0	0	11	529	0	656	733	57
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15	14.2	182.6
HCM LOS	B	B	F

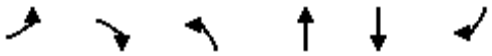
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	61%	100%	0%
Vol Thru, %	0%	100%	100%	14%	0%	93%
Vol Right, %	0%	0%	0%	24%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	236	236	132	584	703
LT Vol	10	0	0	81	584	0
Through Vol	0	236	236	19	0	652
RT Vol	0	0	0	32	0	51
Lane Flow Rate	11	265	265	148	656	790
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.022	0.49	0.365	0.328	1.26	1.394
Departure Headway (Hd)	7.886	7.378	5.652	8.328	6.912	6.353
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	457	492	640	435	532	577
Service Time	5.586	5.078	3.352	6.028	4.623	4.065
HCM Lane V/C Ratio	0.024	0.539	0.414	0.34	1.233	1.369
HCM Control Delay	10.8	17	11.6	15	153.8	206.6
HCM Lane LOS	B	C	B	B	F	F
HCM 95th-tile Q	0.1	2.7	1.7	1.4	26.3	36.1

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	116	706	807	762
Future Volume (vph)	116	706	807	762
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.2	10.2	18.9	45.6
Actuated g/C Ratio	0.11	0.11	0.20	0.49
v/c Ratio	0.64	1.50	2.26	0.89
Control Delay	59.5	254.8	598.4	33.4
Queue Delay	0.0	0.0	0.0	0.7
Total Delay	59.5	254.8	598.4	34.0
LOS	E	F	F	C
Approach Delay	227.0		598.4	34.0
Approach LOS	F		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.26	
Intersection Signal Delay: 290.9	Intersection LOS: F
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	116	706	0	807	762	0
Future Volume (veh/h)	116	706	0	807	762	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	126	617	0	868	819	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	380	338	0	1006	1006	0
Arrive On Green	0.21	0.21	0.00	0.53	0.53	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	126	617	0	868	819	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	2.8	10.0	0.0	18.8	17.0	0.0
Cycle Q Clear(g_c), s	2.8	10.0	0.0	18.8	17.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	380	338	0	1006	1006	0
V/C Ratio(X)	0.33	1.82	0.00	0.86	0.81	0.00
Avail Cap(c_a), veh/h	380	338	0	1006	2905	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.0	18.8	0.0	9.7	9.3	0.0
Incr Delay (d2), s/veh	0.5	382.4	0.0	7.8	1.7	0.0
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	39.3	0.0	6.1	4.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.5	401.2	0.0	17.5	10.9	0.0
LnGrp LOS	B	F	A	B	B	A
Approach Vol, veh/h	743			868	819	
Approach Delay, s/veh	336.0			17.5	10.9	
Approach LOS	F			B	B	

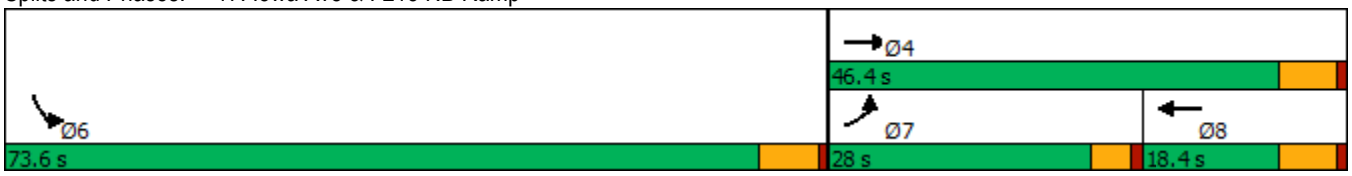
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		31.4		16.2		31.4
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		20.8		12.0		19.0
Green Ext Time (p_c), s		0.0		0.0		6.2

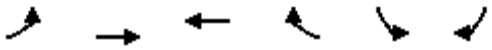
Intersection Summary		
HCM 6th Ctrl Delay	112.7	
HCM 6th LOS	F	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	451	769	90	192
Future Volume (vph)	451	769	90	192
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.38	1.30	1.66	1.39
Control Delay	226.0	180.7	336.3	201.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	226.0	180.7	336.3	201.2
LOS	F	F	F	F
Approach Delay		197.4	336.3	201.2
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.66	
Intersection Signal Delay: 219.0	Intersection LOS: F
Intersection Capacity Utilization 155.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	451	769	90	357	192	1277
Future Volume (veh/h)	451	769	90	357	192	1277
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	485	827	97	325	206	1099
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	353	636	39	131	145	775
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	384	1285	259	1379
Grp Volume(v), veh/h	485	827	0	422	1306	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1669	1639	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.77	0.16	0.84
Lane Grp Cap(c), veh/h	353	637	0	170	920	0
V/C Ratio(X)	1.37	1.30	0.00	2.49	1.42	0.00
Avail Cap(c_a), veh/h	353	637	0	170	920	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	185.5	146.0	0.0	686.7	194.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.7	44.3	0.0	37.5	72.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	233.8	185.9	0.0	740.6	221.2	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1312	422		1306	
Approach Delay, s/veh		203.6	740.6		221.2	
Approach LOS		F	F		F	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			46.4		73.6	28.0	18.4
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			40.2		67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s			42.2		69.4	25.4	14.2
Green Ext Time (p_c), s			0.0		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	285.7
HCM 6th LOS	F

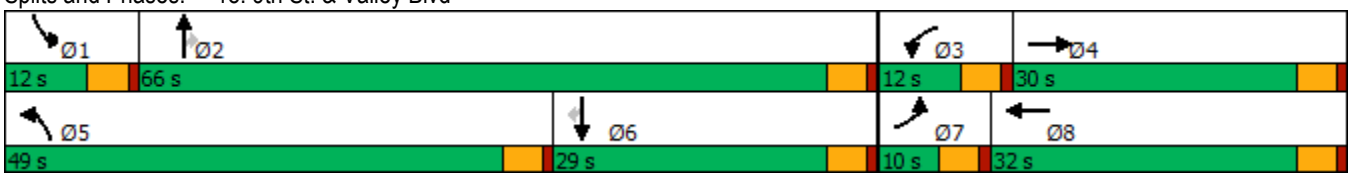
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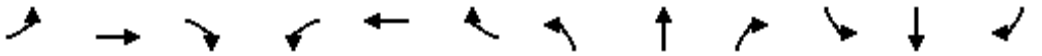
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	2	239	19	348	389	172	63	26	132	90
Future Volume (vph)	2	239	19	348	389	172	63	26	132	90
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	26.6	9.6	26.6	9.6	22.6	22.6	9.6	22.6	22.6
Total Split (s)	10.0	30.0	12.0	32.0	49.0	66.0	66.0	12.0	29.0	29.0
Total Split (%)	8.3%	25.0%	10.0%	26.7%	40.8%	55.0%	55.0%	10.0%	24.2%	24.2%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	5.6	16.0	6.2	18.1	23.9	39.0	39.0	6.4	13.4	13.4
Actuated g/C Ratio	0.08	0.22	0.09	0.25	0.33	0.54	0.54	0.09	0.19	0.19
v/c Ratio	0.02	0.63	0.14	0.45	0.76	0.19	0.08	0.19	0.42	0.24
Control Delay	45.5	20.1	44.4	26.4	33.6	12.8	1.5	44.4	36.5	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	20.1	44.4	26.4	33.6	12.8	1.5	44.4	36.5	3.7
LOS	D	C	D	C	C	B	A	D	D	A
Approach Delay		20.2		27.3		24.6			25.4	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 72	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 24.0	Intersection LOS: C
Intersection Capacity Utilization 61.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	239	289	19	348	14	389	172	63	26	132	90
Future Volume (veh/h)	2	239	289	19	348	14	389	172	63	26	132	90
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	2	252	304	20	366	15	409	181	66	27	139	95
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	4	440	393	38	931	38	457	732	620	48	277	235
Arrive On Green	0.00	0.26	0.26	0.02	0.28	0.28	0.28	0.41	0.41	0.03	0.15	0.15
Sat Flow, veh/h	1619	1710	1525	1619	3348	137	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	2	252	304	20	186	195	409	181	66	27	139	95
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1775	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	0.1	8.3	12.0	0.8	5.7	5.8	15.8	4.3	1.7	1.1	4.6	3.7
Cycle Q Clear(g_c), s	0.1	8.3	12.0	0.8	5.7	5.8	15.8	4.3	1.7	1.1	4.6	3.7
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	440	393	38	476	494	457	732	620	48	277	235
V/C Ratio(X)	0.45	0.57	0.77	0.53	0.39	0.39	0.89	0.25	0.11	0.56	0.50	0.41
Avail Cap(c_a), veh/h	134	668	596	184	720	748	1105	1699	1440	184	675	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	21.0	22.4	31.4	19.0	19.0	22.4	12.7	12.0	31.1	25.2	24.8
Incr Delay (d2), s/veh	24.6	1.2	3.5	4.2	0.5	0.5	2.5	0.2	0.1	3.8	1.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	4.4	0.3	2.2	2.3	5.8	1.6	0.6	0.5	2.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	22.2	25.9	35.6	19.5	19.5	24.9	12.9	12.0	34.9	26.6	26.0
LnGrp LOS	E	C	C	D	B	B	C	B	B	C	C	C
Approach Vol, veh/h		558			401			656			261	
Approach Delay, s/veh		24.3			20.3			20.3			27.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	31.0	6.1	21.4	23.0	14.6	4.8	22.7
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	61.4	7.4	25.4	44.4	24.4	5.4	27.4
Max Q Clear Time (g_c+I1), s	3.1	6.3	2.8	14.0	17.8	6.6	2.1	7.8
Green Ext Time (p_c), s	0.0	1.3	0.0	2.7	0.6	0.9	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	453	164	0	0	441
Future Vol, veh/h	3	453	164	0	0	441
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	503	182	0	0	490

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	672	182	0	-	-	-
Stage 1	182	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	424	866	-	0	0	-
Stage 1	854	-	-	0	0	-
Stage 2	620	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	424	866	-	-	-	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	862	-
HCM Lane V/C Ratio	-	0.588	-
HCM Control Delay (s)	-	15	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	3.9	-

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	184	3	0	0	446	0
Future Vol, veh/h	184	3	0	0	446	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	4	0	0	544	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11.4	18.8
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	187	446
LT Vol	184	446
Through Vol	3	0
RT Vol	0	0
Lane Flow Rate	228	544
Geometry Grp	1	1
Degree of Util (X)	0.344	0.715
Departure Headway (Hd)	5.436	4.73
Convergence, Y/N	Yes	Yes
Cap	657	761
Service Time	3.505	2.777
HCM Lane V/C Ratio	0.347	0.715
HCM Control Delay	11.4	18.8
HCM Lane LOS	B	C
HCM 95th-tile Q	1.5	6.1

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1067	1287	53	621
Demand Flow Rate, veh/h	1067	1287	53	621
Vehicles Circulating, veh/h	413	216	1398	738
Vehicles Exiting, veh/h	946	1235	82	765
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.1	9.9	10.1	11.9
Approach LOS	B	A	B	B

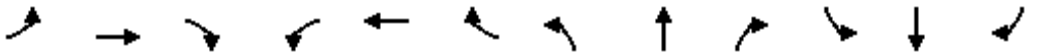
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.596	0.404
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	501	566	605	682	53	370	251
Cap Entry Lane, veh/h	923	1000	1107	1182	433	685	758
Entry HV Adj Factor	1.001	0.999	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	501	566	605	682	53	370	251
Cap Entry, veh/h	924	999	1106	1182	433	685	758
V/C Ratio	0.543	0.566	0.547	0.577	0.122	0.540	0.331
Control Delay, s/veh	11.1	11.0	9.8	10.0	10.1	14.0	8.7
LOS	B	B	A	A	B	B	A
95th %tile Queue, veh	3	4	3	4	0	3	1

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	283	819	1043	624	141	0	421
Future Volume (vph)	283	819	1043	624	141	0	421
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	22.0	94.0	72.0	72.0	26.0	26.0	26.0
Total Split (%)	18.3%	78.3%	60.0%	60.0%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.0	68.0	45.3	45.3	14.4	13.1	13.1
Actuated g/C Ratio	0.19	0.74	0.49	0.49	0.16	0.14	0.14
v/c Ratio	0.89	0.34	0.65	0.66	0.55	0.57	0.57
Control Delay	67.2	4.7	19.0	6.8	47.0	12.6	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	4.7	19.0	6.8	47.0	12.6	12.4
LOS	E	A	B	A	D	B	B
Approach Delay		20.8	14.4			21.1	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.4	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 76.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	819	0	0	1043	624	141	0	421	0	0	0
Future Volume (veh/h)	283	819	0	0	1043	624	141	0	421	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	311	900	0	0	1146	538	155	0	370			
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	0	0	0	0	0	0	0	0			
Cap, veh/h	350	2630	0	0	1727	750	276	0	492			
Arrive On Green	0.19	0.73	0.00	0.00	0.48	0.48	0.15	0.00	0.15			
Sat Flow, veh/h	1810	3705	0	0	3705	1567	1810	0	3220			
Grp Volume(v), veh/h	311	900	0	0	1146	538	155	0	370			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1567	1810	0	1610			
Q Serve(g_s), s	13.5	7.3	0.0	0.0	19.6	22.1	6.4	0.0	8.9			
Cycle Q Clear(g_c), s	13.5	7.3	0.0	0.0	19.6	22.1	6.4	0.0	8.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	350	2630	0	0	1727	750	276	0	492			
V/C Ratio(X)	0.89	0.34	0.00	0.00	0.66	0.72	0.56	0.00	0.75			
Avail Cap(c_a), veh/h	389	3966	0	0	2985	1295	481	0	856			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.8	4.0	0.0	0.0	16.1	16.8	31.8	0.0	32.8			
Incr Delay (d2), s/veh	18.9	0.1	0.0	0.0	0.4	1.3	1.8	0.0	2.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.5	1.8	0.0	0.0	7.3	7.3	2.8	0.0	3.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	4.0	0.0	0.0	16.6	18.1	33.5	0.0	35.2			
LnGrp LOS	D	A	A	A	B	B	C	A	D			
Approach Vol, veh/h		1211			1684			525				
Approach Delay, s/veh		16.0			17.0			34.7				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.1			20.2	43.8		16.9				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		88.9			17.4	66.9		21.5				
Max Q Clear Time (g_c+I1), s		9.3			15.5	24.1		10.9				
Green Ext Time (p_c), s		7.7			0.1	14.6		1.5				

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

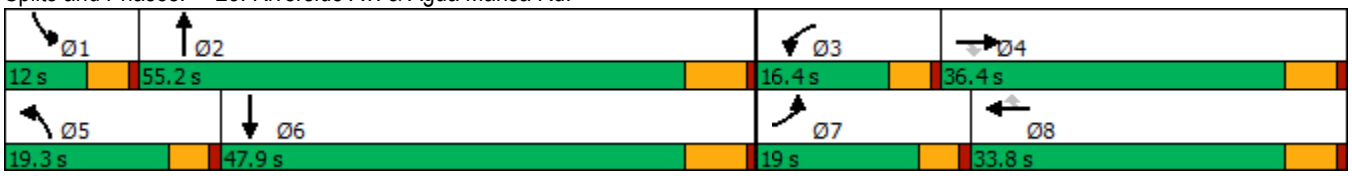
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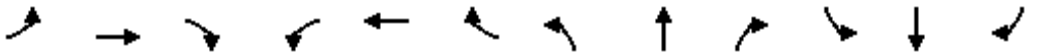
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	265	215	97	117	322	104	214	963	111	932
Future Volume (vph)	265	215	97	117	322	104	214	963	111	932
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.8	33.8	9.6	29.5	9.6	31.5
Total Split (s)	19.0	36.4	36.4	16.4	33.8	33.8	19.3	55.2	12.0	47.9
Total Split (%)	15.8%	30.3%	30.3%	13.7%	28.2%	28.2%	16.1%	46.0%	10.0%	39.9%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	5.8	4.6	5.8	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.4	28.2	28.2	10.6	24.5	24.5	14.7	48.8	7.4	41.5
Actuated g/C Ratio	0.11	0.24	0.24	0.09	0.21	0.21	0.13	0.42	0.06	0.36
v/c Ratio	1.35	0.49	0.20	0.75	0.85	0.24	0.99	0.72	1.03	1.06
Control Delay	224.6	42.3	2.0	79.1	64.5	2.9	108.7	32.0	145.5	77.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	224.6	42.3	2.0	79.1	64.5	2.9	108.7	32.0	145.5	77.9
LOS	F	D	A	E	E	A	F	C	F	E
Approach Delay		119.3			55.9			45.2		83.4
Approach LOS		F			E			D		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 116.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 72.2	Intersection LOS: E
Intersection Capacity Utilization 98.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	215	97	117	322	104	214	963	66	111	932	329
Future Volume (veh/h)	265	215	97	117	322	104	214	963	66	111	932	329
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	279	226	65	123	339	90	225	1014	62	117	981	308
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	210	463	392	150	383	324	231	1461	89	116	973	304
Arrive On Green	0.12	0.24	0.24	0.08	0.20	0.20	0.13	0.42	0.42	0.06	0.36	0.36
Sat Flow, veh/h	1810	1900	1608	1810	1900	1608	1810	3455	211	1810	2707	845
Grp Volume(v), veh/h	279	226	65	123	339	90	225	530	546	117	652	637
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1608	1810	1805	1862	1810	1805	1747
Q Serve(g_s), s	13.4	11.8	3.7	7.7	20.0	5.5	14.3	27.6	27.6	7.4	41.4	41.4
Cycle Q Clear(g_c), s	13.4	11.8	3.7	7.7	20.0	5.5	14.3	27.6	27.6	7.4	41.4	41.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.48
Lane Grp Cap(c), veh/h	210	463	392	150	383	324	231	763	787	116	649	628
V/C Ratio(X)	1.33	0.49	0.17	0.82	0.89	0.28	0.97	0.69	0.69	1.01	1.01	1.01
Avail Cap(c_a), veh/h	210	505	427	185	462	391	231	763	787	116	649	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	37.4	34.3	52.0	44.7	38.9	50.1	27.2	27.2	53.9	36.9	36.9
Incr Delay (d2), s/veh	175.6	0.8	0.2	17.3	16.1	0.5	51.7	2.7	2.7	85.3	36.8	39.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	5.4	1.4	4.1	10.8	2.1	9.5	11.4	11.8	6.0	23.3	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	226.5	38.2	34.5	69.3	60.8	39.4	101.7	29.9	29.8	139.2	73.7	76.5
LnGrp LOS	F	D	C	E	E	D	F	C	C	F	F	F
Approach Vol, veh/h		570			552			1301			1406	
Approach Delay, s/veh		130.0			59.2			42.3			80.4	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	55.2	14.1	33.9	19.3	47.9	19.0	29.0
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	7.4	48.7	11.8	30.6	14.7	41.4	14.4	28.0
Max Q Clear Time (g_c+I1), s	9.4	29.6	9.7	13.8	16.3	43.4	15.4	22.0
Green Ext Time (p_c), s	0.0	5.9	0.0	1.2	0.0	0.0	0.0	1.1

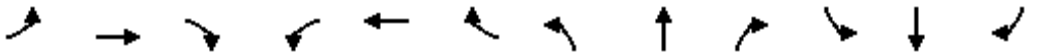
Intersection Summary	
HCM 6th Ctrl Delay	71.8
HCM 6th LOS	E

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	1	449	137	921	738
Future Volume (vph)	1	449	137	921	738
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	28.6	28.6	13.1	80.5	62.9
Actuated g/C Ratio	0.24	0.24	0.11	0.67	0.52
v/c Ratio	0.36	0.91	0.71	0.39	0.52
Control Delay	39.3	52.1	78.4	8.3	20.5
Queue Delay	0.6	0.0	0.0	0.5	0.0
Total Delay	39.9	52.1	78.4	8.8	20.6
LOS	D	D	E	A	C
Approach Delay	49.0			17.8	20.6
Approach LOS	D			B	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: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 86.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	152	1	449	137	921	0	0	738	210
Future Volume (veh/h)	0	0	0	152	1	449	137	921	0	0	738	210
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	0	1900	1900
Adj Flow Rate, veh/h				155	1	356	140	940	0	0	753	137
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				433	3	388	167	2413	0	0	1643	299
Arrive On Green				0.24	0.24	0.24	0.12	0.89	0.00	0.00	0.54	0.54
Sat Flow, veh/h				1798	12	1610	1810	3705	0	0	3145	555
Grp Volume(v), veh/h				156	0	356	140	940	0	0	446	444
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1800
Q Serve(g_s), s				8.6	0.0	25.9	9.1	5.3	0.0	0.0	18.1	18.1
Cycle Q Clear(g_c), s				8.6	0.0	25.9	9.1	5.3	0.0	0.0	18.1	18.1
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.31
Lane Grp Cap(c), veh/h				436	0	388	167	2413	0	0	972	970
V/C Ratio(X)				0.36	0.00	0.92	0.84	0.39	0.00	0.00	0.46	0.46
Avail Cap(c_a), veh/h				501	0	445	249	2413	0	0	972	970
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.43	0.43	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.8	0.0	44.4	51.8	2.5	0.0	0.0	16.9	16.9
Incr Delay (d2), s/veh				0.5	0.0	22.3	4.5	0.2	0.0	0.0	1.6	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.8	0.0	12.3	4.2	1.4	0.0	0.0	7.7	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.3	0.0	66.7	56.3	2.7	0.0	0.0	18.5	18.5
LnGrp LOS				D	A	E	E	A	A	A	B	B
Approach Vol, veh/h					512			1080			890	
Approach Delay, s/veh					58.0			9.7			18.5	
Approach LOS					E			A			B	

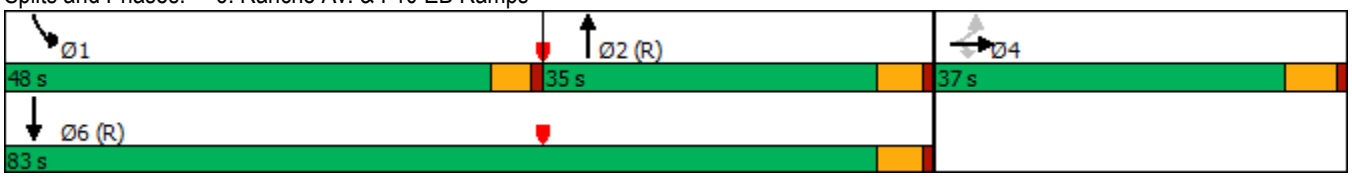
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.3			15.6	69.8		34.7				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		7.3			11.1	20.1		27.9				
Green Ext Time (p_c), s		8.2			0.1	6.4		1.0				

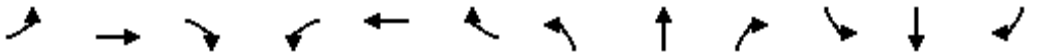
Intersection Summary		
HCM 6th Ctrl Delay	22.8	
HCM 6th LOS	C	

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	6	368	640	377	513
Future Volume (vph)	6	368	640	377	513
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	30.8	30.8	42.4	31.3	78.3
Actuated g/C Ratio	0.26	0.26	0.35	0.26	0.65
v/c Ratio	0.96	0.64	0.84	0.84	0.23
Control Delay	77.1	17.8	40.8	68.4	9.3
Queue Delay	0.0	0.0	0.0	3.3	0.5
Total Delay	77.1	17.8	40.8	71.7	9.8
LOS	E	B	D	E	A
Approach Delay	49.5		40.8		36.0
Approach LOS	D		D		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: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 41.8	Intersection LOS: D
Intersection Capacity Utilization 86.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	6	368	0	0	0	0	640	366	377	513	0
Future Volume (veh/h)	417	6	368	0	0	0	0	640	366	377	513	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	439	6	308				0	674	343	397	540	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	463	6	417				0	881	448	418	2347	0
Arrive On Green	0.26	0.26	0.26				0.00	0.38	0.38	0.46	1.00	0.00
Sat Flow, veh/h	1786	24	1610				0	2410	1178	1810	3705	0
Grp Volume(v), veh/h	445	0	308				0	525	492	397	540	0
Grp Sat Flow(s),veh/h/ln	1811	0	1610				0	1805	1688	1810	1805	0
Q Serve(g_s), s	29.0	0.0	21.0				0.0	30.5	30.5	25.2	0.0	0.0
Cycle Q Clear(g_c), s	29.0	0.0	21.0				0.0	30.5	30.5	25.2	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.70	1.00		0.00
Lane Grp Cap(c), veh/h	469	0	417				0	687	642	418	2347	0
V/C Ratio(X)	0.95	0.00	0.74				0.00	0.76	0.77	0.95	0.23	0.00
Avail Cap(c_a), veh/h	471	0	419				0	687	642	654	2347	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	1.00	1.00	0.84	0.84	0.00
Uniform Delay (d), s/veh	43.7	0.0	40.7				0.0	32.5	32.5	31.6	0.0	0.0
Incr Delay (d2), s/veh	28.9	0.0	6.8				0.0	7.9	8.4	12.1	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	16.3	0.0	8.8				0.0	14.5	13.7	9.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	0.0	47.5				0.0	40.4	40.9	43.7	0.2	0.0
LnGrp LOS	E	A	D				A	D	D	D	A	A
Approach Vol, veh/h		753						1017			937	
Approach Delay, s/veh		62.3						40.6			18.6	
Approach LOS		E						D			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	32.3	50.8		36.9		83.1						
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1						
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9						
Max Q Clear Time (g_c+I1), s	27.2	32.5		31.0		2.0						
Green Ext Time (p_c), s	0.5	0.0		0.1		4.0						

Intersection Summary												
HCM 6th Ctrl Delay			39.1									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	44	633	114	139	1064
Future Vol, veh/h	11	44	633	114	139	1064
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	48	696	125	153	1169

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2234	411	0	0	821	0
Stage 1	759	-	-	-	-	-
Stage 2	1475	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	42	596	-	-	817	-
Stage 1	428	-	-	-	-	-
Stage 2	212	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	34	596	-	-	817	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	172	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	152	596	817	-
HCM Lane V/C Ratio	-	-	0.08	0.081	0.187	-
HCM Control Delay (s)	-	-	30.7	11.6	10.4	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.7	-

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	513	97	28	104	519	14	810
Future Volume (vph)	513	97	28	104	519	14	810
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)		31.4	32.6	8.9	47.9	5.7	36.5
Actuated g/C Ratio		0.34	0.35	0.10	0.52	0.06	0.39
v/c Ratio		1.83	0.07	0.73	0.32	0.15	0.81
Control Delay		405.2	18.7	70.2	14.0	47.9	29.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		405.2	18.7	70.2	14.0	47.9	29.5
LOS		F	B	E	B	D	C
Approach Delay		405.2	18.7		23.4		29.8
Approach LOS		F	B		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.83	
Intersection Signal Delay: 149.0	Intersection LOS: F
Intersection Capacity Utilization 104.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	513	97	194	0	28	10	104	519	2	14	810	201
Future Volume (veh/h)	513	97	194	0	28	10	104	519	2	14	810	201
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	546	103	196	0	30	9	111	552	1	15	862	50
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	420	65	125	0	508	152	137	1408	3	29	1101	64
Arrive On Green	0.38	0.38	0.38	0.00	0.38	0.38	0.08	0.40	0.40	0.02	0.34	0.34
Sat Flow, veh/h	909	171	326	0	1329	399	1619	3503	6	1619	3285	191
Grp Volume(v), veh/h	845	0	0	0	0	39	111	269	284	15	449	463
Grp Sat Flow(s),veh/h/ln	1406	0	0	0	0	1728	1619	1710	1799	1619	1710	1766
Q Serve(g_s), s	30.0	0.0	0.0	0.0	0.0	1.2	5.5	9.1	9.1	0.8	19.3	19.3
Cycle Q Clear(g_c), s	31.2	0.0	0.0	0.0	0.0	1.2	5.5	9.1	9.1	0.8	19.3	19.3
Prop In Lane	0.65		0.23	0.00		0.23	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	610	0	0	0	0	660	137	688	723	29	573	592
V/C Ratio(X)	1.39	0.00	0.00	0.00	0.00	0.06	0.81	0.39	0.39	0.52	0.78	0.78
Avail Cap(c_a), veh/h	610	0	0	0	0	685	174	1365	1436	147	1335	1379
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	0.0	0.0	0.0	0.0	16.0	36.7	17.3	17.3	39.8	24.5	24.5
Incr Delay (d2), s/veh	183.8	0.0	0.0	0.0	0.0	0.0	15.7	0.4	0.3	5.4	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	42.4	0.0	0.0	0.0	0.0	0.5	2.6	3.3	3.4	0.3	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	211.4	0.0	0.0	0.0	0.0	16.0	52.4	17.7	17.7	45.2	26.9	26.8
LnGrp LOS	F	A	A	A	A	B	D	B	B	D	C	C
Approach Vol, veh/h		845			39			664			927	
Approach Delay, s/veh		211.4			16.0			23.5			27.1	
Approach LOS		F			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	38.7		37.0	11.5	33.2		37.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	2.8	11.1		33.2	7.5	21.3		3.2				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	6.1		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		88.9	
HCM 6th LOS		F	

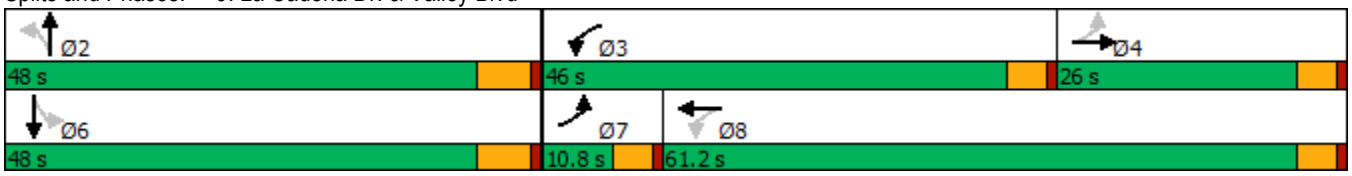
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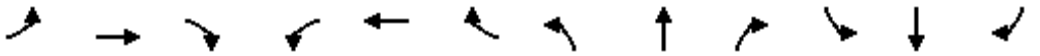
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	62	417	558	255	187	428	38	442
Future Volume (vph)	62	417	558	255	187	428	38	442
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	10.8	26.0	46.0	61.2	48.0	48.0	48.0	48.0
Total Split (%)	9.0%	21.7%	38.3%	51.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	27.1	21.1	64.6	56.5	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.24	0.19	0.57	0.50	0.34	0.34	0.34	0.34
v/c Ratio	0.24	0.92	0.96	0.17	0.92	0.70	0.43	0.44
Control Delay	21.6	64.9	58.2	16.9	82.1	28.0	46.4	30.3
Queue Delay	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	64.9	65.9	16.9	82.1	28.0	46.4	30.3
LOS	C	E	E	B	F	C	D	C
Approach Delay		60.6		49.8		38.2		31.5
Approach LOS		E		D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.2	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 45.0	Intersection LOS: D
Intersection Capacity Utilization 102.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	417	144	558	255	19	187	428	378	38	442	39
Future Volume (veh/h)	62	417	144	558	255	19	187	428	378	38	442	39
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	65	439	152	587	268	20	197	451	398	40	465	41
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	322	454	156	607	1526	113	272	613	540	140	1133	100
Arrive On Green	0.04	0.18	0.18	0.33	0.47	0.47	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1619	2498	857	1619	3228	239	857	1722	1516	623	3180	279
Grp Volume(v), veh/h	65	299	292	587	141	147	197	448	401	40	249	257
Grp Sat Flow(s),veh/h/ln	1619	1710	1646	1619	1710	1757	857	1710	1527	623	1710	1750
Q Serve(g_s), s	3.8	20.4	20.8	37.1	5.6	5.7	26.5	26.9	27.0	7.1	12.9	13.0
Cycle Q Clear(g_c), s	3.8	20.4	20.8	37.1	5.6	5.7	39.6	26.9	27.0	34.1	12.9	13.0
Prop In Lane	1.00		0.52	1.00		0.14	1.00		0.99	1.00		0.16
Lane Grp Cap(c), veh/h	322	311	299	607	809	831	272	609	544	140	609	623
V/C Ratio(X)	0.20	0.96	0.98	0.97	0.17	0.18	0.73	0.74	0.74	0.29	0.41	0.41
Avail Cap(c_a), veh/h	336	311	299	634	821	844	273	612	547	141	612	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	47.8	48.0	30.2	17.8	17.9	43.5	33.1	33.1	48.0	28.6	28.6
Incr Delay (d2), s/veh	0.1	41.1	45.4	26.7	0.1	0.1	9.2	4.6	5.2	1.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.2	12.2	18.5	2.2	2.3	6.1	11.4	10.3	1.1	5.2	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	88.9	93.4	56.9	17.9	18.0	52.7	37.7	38.3	49.1	29.0	29.0
LnGrp LOS	D	F	F	E	B	B	D	D	D	D	C	C
Approach Vol, veh/h		656			875			1046			546	
Approach Delay, s/veh		85.7			44.1			40.7			30.5	
Approach LOS		F			D			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.8	44.0	26.0		47.8	9.7	60.3				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		42.2	41.4	21.4		42.2	6.2	56.6				
Max Q Clear Time (g_c+I1), s		41.6	39.1	22.8		36.1	5.8	7.7				
Green Ext Time (p_c), s		0.4	0.3	0.0		1.6	0.0	1.8				

Intersection Summary												
HCM 6th Ctrl Delay			49.3									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	181	840	984	166
Future Vol, veh/h	0	0	181	840	984	166
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	193	894	1047	177

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1969	612	1224	0	-	0
Stage 1	1136	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	56	441	577	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	19	441	577	-	-	-
Mov Cap-2 Maneuver	19	-	-	-	-	-
Stage 1	91	-	-	-	-	-
Stage 2	392	-	-	-	-	-

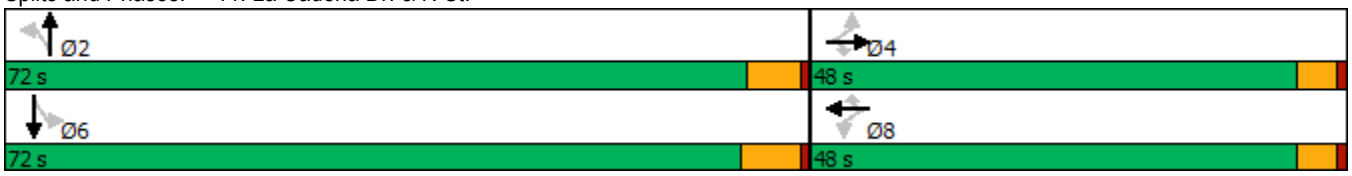
Approach	EB	NB	SB
HCM Control Delay, s	0	5.3	0
HCM LOS	A		

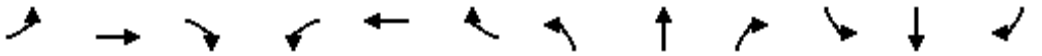
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	577	-	-	-	-
HCM Lane V/C Ratio	0.334	-	-	-	-
HCM Control Delay (s)	14.3	3.3	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	1.5	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	97	28	46	21	29	14	27	703	22	740
Future Volume (vph)	97	28	46	21	29	14	27	703	22	740
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		11.1	11.1		11.1	11.1	22.0	22.0	21.7	21.7
Actuated g/C Ratio		0.29	0.29		0.29	0.29	0.57	0.57	0.56	0.56
v/c Ratio		0.34	0.10		0.12	0.03	0.09	0.38	0.07	0.44
Control Delay		15.4	5.6		12.7	4.1	7.2	7.5	7.1	8.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		15.4	5.6		12.7	4.1	7.2	7.5	7.1	8.2
LOS		B	A		B	A	A	A	A	A
Approach Delay		12.8			10.7			7.5		8.1
Approach LOS		B			B			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 38.9	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 8.4	Intersection LOS: A
Intersection Capacity Utilization 53.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	28	46	21	29	14	27	703	9	22	740	62
Future Volume (veh/h)	97	28	46	21	29	14	27	703	9	22	740	62
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	101	29	48	22	30	15	28	732	9	23	771	65
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	202	38	539	141	138	539	297	1319	16	328	1217	103
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	125	108	1525	42	392	1525	631	3460	43	689	3192	269
Grp Volume(v), veh/h	130	0	48	52	0	15	28	362	379	23	413	423
Grp Sat Flow(s),veh/h/ln	233	0	1525	434	0	1525	631	1710	1792	689	1710	1752
Q Serve(g_s), s	1.6	0.0	0.9	0.4	0.0	0.3	1.5	6.8	6.8	1.1	8.0	8.0
Cycle Q Clear(g_c), s	14.4	0.0	0.9	13.8	0.0	0.3	9.3	6.8	6.8	7.7	8.0	8.0
Prop In Lane	0.78		1.00	0.42		1.00	1.00		0.02	1.00		0.15
Lane Grp Cap(c), veh/h	240	0	539	279	0	539	297	652	683	328	652	668
V/C Ratio(X)	0.54	0.00	0.09	0.19	0.00	0.03	0.09	0.56	0.56	0.07	0.63	0.63
Avail Cap(c_a), veh/h	1280	0	1628	1402	0	1628	1083	2783	2917	1181	2767	2834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	8.8	10.2	0.0	8.6	13.9	9.9	9.9	12.8	10.3	10.3
Incr Delay (d2), s/veh	1.9	0.0	0.1	0.3	0.0	0.0	0.1	0.7	0.7	0.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.2	0.3	0.0	0.1	0.2	1.7	1.8	0.1	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	0.0	8.9	10.6	0.0	8.6	14.1	10.6	10.6	12.9	11.3	11.3
LnGrp LOS	B	A	A	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		178			67			769			859	
Approach Delay, s/veh		16.4			10.1			10.7			11.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.1		19.9		22.1		19.9				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 66		43.4		65.8		43.4				
Max Q Clear Time (g_c+I1), s		11.3		16.4		10.0		15.8				
Green Ext Time (p_c), s		4.9		0.9		5.5		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			11.5									
HCM 6th LOS			B									

Notes

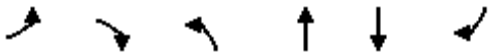
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	30	673	444	595	738
Future Volume (vph)	30	673	444	595	738
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	13.5	13.5	36.4	71.4	30.2
Actuated g/C Ratio	0.14	0.14	0.37	0.73	0.31
v/c Ratio	0.76	0.73	0.84	0.27	0.81
Control Delay	17.7	14.0	45.2	5.0	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	14.0	45.2	5.0	39.1
LOS	B	B	D	A	D
Approach Delay	15.9			22.2	39.1
Approach LOS	B			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 25.5	Intersection LOS: C
Intersection Capacity Utilization 86.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	673	444	595	738	11
Future Volume (veh/h)	30	673	444	595	738	11
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	1620	1620	1530	1620	1620	1620
Adj Flow Rate, veh/h	0	609	458	613	761	11
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	362	644	480	2013	876	13
Arrive On Green	0.00	0.23	0.33	0.65	0.28	0.28
Sat Flow, veh/h	1543	2746	1457	3159	3187	45
Grp Volume(v), veh/h	0	609	458	613	377	395
Grp Sat Flow(s),veh/h/ln	1543	1373	1457	1539	1539	1612
Q Serve(g_s), s	0.0	23.5	33.1	9.3	25.0	25.1
Cycle Q Clear(g_c), s	0.0	23.5	33.1	9.3	25.0	25.1
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	362	644	480	2013	434	455
V/C Ratio(X)	0.00	0.95	0.95	0.30	0.87	0.87
Avail Cap(c_a), veh/h	362	644	534	2370	555	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	40.5	35.3	8.0	36.7	36.7
Incr Delay (d2), s/veh	0.0	23.1	25.8	0.1	11.4	11.0
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	2.1	14.3	2.5	10.2	10.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	63.6	61.1	8.1	48.1	47.7
LnGrp LOS	A	E	E	A	D	D
Approach Vol, veh/h	609			1071	772	
Approach Delay, s/veh	63.6			30.8	47.9	
Approach LOS	E			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		76.5		31.0	40.0	36.5
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		11.3		25.5	35.1	27.1
Green Ext Time (p_c), s		4.1		0.0	0.3	3.3

Intersection Summary	
HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	413	435	909	274	429	1181
Future Volume (vph)	413	435	909	274	429	1181
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	36.3	36.3	34.7	34.7	32.4	71.7
Actuated g/C Ratio	0.30	0.30	0.29	0.29	0.27	0.60
v/c Ratio	0.87	0.80	0.95	0.45	1.01	0.60
Control Delay	59.4	38.9	60.8	7.3	90.5	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	38.9	60.8	7.3	90.5	16.6
LOS	E	D	E	A	F	B
Approach Delay	48.9		48.4			36.3
Approach LOS	D		D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 43.2	Intersection LOS: D
Intersection Capacity Utilization 92.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	413	435	909	274	429	1181
Future Volume (veh/h)	413	435	909	274	429	1181
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	426	0	937	246	442	1218
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	488		986	440	437	2041
Arrive On Green	0.30	0.00	0.29	0.29	0.27	0.60
Sat Flow, veh/h	1619	1525	3510	1525	1619	3510
Grp Volume(v), veh/h	426	0	937	246	442	1218
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1525	1619	1710
Q Serve(g_s), s	29.9	0.0	32.2	16.4	32.4	26.8
Cycle Q Clear(g_c), s	29.9	0.0	32.2	16.4	32.4	26.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	488		986	440	437	2041
V/C Ratio(X)	0.87		0.95	0.56	1.01	0.60
Avail Cap(c_a), veh/h	488		992	442	437	2046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.22	0.22	0.53	0.53
Uniform Delay (d), s/veh	39.7	0.0	41.8	36.2	43.8	15.2
Incr Delay (d2), s/veh	18.9	0.0	5.6	0.3	34.1	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	14.2	0.0	13.6	5.9	16.4	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	58.6	0.0	47.4	36.6	77.9	15.4
LnGrp LOS	E		D	D	F	B
Approach Vol, veh/h	426		1183			1660
Approach Delay, s/veh	58.6		45.2			32.0
Approach LOS	E		D			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	40.8			77.8	42.0
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8			71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	34.2			28.8	31.9
Green Ext Time (p_c), s	0.0	0.4			10.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

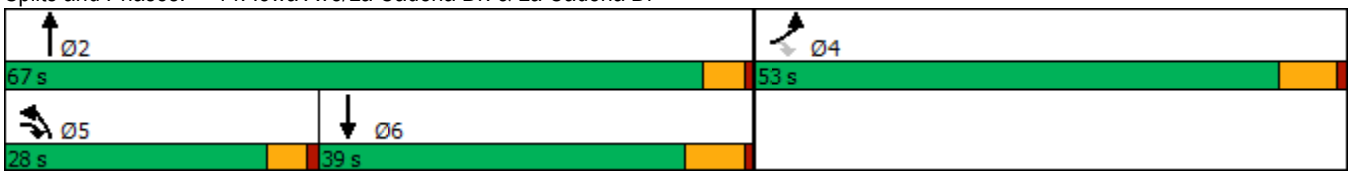
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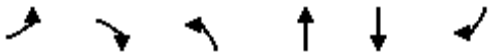
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	580	233	272	845	438	1258
Future Volume (vph)	580	233	272	845	438	1258
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	53.0	28.0	28.0	67.0	39.0	
Total Split (%)	44.2%	23.3%	23.3%	55.8%	32.5%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	44.7	72.9	22.0	59.4	31.2	115.0
Actuated g/C Ratio	0.39	0.63	0.19	0.52	0.27	1.00
v/c Ratio	0.96	0.25	0.91	0.94	0.93	0.51
Control Delay	61.8	10.1	79.2	44.8	68.2	0.7
Queue Delay	0.0	0.0	10.7	48.7	0.0	0.0
Total Delay	61.8	10.1	89.9	93.5	68.2	0.7
LOS	E	B	F	F	E	A
Approach Delay	47.0			92.6	18.2	
Approach LOS	D			F	B	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 115		
Natural Cycle: 90		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.96		
Intersection Signal Delay: 47.6	Intersection LOS: D	
Intersection Capacity Utilization 91.9%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	580	233	272	845	438	1258
Future Volume (veh/h)	580	233	272	845	438	1258
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	1700	1800	1700	1800	1800	1700
Adj Flow Rate, veh/h	598	214	280	871	452	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	625	875	304	912	502	
Arrive On Green	0.39	0.39	0.19	0.51	0.28	0.00
Sat Flow, veh/h	1619	1525	1619	1800	1800	2536
Grp Volume(v), veh/h	598	214	280	871	452	0
Grp Sat Flow(s),veh/h/ln	1619	1525	1619	1800	1800	1268
Q Serve(g_s), s	41.5	8.0	19.6	53.4	27.9	0.0
Cycle Q Clear(g_c), s	41.5	8.0	19.6	53.4	27.9	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	625	875	304	912	502	
V/C Ratio(X)	0.96	0.24	0.92	0.95	0.90	
Avail Cap(c_a), veh/h	656	905	328	973	511	
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	0.00
Uniform Delay (d), s/veh	34.5	12.2	46.0	27.2	40.1	0.0
Incr Delay (d2), s/veh	24.5	0.1	28.1	18.3	18.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	9.8	9.9	24.9	14.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.0	12.4	74.1	45.5	58.7	0.0
LnGrp LOS	E	B	E	D	E	
Approach Vol, veh/h	812			1151	452	
Approach Delay, s/veh	46.7			52.5	58.7	
Approach LOS	D			D	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		64.7		50.7	26.3	38.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 62		46.8	23.4	32.8
Max Q Clear Time (g_c+I1), s		55.4		43.5	21.6	29.9
Green Ext Time (p_c), s		3.1		1.0	0.1	0.7

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.

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

Intersection	
Intersection Delay, s/veh	246
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	10	19	0	0	0	30	788	7	563	893	83
Future Vol, veh/h	56	10	19	0	0	0	30	788	7	563	893	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	61	11	21	0	0	0	33	857	8	612	971	90
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15	57.1	360
HCM LOS	B	F	F

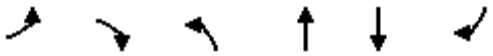
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	66%	100%	0%
Vol Thru, %	0%	100%	97%	12%	0%	91%
Vol Right, %	0%	0%	3%	22%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	525	270	85	563	976
LT Vol	30	0	0	56	563	0
Through Vol	0	525	263	10	0	893
RT Vol	0	0	7	19	0	83
Lane Flow Rate	33	571	293	92	612	1061
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.064	1.033	0.529	0.221	1.256	2.012
Departure Headway (Hd)	8.432	7.926	7.908	9.628	7.489	6.827
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	428	463	460	375	490	541
Service Time	6.132	5.626	5.608	7.328	5.189	4.623
HCM Lane V/C Ratio	0.077	1.233	0.637	0.245	1.249	1.961
HCM Control Delay	11.7	79.2	19.1	15	154.7	478.4
HCM Lane LOS	B	F	C	B	F	F
HCM 95th-tile Q	0.2	14.2	3	0.8	24.6	71.3

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	153	632	965	619
Future Volume (vph)	153	632	965	619
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.8	31.8
Actuated g/C Ratio	0.13	0.13	0.24	0.40
v/c Ratio	0.69	1.10	2.22	0.84
Control Delay	52.9	82.3	576.2	32.1
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	52.9	82.3	576.2	32.2
LOS	D	F	F	C
Approach Delay	76.5		576.2	32.2
Approach LOS	E		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.22	
Intersection Signal Delay: 268.5	Intersection LOS: F
Intersection Capacity Utilization 82.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	632	0	965	619	0
Future Volume (veh/h)	153	632	0	965	619	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	158	516	0	995	638	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	441	393	0	862	862	0
Arrive On Green	0.24	0.24	0.00	0.45	0.45	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	158	516	0	995	638	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	3.0	10.0	0.0	18.6	11.3	0.0
Cycle Q Clear(g_c), s	3.0	10.0	0.0	18.6	11.3	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	441	393	0	862	862	0
V/C Ratio(X)	0.36	1.31	0.00	1.15	0.74	0.00
Avail Cap(c_a), veh/h	441	393	0	862	3374	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.8	15.5	0.0	11.2	9.2	0.0
Incr Delay (d2), s/veh	0.5	158.4	0.0	82.6	1.3	0.0
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	20.4	0.0	23.6	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	173.9	0.0	93.8	10.5	0.0
LnGrp LOS	B	F	A	F	B	A
Approach Vol, veh/h	674			995	638	
Approach Delay, s/veh	136.2			93.8	10.5	
Approach LOS	F			F	B	

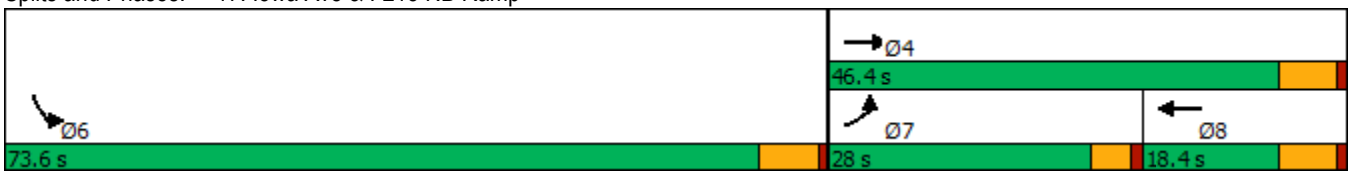
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		24.8		16.2		24.8
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		20.6		12.0		13.3
Green Ext Time (p_c), s		0.0		0.0		4.2

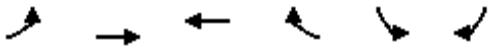
Intersection Summary		
HCM 6th Ctrl Delay	83.2	
HCM 6th LOS	F	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	512	872	72	206
Future Volume (vph)	512	872	72	206
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.49	1.40	1.49	1.13
Control Delay	268.9	221.7	256.4	92.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	268.9	221.7	256.4	92.5
LOS	F	F	F	F
Approach Delay		239.2	256.4	92.5
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.49	
Intersection Signal Delay: 185.3	Intersection LOS: F
Intersection Capacity Utilization 147.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	512	872	72	453	206	1000
Future Volume (veh/h)	512	872	72	453	206	1000
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	522	890	73	406	210	760
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	353	636	26	142	200	725
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	251	1397	357	1291
Grp Volume(v), veh/h	522	890	0	479	971	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1648	1650	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.85	0.22	0.78
Lane Grp Cap(c), veh/h	353	637	0	168	927	0
V/C Ratio(X)	1.48	1.40	0.00	2.86	1.05	0.00
Avail Cap(c_a), veh/h	353	637	0	168	927	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	230.4	188.7	0.0	852.3	42.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	33.1	51.8	0.0	44.7	33.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	278.7	228.6	0.0	906.2	69.2	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1412	479		971	
Approach Delay, s/veh		247.1	906.2		69.2	
Approach LOS		F	F		E	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	46.4	73.6	28.0	18.4
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	40.2	67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s	42.2	69.4	25.4	14.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	297.1
HCM 6th LOS	F

Notes

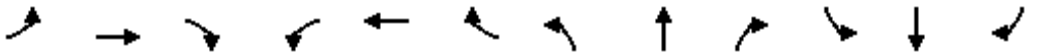
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	29	396	44	403	388	253	100	32	114	75
Future Volume (vph)	29	396	44	403	388	253	100	32	114	75
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.6	26.6	8.6	26.6	8.6	22.6	22.6	8.6	22.6	22.6
Total Split (s)	12.0	35.0	15.0	38.0	43.0	58.0	58.0	12.0	27.0	27.0
Total Split (%)	10.0%	29.2%	12.5%	31.7%	35.8%	48.3%	48.3%	10.0%	22.5%	22.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	6.4	21.7	7.4	22.5	26.8	38.2	38.2	6.5	12.0	12.0
Actuated g/C Ratio	0.08	0.26	0.09	0.27	0.32	0.46	0.46	0.08	0.15	0.15
v/c Ratio	0.24	0.67	0.32	0.48	0.77	0.32	0.14	0.26	0.46	0.23
Control Delay	50.8	31.0	49.9	29.1	39.1	19.7	4.7	51.1	45.0	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	31.0	49.9	29.1	39.1	19.7	4.7	51.1	45.0	1.7
LOS	D	C	D	C	D	B	A	D	D	A
Approach Delay		32.0		31.0		27.8			31.2	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 82.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 30.2	Intersection LOS: C
Intersection Capacity Utilization 63.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	396	180	44	403	26	388	253	100	32	114	75
Future Volume (veh/h)	29	396	180	44	403	26	388	253	100	32	114	75
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	30	412	188	46	420	27	404	264	104	33	119	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	596	269	58	880	56	457	654	555	46	197	167
Arrive On Green	0.03	0.26	0.26	0.04	0.27	0.27	0.28	0.36	0.36	0.03	0.11	0.11
Sat Flow, veh/h	1619	2291	1033	1619	3263	209	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	30	306	294	46	219	228	404	264	104	33	119	78
Grp Sat Flow(s),veh/h/ln	1619	1710	1614	1619	1710	1762	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	1.1	9.5	9.7	1.7	6.3	6.4	14.1	6.5	2.7	1.2	3.7	2.8
Cycle Q Clear(g_c), s	1.1	9.5	9.7	1.7	6.3	6.4	14.1	6.5	2.7	1.2	3.7	2.8
Prop In Lane	1.00		0.64	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	445	420	58	461	475	457	654	555	46	197	167
V/C Ratio(X)	0.70	0.69	0.70	0.79	0.48	0.48	0.88	0.40	0.19	0.72	0.60	0.47
Avail Cap(c_a), veh/h	203	882	832	286	969	998	1054	1630	1381	203	684	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	19.7	19.7	28.2	18.0	18.1	20.2	14.0	12.8	28.4	25.0	24.6
Incr Delay (d2), s/veh	7.6	1.9	2.1	8.6	0.8	0.7	2.3	0.4	0.2	7.6	2.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.7	3.6	0.8	2.4	2.5	5.1	2.4	0.9	0.5	1.7	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	21.6	21.8	36.8	18.8	18.8	22.5	14.4	13.0	36.0	28.0	26.6
LnGrp LOS	D	C	C	D	B	B	C	B	B	D	C	C
Approach Vol, veh/h		630			493			772			230	
Approach Delay, s/veh		22.4			20.5			18.5			28.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	26.0	6.7	19.9	21.2	11.1	6.2	20.5
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	53.4	10.4	30.4	38.4	22.4	7.4	33.4
Max Q Clear Time (g_c+I1), s	3.2	8.5	3.7	11.7	16.1	5.7	3.1	8.4
Green Ext Time (p_c), s	0.0	2.0	0.0	3.6	0.6	0.8	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	7.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	428	279	0	0	340
Future Vol, veh/h	6	428	279	0	0	340
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	460	300	0	0	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	666	300	0	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	428	744	-	0	0	-
Stage 1	756	-	-	0	0	-
Stage 2	706	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	428	744	-	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	706	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	740	-
HCM Lane V/C Ratio	-	0.631	-
HCM Control Delay (s)	-	17.8	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.5	-

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	322	2	0	0	350	0
Future Vol, veh/h	322	2	0	0	350	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	362	2	0	0	393	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	13.6	14.2
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	324	350
LT Vol	322	350
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	364	393
Geometry Grp	1	1
Degree of Util (X)	0.518	0.552
Departure Headway (Hd)	5.119	5.053
Convergence, Y/N	Yes	Yes
Cap	699	708
Service Time	3.186	3.12
HCM Lane V/C Ratio	0.521	0.555
HCM Control Delay	13.6	14.2
HCM Lane LOS	B	B
HCM 95th-tile Q	3	3.4

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1018	1177	78	745
Demand Flow Rate, veh/h	1018	1177	78	745
Vehicles Circulating, veh/h	508	181	1460	793
Vehicles Exiting, veh/h	1030	1357	66	565
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	8.5	11.8	16.6
Approach LOS	B	A	B	C

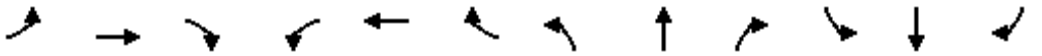
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.608	0.392
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	478	540	553	624	78	453	292
Cap Entry Lane, veh/h	846	922	1143	1218	410	651	724
Entry HV Adj Factor	1.001	0.999	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	478	540	553	624	78	453	292
Cap Entry, veh/h	847	921	1143	1217	410	651	724
V/C Ratio	0.565	0.586	0.484	0.512	0.190	0.696	0.403
Control Delay, s/veh	12.5	12.2	8.5	8.6	11.8	20.7	10.3
LOS	B	B	A	A	B	C	B
95th %tile Queue, veh	4	4	3	3	1	6	2

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	269	1020	953	421	165	0	562
Future Volume (vph)	269	1020	953	421	165	0	562
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	28.0	80.0	52.0	52.0	40.0	40.0	40.0
Total Split (%)	23.3%	66.7%	43.3%	43.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	19.9	63.7	39.2	39.2	35.9	34.6	34.6
Actuated g/C Ratio	0.18	0.58	0.36	0.36	0.33	0.32	0.32
v/c Ratio	0.85	0.50	0.76	0.59	1.12	0.51	0.51
Control Delay	67.6	14.0	35.2	12.5	111.1	23.3	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	14.0	35.2	12.5	111.1	23.3	23.2
LOS	E	B	D	B	F	C	C
Approach Delay		25.1	28.3			70.1	
Approach LOS		C	C			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.4	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 40.2	Intersection LOS: D
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	269	1020	0	0	953	421	165	0	562	0	0	0
Future Volume (veh/h)	269	1020	0	0	953	421	165	0	562	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	277	1052	0	0	982	356	660	0	466			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.25	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	310	2025	0	0	1245	539	625	0	1113			
Arrive On Green	0.17	0.56	0.00	0.00	0.34	0.34	0.35	0.00	0.35			
Sat Flow, veh/h	1810	3705	0	0	3705	1563	1810	0	3220			
Grp Volume(v), veh/h	277	1052	0	0	982	356	660	0	466			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1563	1810	0	1610			
Q Serve(g_s), s	15.4	18.5	0.0	0.0	25.1	19.9	35.5	0.0	11.4			
Cycle Q Clear(g_c), s	15.4	18.5	0.0	0.0	25.1	19.9	35.5	0.0	11.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	310	2025	0	0	1245	539	625	0	1113			
V/C Ratio(X)	0.89	0.52	0.00	0.00	0.79	0.66	1.06	0.00	0.42			
Avail Cap(c_a), veh/h	412	2632	0	0	1648	713	625	0	1113			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.6	14.0	0.0	0.0	30.3	28.6	33.6	0.0	25.7			
Incr Delay (d2), s/veh	14.8	0.2	0.0	0.0	1.9	1.4	51.5	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	8.0	7.0	0.0	0.0	10.9	7.4	23.4	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	14.2	0.0	0.0	32.2	29.9	85.1	0.0	26.0			
LnGrp LOS	E	B	A	A	C	C	F	A	C			
Approach Vol, veh/h		1329			1338			1126				
Approach Delay, s/veh		23.0			31.6			60.6				
Approach LOS		C			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.7			22.2	40.5		40.0				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		74.9			23.4	46.9		35.5				
Max Q Clear Time (g_c+I1), s		20.5			17.4	27.1		37.5				
Green Ext Time (p_c), s		9.6			0.2	8.3		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

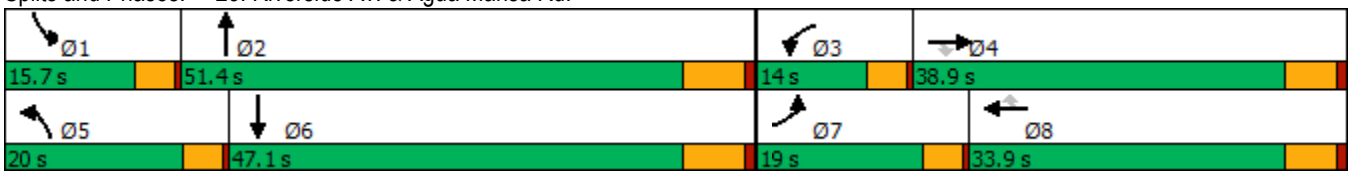
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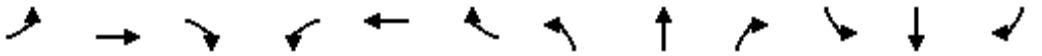
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	316	483	349	83	293	130	181	844	99	896
Future Volume (vph)	316	483	349	83	293	130	181	844	99	896
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.1	34.8	34.8	9.1	33.8	33.8	9.1	29.5	9.1	31.5
Total Split (s)	19.0	38.9	38.9	14.0	33.9	33.9	20.0	51.4	15.7	47.1
Total Split (%)	15.8%	32.4%	32.4%	11.7%	28.3%	28.3%	16.7%	42.8%	13.1%	39.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	5.8	4.1	5.8	5.8	4.1	6.5	4.1	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	15.0	33.5	33.5	8.7	24.9	24.9	14.5	44.4	9.9	39.8
Actuated g/C Ratio	0.13	0.29	0.29	0.08	0.22	0.22	0.13	0.39	0.09	0.35
v/c Ratio	1.39	0.91	0.56	0.64	0.74	0.27	0.83	0.71	0.67	0.95
Control Delay	239.8	62.3	13.7	74.2	54.0	3.3	78.7	33.7	73.1	53.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	239.8	62.3	13.7	74.2	54.0	3.3	78.7	33.7	73.1	53.3
LOS	F	E	B	E	D	A	E	C	E	D
Approach Delay		96.3			44.3			40.9		54.9
Approach LOS		F			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.8	
Natural Cycle: 125	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.39	
Intersection Signal Delay: 61.5	Intersection LOS: E
Intersection Capacity Utilization 92.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	483	349	83	293	130	181	844	104	99	896	225
Future Volume (veh/h)	316	483	349	83	293	130	181	844	104	99	896	225
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	329	503	239	86	305	123	189	879	93	103	933	195
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	246	543	459	110	399	338	219	1303	138	129	1028	215
Arrive On Green	0.14	0.29	0.29	0.06	0.21	0.21	0.12	0.40	0.40	0.07	0.35	0.35
Sat Flow, veh/h	1810	1900	1608	1810	1900	1610	1810	3294	348	1810	2972	621
Grp Volume(v), veh/h	329	503	239	86	305	123	189	482	490	103	566	562
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1610	1810	1805	1837	1810	1805	1787
Q Serve(g_s), s	14.9	28.2	13.7	5.1	16.6	7.2	11.2	24.1	24.1	6.1	32.8	32.9
Cycle Q Clear(g_c), s	14.9	28.2	13.7	5.1	16.6	7.2	11.2	24.1	24.1	6.1	32.8	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.35
Lane Grp Cap(c), veh/h	246	543	459	110	399	338	219	714	727	129	624	618
V/C Ratio(X)	1.34	0.93	0.52	0.79	0.76	0.36	0.86	0.67	0.67	0.80	0.91	0.91
Avail Cap(c_a), veh/h	246	574	486	163	487	413	263	740	753	192	669	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	38.0	32.8	50.8	40.7	37.0	47.3	27.3	27.3	50.1	34.2	34.2
Incr Delay (d2), s/veh	176.7	20.8	0.9	7.2	5.7	0.7	19.2	2.3	2.3	7.6	15.6	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.5	15.6	5.2	2.5	8.1	2.8	6.0	9.9	10.1	2.9	15.8	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	224.0	58.8	33.8	57.9	46.4	37.7	66.5	29.6	29.6	57.7	49.8	50.1
LnGrp LOS	F	E	C	E	D	D	E	C	C	E	D	D
Approach Vol, veh/h		1071			514			1161			1231	
Approach Delay, s/veh		104.0			46.3			35.6			50.6	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	49.8	10.7	37.1	17.4	44.4	19.0	28.8
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	11.6	44.9	9.9	33.1	15.9	40.6	14.9	28.1
Max Q Clear Time (g_c+I1), s	8.1	26.1	7.1	30.2	13.2	34.9	16.9	18.6
Green Ext Time (p_c), s	0.0	5.2	0.0	1.1	0.1	3.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	60.0
HCM 6th LOS	E

APPENDIX 5.2:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	3	3	547	2	2
Future Vol, veh/h	324	3	3	547	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	352	3	3	595	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	355	0	955	354
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	601	-
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	-	-	1215	-	289	694
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	551	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1215	-	288	694
Mov Cap-2 Maneuver	-	-	-	-	411	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	550	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	516	-	-	1215	-
HCM Lane V/C Ratio	0.008	-	-	0.003	-
HCM Control Delay (s)	12	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	320	6	24	549	1	4
Future Vol, veh/h	320	6	24	549	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	348	7	26	597	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	355	0	1001	352
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	649	-
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	-	-	1215	-	271	696
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	524	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1215	-	265	696
Mov Cap-2 Maneuver	-	-	-	-	388	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	601	-	-	1215	-
HCM Lane V/C Ratio	0.009	-	-	0.021	-
HCM Control Delay (s)	11	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	317	28	569	4
Future Volume (vph)	317	28	569	4
Turn Type	NA	Prot	NA	Prot
Protected Phases	4	3	8	2
Permitted Phases				
Detector Phase	4	3	8	2
Switch Phase				
Minimum Initial (s)	10.0	5.0	10.0	10.0
Minimum Split (s)	20.8	9.6	15.8	19.6
Total Split (s)	90.4	9.6	100.0	20.0
Total Split (%)	75.3%	8.0%	83.3%	16.7%
Yellow Time (s)	4.8	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	4.6	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	None	None	None	Max
Act Effct Green (s)	19.5	5.1	21.2	15.6
Actuated g/C Ratio	0.41	0.11	0.45	0.33
v/c Ratio	0.48	0.17	0.77	0.05
Control Delay	13.3	24.3	17.9	8.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.3	24.3	17.9	8.0
LOS	B	C	B	A
Approach Delay	13.3		18.2	8.0
Approach LOS	B		B	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 47.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Driveway 3 & Agua Mansa Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	317	7	28	569	4	20
Future Volume (veh/h)	317	7	28	569	4	20
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	1800	1800	1700	1800	1800	1800
Adj Flow Rate, veh/h	345	8	30	618	4	22
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	521	12	56	779	78	430
Arrive On Green	0.30	0.30	0.03	0.43	0.34	0.34
Sat Flow, veh/h	1752	41	1619	1800	231	1271
Grp Volume(v), veh/h	0	353	30	618	27	0
Grp Sat Flow(s),veh/h/ln	0	1793	1619	1800	1560	0
Q Serve(g_s), s	0.0	7.8	0.8	13.5	0.5	0.0
Cycle Q Clear(g_c), s	0.0	7.8	0.8	13.5	0.5	0.0
Prop In Lane		0.02	1.00		0.15	0.81
Lane Grp Cap(c), veh/h	0	533	56	779	528	0
V/C Ratio(X)	0.00	0.66	0.53	0.79	0.05	0.00
Avail Cap(c_a), veh/h	0	3333	178	3726	528	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.0	21.6	11.1	10.1	0.0
Incr Delay (d2), s/veh	0.0	1.4	2.9	1.9	0.2	0.0
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	2.5	0.3	3.8	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.4	24.5	13.0	10.3	0.0
LnGrp LOS	A	B	C	B	B	A
Approach Vol, veh/h	353			648	27	
Approach Delay, s/veh	15.4			13.5	10.3	
Approach LOS	B			B	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		20.0	6.2	19.3		25.5
Change Period (Y+Rc), s		4.6	4.6	5.8		5.8
Max Green Setting (Gmax), s		15.4	5.0	84.6		94.2
Max Q Clear Time (g_c+I1), s		2.5	2.8	9.8		15.5
Green Ext Time (p_c), s		0.0	0.0	2.1		4.2

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

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	317	7	28	569	4	20
Future Vol, veh/h	317	7	28	569	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	345	8	30	618	4	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	353	0	1027	349
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	678	-
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	-	-	1217	-	262	699
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	508	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1217	-	255	699
Mov Cap-2 Maneuver	-	-	-	-	255	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	495	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	542	-	-	1217	-
HCM Lane V/C Ratio	0.048	-	-	0.025	-
HCM Control Delay (s)	12	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	332	5	28	595	3	14
Future Vol, veh/h	332	5	28	595	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	361	5	30	647	3	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	366	0	1071	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	707	-
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	-	-	1204	-	247	685
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1204	-	241	685
Mov Cap-2 Maneuver	-	-	-	-	365	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.3
HCM LOS			B

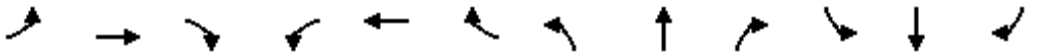
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1204	-
HCM Lane V/C Ratio	0.031	-	-	0.025	-
HCM Control Delay (s)	11.3	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	0	378	122	409	753
Future Volume (vph)	0	378	122	409	753
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	26.3	26.3	12.7	82.8	65.6
Actuated g/C Ratio	0.22	0.22	0.11	0.69	0.55
v/c Ratio	0.78	0.62	0.69	0.18	0.61
Control Delay	57.7	9.3	91.9	1.6	20.4
Queue Delay	1.9	0.0	0.0	0.0	0.0
Total Delay	59.7	9.3	91.9	1.6	20.4
LOS	E	A	F	A	C
Approach Delay	31.1			22.3	20.4
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: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 24.0	Intersection LOS: C
Intersection Capacity Utilization 67.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	287	0	378	122	409	0	0	753	339
Future Volume (veh/h)	0	0	0	287	0	378	122	409	0	0	753	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				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				309	0	298	131	440	0	0	810	284
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				384	0	342	160	2516	0	0	1498	525
Arrive On Green				0.21	0.00	0.21	0.03	0.23	0.00	0.00	0.57	0.57
Sat Flow, veh/h				1810	0	1610	1810	3705	0	0	2716	918
Grp Volume(v), veh/h				309	0	298	131	440	0	0	557	537
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1735
Q Serve(g_s), s				19.5	0.0	21.5	8.6	11.7	0.0	0.0	23.0	23.0
Cycle Q Clear(g_c), s				19.5	0.0	21.5	8.6	11.7	0.0	0.0	23.0	23.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.53
Lane Grp Cap(c), veh/h				384	0	342	160	2516	0	0	1031	991
V/C Ratio(X)				0.81	0.00	0.87	0.82	0.17	0.00	0.00	0.54	0.54
Avail Cap(c_a), veh/h				501	0	445	249	2516	0	0	1031	991
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	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	1.00	1.00
Uniform Delay (d), s/veh				44.9	0.0	45.7	57.3	18.5	0.0	0.0	15.9	16.0
Incr Delay (d2), s/veh				7.2	0.0	13.9	5.7	0.1	0.0	0.0	2.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.2	0.0	9.6	4.4	5.7	0.0	0.0	9.6	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.1	0.0	59.7	63.0	18.7	0.0	0.0	18.0	18.1
LnGrp LOS				D	A	E	E	B	A	A	B	B
Approach Vol, veh/h					607			571			1094	
Approach Delay, s/veh					55.8			28.8			18.0	
Approach LOS					E			C			B	

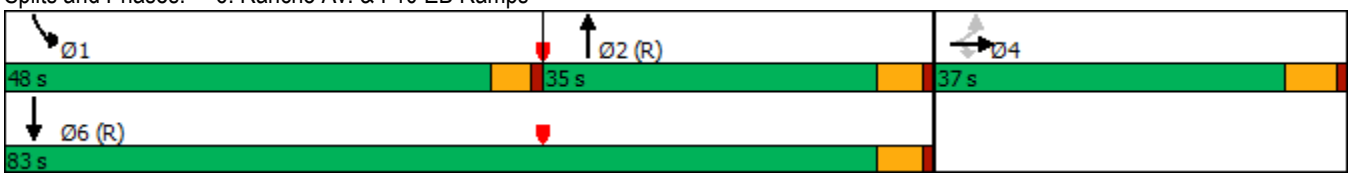
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.7			15.1	73.7		31.3				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		13.7			10.6	25.0		23.5				
Green Ext Time (p_c), s		3.2			0.1	8.5		2.0				

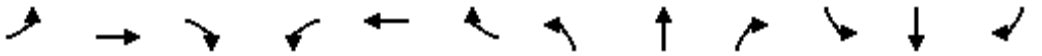
Intersection Summary												
HCM 6th Ctrl Delay			30.8									
HCM 6th LOS			C									

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	1	364	387	367	673
Future Volume (vph)	1	364	387	367	673
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	21.2	21.2	50.8	32.6	87.9
Actuated g/C Ratio	0.18	0.18	0.42	0.27	0.73
v/c Ratio	0.52	0.87	0.43	0.85	0.29
Control Delay	48.7	38.4	26.2	56.1	7.1
Queue Delay	0.0	0.0	0.0	4.1	0.6
Total Delay	48.7	38.4	26.2	60.2	7.7
LOS	D	D	C	E	A
Approach Delay	41.3		26.2		26.2
Approach LOS	D		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: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 29.8	Intersection LOS: C
Intersection Capacity Utilization 67.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	1	364	0	0	0	0	387	176	367	673	0
Future Volume (veh/h)	143	1	364	0	0	0	0	387	176	367	673	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	162	1	329				0	440	155	417	765	0
Peak Hour Factor	0.88	0.88	0.88				0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	403	2	361				0	1062	371	438	2473	0
Arrive On Green	0.22	0.22	0.22				0.00	0.40	0.40	0.48	1.00	0.00
Sat Flow, veh/h	1799	11	1610				0	2719	916	1810	3705	0
Grp Volume(v), veh/h	163	0	329				0	301	294	417	765	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1805	1735	1810	1805	0
Q Serve(g_s), s	9.2	0.0	23.9				0.0	14.3	14.5	26.5	0.0	0.0
Cycle Q Clear(g_c), s	9.2	0.0	23.9				0.0	14.3	14.5	26.5	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	406	0	361				0	731	702	438	2473	0
V/C Ratio(X)	0.40	0.00	0.91				0.00	0.41	0.42	0.95	0.31	0.00
Avail Cap(c_a), veh/h	471	0	419				0	731	702	654	2473	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	1.00	1.00	0.76	0.76	0.00
Uniform Delay (d), s/veh	39.7	0.0	45.4				0.0	25.5	25.6	30.3	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	22.0				0.0	1.7	1.8	13.0	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
%ile BackOfQ(50%),veh/ln	4.1	0.0	11.4				0.0	6.4	6.3	10.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	0.0	67.4				0.0	27.2	27.4	43.3	0.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		492						595			1182	
Approach Delay, s/veh		58.4						27.3			15.4	
Approach LOS		E						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.6	53.7		32.7		87.3
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9
Max Q Clear Time (g_c+I1), s	28.5	16.5		25.9		2.0
Green Ext Time (p_c), s	0.6	3.0		1.0		6.2

Intersection Summary			
HCM 6th Ctrl Delay			27.9
HCM 6th LOS			C

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	67	371	43	104	1281
Future Vol, veh/h	11	67	371	43	104	1281
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	80	442	51	124	1525

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2241	247	0	0	493	0
Stage 1	468	-	-	-	-	-
Stage 2	1773	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	42	759	-	-	1081	-
Stage 1	602	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	37	759	-	-	1081	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	134	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.7
HCM LOS	B		

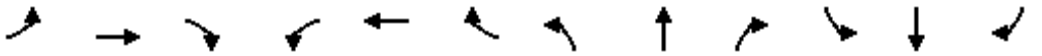
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	125	759	1081	-
HCM Lane V/C Ratio	-	-	0.105	0.105	0.115	-
HCM Control Delay (s)	-	-	37.1	10.3	8.8	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	0.4	-

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	215	19	33	213	413	34	846
Future Volume (vph)	215	19	33	213	413	34	846
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)		31.4	32.6	8.9	57.5	6.4	50.7
Actuated g/C Ratio		0.29	0.30	0.08	0.54	0.06	0.47
v/c Ratio		0.96	0.09	1.80	0.26	0.40	0.86
Control Delay		72.9	24.6	417.0	14.3	63.7	29.7
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		72.9	24.6	417.0	14.3	63.7	29.7
LOS		E	C	F	B	E	C
Approach Delay		72.9	24.6		149.9		30.7
Approach LOS		E	C		F		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.3	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.80	
Intersection Signal Delay: 70.0	Intersection LOS: E
Intersection Capacity Utilization 91.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	19	113	0	33	12	213	413	6	34	846	376
Future Volume (veh/h)	215	19	113	0	33	12	213	413	6	34	846	376
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	242	21	117	0	37	11	239	464	6	38	951	249
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	324	23	126	0	406	121	151	1694	22	54	1154	301
Arrive On Green	0.30	0.30	0.30	0.00	0.30	0.30	0.09	0.49	0.49	0.03	0.43	0.43
Sat Flow, veh/h	857	74	414	0	1333	396	1619	3457	45	1619	2683	701
Grp Volume(v), veh/h	380	0	0	0	0	48	239	229	241	38	605	595
Grp Sat Flow(s),veh/h/ln	1346	0	0	0	0	1729	1619	1710	1792	1619	1710	1674
Q Serve(g_s), s	24.2	0.0	0.0	0.0	0.0	1.9	8.8	7.4	7.4	2.2	29.4	29.6
Cycle Q Clear(g_c), s	26.0	0.0	0.0	0.0	0.0	1.9	8.8	7.4	7.4	2.2	29.4	29.6
Prop In Lane	0.64		0.31	0.00		0.23	1.00		0.02	1.00		0.42
Lane Grp Cap(c), veh/h	472	0	0	0	0	526	151	838	878	54	735	720
V/C Ratio(X)	0.80	0.00	0.00	0.00	0.00	0.09	1.58	0.27	0.27	0.70	0.82	0.83
Avail Cap(c_a), veh/h	511	0	0	0	0	595	151	1184	1241	127	1158	1134
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	0.0	0.0	0.0	23.4	42.7	14.1	14.1	45.1	23.7	23.7
Incr Delay (d2), s/veh	8.5	0.0	0.0	0.0	0.0	0.1	290.1	0.2	0.2	6.0	2.8	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	0.0	0.0	0.0	0.8	15.6	2.6	2.8	0.9	11.2	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	0.0	0.0	0.0	0.0	23.5	332.8	14.3	14.3	51.1	26.4	26.6
LnGrp LOS	D	A	A	A	A	C	F	B	B	D	C	C
Approach Vol, veh/h		380			48			709			1238	
Approach Delay, s/veh		41.3			23.5			121.7			27.3	
Approach LOS		D			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	52.0		34.5	13.4	46.3		34.5				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	4.2	9.4		28.0	10.8	31.6		3.9				
Green Ext Time (p_c), s	0.0	2.7		0.7	0.0	8.9		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		57.6
HCM 6th LOS		E

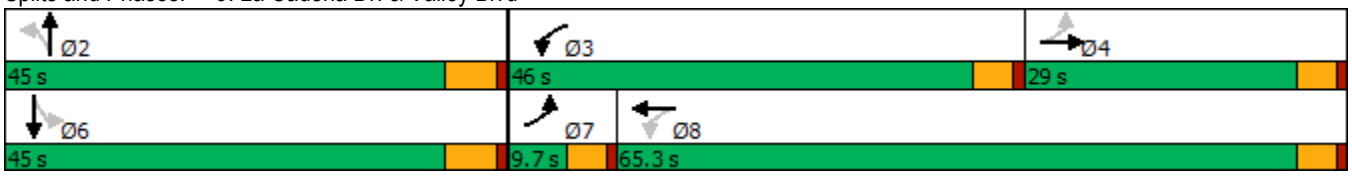
Notes

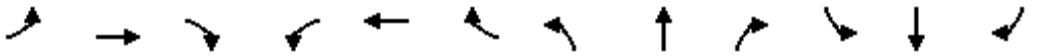
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	425	509	285	170	228	33	363
Future Volume (vph)	30	425	509	285	170	228	33	363
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	9.7	29.0	46.0	65.3	45.0	45.0	45.0	45.0
Total Split (%)	8.1%	24.2%	38.3%	54.4%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	28.4	23.1	63.3	58.2	30.9	30.9	30.9	30.9
Actuated g/C Ratio	0.27	0.22	0.60	0.55	0.29	0.29	0.29	0.29
v/c Ratio	0.11	0.85	0.91	0.17	0.89	0.50	0.23	0.43
Control Delay	18.2	51.2	46.8	13.7	76.7	17.0	33.8	31.3
Queue Delay	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	51.2	48.1	13.7	76.7	17.0	33.8	31.3
LOS	B	D	D	B	E	B	C	C
Approach Delay		49.6		35.5		32.1		31.5
Approach LOS		D		D		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 37.4	Intersection LOS: D
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	425	160	509	285	10	170	228	272	33	363	25
Future Volume (veh/h)	30	425	160	509	285	10	170	228	272	33	363	25
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	467	176	559	313	11	187	251	299	36	399	27
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	339	531	199	587	1664	58	289	567	506	208	1077	73
Arrive On Green	0.03	0.22	0.22	0.31	0.49	0.49	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1619	2435	911	1619	3371	118	922	1710	1525	823	3251	219
Grp Volume(v), veh/h	33	327	316	559	158	166	187	251	299	36	209	217
Grp Sat Flow(s),veh/h/ln	1619	1710	1636	1619	1710	1779	922	1710	1525	823	1710	1761
Q Serve(g_s), s	1.6	19.1	19.3	28.8	5.3	5.4	20.0	11.9	16.8	3.9	9.6	9.7
Cycle Q Clear(g_c), s	1.6	19.1	19.3	28.8	5.3	5.4	29.7	11.9	16.8	20.8	9.6	9.7
Prop In Lane	1.00		0.56	1.00		0.07	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	339	373	357	587	844	878	289	567	506	208	567	583
V/C Ratio(X)	0.10	0.88	0.89	0.95	0.19	0.19	0.65	0.44	0.59	0.17	0.37	0.37
Avail Cap(c_a), veh/h	370	404	386	742	1005	1045	333	649	579	248	649	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	39.1	39.2	24.6	14.6	14.6	37.7	27.1	28.7	37.4	26.3	26.3
Incr Delay (d2), s/veh	0.0	18.1	20.1	18.1	0.1	0.1	3.5	0.5	1.2	0.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	9.8	9.7	13.4	2.1	2.2	4.6	4.7	6.0	0.8	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	57.2	59.3	42.7	14.7	14.7	41.2	27.6	30.0	37.8	26.7	26.7
LnGrp LOS	C	E	E	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		676			883			737			462	
Approach Delay, s/veh		56.8			32.4			32.0			27.6	
Approach LOS		E			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		40.0	36.2	27.1		40.0	7.7	55.6				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		39.2	41.4	24.4		39.2	5.1	60.7				
Max Q Clear Time (g_c+I1), s		31.7	30.8	21.3		22.8	3.6	7.4				
Green Ext Time (p_c), s		2.5	0.8	1.2		2.2	0.0	2.1				

Intersection Summary												
HCM 6th Ctrl Delay			37.5									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	154	556	866	188
Future Vol, veh/h	0	0	154	556	866	188
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	175	632	984	214

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1757	599	1198	0	-	0
Stage 1	1091	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	78	450	590	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	42	450	590	-	-	-
Mov Cap-2 Maneuver	42	-	-	-	-	-
Stage 1	156	-	-	-	-	-
Stage 2	478	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	4.5	0
HCM LOS	A		

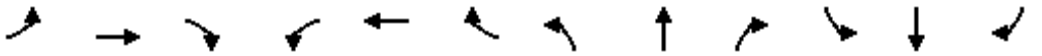
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	590	-	-	-	-
HCM Lane V/C Ratio	0.297	-	-	-	-
HCM Control Delay (s)	13.7	2	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	57	15	64	19	16	18	21	698	8	588
Future Volume (vph)	57	15	64	19	16	18	21	698	8	588
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.0	4.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	76.0	76.0	76.0	76.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.2	10.2		10.2	10.2	20.4	20.4	20.1	20.1
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.56	0.56	0.55	0.55
v/c Ratio		0.22	0.15		0.10	0.05	0.07	0.42	0.03	0.38
Control Delay		13.2	5.1		11.9	5.3	6.4	7.5	6.1	7.4
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.2	5.1		11.9	5.3	6.4	7.5	6.1	7.4
LOS		B	A		B	A	A	A	A	A
Approach Delay		9.4			9.6			7.5		7.3
Approach LOS		A			A			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 36.5	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 7.6	Intersection LOS: A
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	15	64	19	16	18	21	698	7	8	588	34
Future Volume (veh/h)	57	15	64	19	16	18	21	698	7	8	588	34
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	66	17	74	22	18	21	24	802	8	9	676	39
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	483	102	402	348	233	402	399	1412	14	368	1338	77
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1086	387	1525	675	883	1525	706	3469	35	646	3286	189
Grp Volume(v), veh/h	83	0	74	40	0	21	24	395	415	9	352	363
Grp Sat Flow(s),veh/h/ln	1473	0	1525	1559	0	1525	706	1710	1794	646	1710	1766
Q Serve(g_s), s	0.8	0.0	1.2	0.0	0.0	0.3	0.9	5.8	5.8	0.4	5.0	5.0
Cycle Q Clear(g_c), s	1.4	0.0	1.2	0.5	0.0	0.3	5.9	5.8	5.8	6.2	5.0	5.0
Prop In Lane	0.80		1.00	0.55		1.00	1.00		0.02	1.00		0.11
Lane Grp Cap(c), veh/h	585	0	402	581	0	402	399	696	730	368	696	719
V/C Ratio(X)	0.14	0.00	0.18	0.07	0.00	0.05	0.06	0.57	0.57	0.02	0.51	0.51
Avail Cap(c_a), veh/h	1955	0	1835	1994	0	1835	1624	3665	3844	1481	3644	3763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	9.3	9.1	0.0	9.0	9.5	7.5	7.5	9.9	7.2	7.3
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	0.1	0.1	0.7	0.7	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.3	0.2	0.0	0.1	0.1	1.1	1.1	0.0	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.5	0.0	9.6	9.1	0.0	9.1	9.5	8.2	8.2	9.9	7.8	7.8
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		157			61			834			724	
Approach Delay, s/veh		9.5			9.1			8.2			7.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.5		13.2		19.5		13.2				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 70		39.4		69.8		39.4				
Max Q Clear Time (g_c+I1), s		7.9		3.4		8.2		2.5				
Green Ext Time (p_c), s		5.4		0.7		4.3		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			8.2									
HCM 6th LOS			A									

Notes

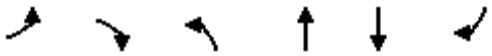
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	26	555	452	574	580
Future Volume (vph)	26	555	452	574	580
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	12.4	12.4	35.7	64.5	24.2
Actuated g/C Ratio	0.14	0.14	0.40	0.72	0.27
v/c Ratio	0.70	0.68	0.79	0.26	0.75
Control Delay	16.6	13.4	37.1	4.7	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	13.4	37.1	4.7	36.3
LOS	B	B	D	A	D
Approach Delay	15.0			19.0	36.3
Approach LOS	B			B	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 22.7	Intersection LOS: C
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	555	452	574	580	26
Future Volume (veh/h)	26	555	452	574	580	26
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	1620	1620	1530	1620	1620	1620
Adj Flow Rate, veh/h	0	478	461	586	592	27
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	322	572	492	1981	747	34
Arrive On Green	0.00	0.21	0.34	0.64	0.25	0.25
Sat Flow, veh/h	1543	2746	1457	3159	3079	137
Grp Volume(v), veh/h	0	478	461	586	304	315
Grp Sat Flow(s),veh/h/ln	1543	1373	1457	1539	1539	1595
Q Serve(g_s), s	0.0	13.5	24.9	6.8	15.0	15.0
Cycle Q Clear(g_c), s	0.0	13.5	24.9	6.8	15.0	15.0
Prop In Lane	1.00	1.00	1.00			0.09
Lane Grp Cap(c), veh/h	322	572	492	1981	383	397
V/C Ratio(X)	0.00	0.83	0.94	0.30	0.79	0.79
Avail Cap(c_a), veh/h	479	852	707	3140	736	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	30.8	26.0	6.4	28.5	28.5
Incr Delay (d2), s/veh	0.0	4.7	13.2	0.1	3.7	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.0	9.3	1.6	5.4	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	35.4	39.2	6.4	32.2	32.1
LnGrp LOS	A	D	D	A	C	C
Approach Vol, veh/h	478			1047	619	
Approach Delay, s/veh	35.4			20.9	32.2	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		58.4		22.7	32.0	26.4
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		8.8		15.5	26.9	17.0
Green Ext Time (p_c), s		3.9		1.4	0.6	3.2

Intersection Summary		
HCM 6th Ctrl Delay		27.4
HCM 6th LOS		C

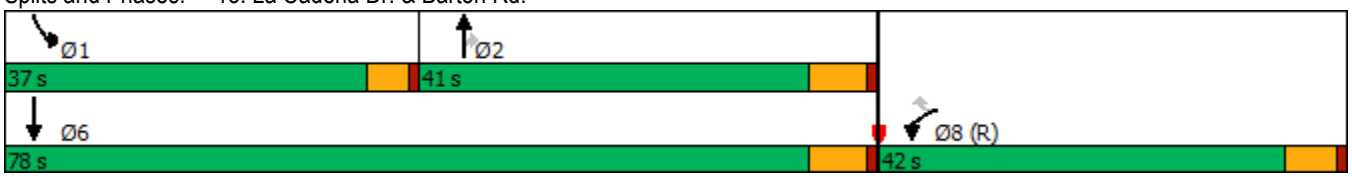
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	248	345	715	307	480	1194
Future Volume (vph)	248	345	715	307	480	1194
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	38.8	38.8	32.2	32.2	32.4	69.2
Actuated g/C Ratio	0.32	0.32	0.27	0.27	0.27	0.58
v/c Ratio	0.51	0.60	0.83	0.50	1.17	0.64
Control Delay	37.8	22.0	49.8	6.4	138.8	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	22.0	49.8	6.4	138.8	18.7
LOS	D	C	D	A	F	B
Approach Delay	28.6		36.8			53.2
Approach LOS	C		D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 43.6	Intersection LOS: D
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	248	345	715	307	480	1194
Future Volume (veh/h)	248	345	715	307	480	1194
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	264	0	761	290	511	1270
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	488		878	391	437	1932
Arrive On Green	0.30	0.00	0.26	0.26	0.27	0.56
Sat Flow, veh/h	1619	1525	3510	1525	1619	3510
Grp Volume(v), veh/h	264	0	761	290	511	1270
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1525	1619	1710
Q Serve(g_s), s	16.3	0.0	25.5	20.9	32.4	30.8
Cycle Q Clear(g_c), s	16.3	0.0	25.5	20.9	32.4	30.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	488		878	391	437	1932
V/C Ratio(X)	0.54		0.87	0.74	1.17	0.66
Avail Cap(c_a), veh/h	488		992	442	437	2046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.55	0.55	0.62	0.62
Uniform Delay (d), s/veh	35.0	0.0	42.7	40.9	43.8	18.1
Incr Delay (d2), s/veh	4.2	0.0	4.4	3.2	90.8	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	6.9	0.0	10.8	7.9	23.3	11.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.2	0.0	47.0	44.2	134.6	18.5
LnGrp LOS	D		D	D	F	B
Approach Vol, veh/h	264		1051			1781
Approach Delay, s/veh	39.2		46.2			51.8
Approach LOS	D		D			D

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	37.0	37.0				74.0	42.0
Change Period (Y+Rc), s	4.6	6.2				6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8				71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	27.5				32.8	18.3
Green Ext Time (p_c), s	0.0	3.3				10.7	0.3

Intersection Summary	
HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

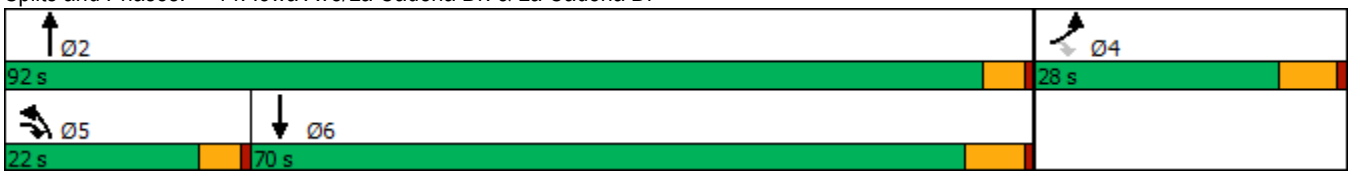
Notes

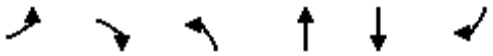
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	380	198	212	707	624	1044
Future Volume (vph)	380	198	212	707	624	1044
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	22.1	45.2	16.8	62.4	39.4	95.5
Actuated g/C Ratio	0.23	0.47	0.18	0.65	0.41	1.00
v/c Ratio	1.05	0.28	0.77	0.62	0.87	0.42
Control Delay	98.8	19.1	59.3	11.9	38.5	0.5
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	98.8	19.1	59.3	12.5	38.5	0.5
LOS	F	B	E	B	D	A
Approach Delay	71.5			23.3	14.7	
Approach LOS	E			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 85.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	380	198	212	707	624	1044
Future Volume (veh/h)	380	198	212	707	624	1044
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	1700	1800	1700	1800	1800	1700
Adj Flow Rate, veh/h	392	178	219	729	643	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	403	616	252	1098	724	
Arrive On Green	0.25	0.25	0.16	0.61	0.40	0.00
Sat Flow, veh/h	1619	1525	1619	1800	1800	2536
Grp Volume(v), veh/h	392	178	219	729	643	0
Grp Sat Flow(s),veh/h/ln	1619	1525	1619	1800	1800	1268
Q Serve(g_s), s	21.0	6.9	11.6	23.3	29.1	0.0
Cycle Q Clear(g_c), s	21.0	6.9	11.6	23.3	29.1	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	403	616	252	1098	724	
V/C Ratio(X)	0.97	0.29	0.87	0.66	0.89	
Avail Cap(c_a), veh/h	403	616	321	1795	1310	
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	0.00
Uniform Delay (d), s/veh	32.6	17.6	36.2	11.2	24.4	0.0
Incr Delay (d2), s/veh	37.8	0.3	15.7	0.7	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	7.0	5.3	7.2	11.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	70.4	17.9	51.8	11.9	28.4	0.0
LnGrp LOS	E	B	D	B	C	
Approach Vol, veh/h	570			948	643	
Approach Delay, s/veh	54.0			21.1	28.4	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.7		28.0	18.2	41.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		25.3		23.0	13.6	31.1
Green Ext Time (p_c), s		5.2		0.0	0.1	4.1

Intersection Summary		
HCM 6th Ctrl Delay		32.0
HCM 6th LOS		C

Notes

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

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

Intersection	
Intersection Delay, s/veh	32.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	81	19	32	0	0	0	10	475	0	595	653	51
Future Vol, veh/h	81	19	32	0	0	0	10	475	0	595	653	51
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	91	21	36	0	0	0	11	534	0	669	734	57
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15.1	14.3	188
HCM LOS	C	B	F

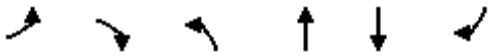
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	61%	100%	0%
Vol Thru, %	0%	100%	100%	14%	0%	93%
Vol Right, %	0%	0%	0%	24%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	238	238	132	595	704
LT Vol	10	0	0	81	595	0
Through Vol	0	238	238	19	0	653
RT Vol	0	0	0	32	0	51
Lane Flow Rate	11	267	267	148	669	791
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.022	0.494	0.368	0.328	1.285	1.398
Departure Headway (Hd)	7.912	7.405	5.679	8.343	6.92	6.362
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	491	638	433	528	577
Service Time	5.612	5.105	3.379	6.043	4.631	4.073
HCM Lane V/C Ratio	0.024	0.544	0.418	0.342	1.267	1.371
HCM Control Delay	10.8	17.1	11.6	15.1	163.9	208.3
HCM Lane LOS	B	C	B	C	F	F
HCM 95th-tile Q	0.1	2.7	1.7	1.4	27.6	36.3

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	116	706	826	763
Future Volume (vph)	116	706	826	763
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.2	10.2	18.9	45.7
Actuated g/C Ratio	0.11	0.11	0.20	0.49
v/c Ratio	0.64	1.50	2.32	0.89
Control Delay	59.6	254.8	623.0	33.4
Queue Delay	0.0	0.0	0.0	0.7
Total Delay	59.6	254.8	623.0	34.1
LOS	E	F	F	C
Approach Delay	227.0		623.0	34.1
Approach LOS	F		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.32	
Intersection Signal Delay: 301.6	Intersection LOS: F
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	116	706	0	826	763	0
Future Volume (veh/h)	116	706	0	826	763	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	126	617	0	888	820	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	380	338	0	1007	1007	0
Arrive On Green	0.21	0.21	0.00	0.53	0.53	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	126	617	0	888	820	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	2.8	10.0	0.0	19.7	17.0	0.0
Cycle Q Clear(g_c), s	2.8	10.0	0.0	19.7	17.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	380	338	0	1007	1007	0
V/C Ratio(X)	0.33	1.83	0.00	0.88	0.81	0.00
Avail Cap(c_a), veh/h	380	338	0	1007	2902	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.0	18.8	0.0	9.9	9.3	0.0
Incr Delay (d2), s/veh	0.5	383.3	0.0	9.3	1.7	0.0
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	39.3	0.0	6.7	4.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.5	402.1	0.0	19.1	10.9	0.0
LnGrp LOS	B	F	A	B	B	A
Approach Vol, veh/h	743			888	820	
Approach Delay, s/veh	336.7			19.1	10.9	
Approach LOS	F			B	B	

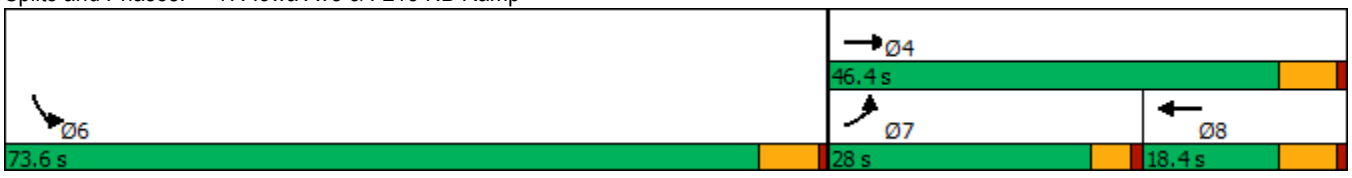
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		31.5		16.2		31.5
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		21.7		12.0		19.0
Green Ext Time (p_c), s		0.0		0.0		6.3

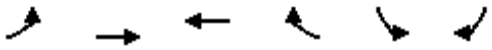
Intersection Summary		
HCM 6th Ctrl Delay	112.7	
HCM 6th LOS	F	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	455	769	90	192
Future Volume (vph)	455	769	90	192
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.39	1.30	1.68	1.39
Control Delay	230.6	180.7	344.6	201.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	230.6	180.7	344.6	201.6
LOS	F	F	F	F
Approach Delay		199.2	344.6	201.6
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.68	
Intersection Signal Delay: 221.6	Intersection LOS: F
Intersection Capacity Utilization 156.6%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	455	769	90	372	192	1278
Future Volume (veh/h)	455	769	90	372	192	1278
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	489	827	97	341	206	1100
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	353	636	38	132	145	775
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	369	1297	258	1379
Grp Volume(v), veh/h	489	827	0	438	1307	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1666	1639	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.78	0.16	0.84
Lane Grp Cap(c), veh/h	353	637	0	169	920	0
V/C Ratio(X)	1.39	1.30	0.00	2.59	1.42	0.00
Avail Cap(c_a), veh/h	353	637	0	169	920	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	190.3	146.0	0.0	730.3	195.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.1	44.3	0.0	39.5	72.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	238.6	185.9	0.0	784.2	221.7	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1316	438		1307	
Approach Delay, s/veh		205.5	784.2		221.7	
Approach LOS		F	F		F	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	46.4	73.6	28.0	18.4
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	40.2	67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s	42.2	69.4	25.4	14.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	295.2
HCM 6th LOS	F

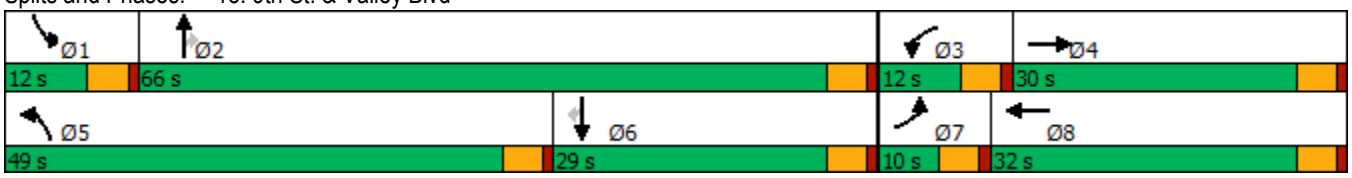
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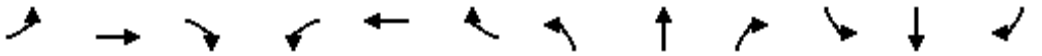
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	2	239	19	348	406	172	63	26	132	90
Future Volume (vph)	2	239	19	348	406	172	63	26	132	90
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	26.6	9.6	26.6	9.6	22.6	22.6	9.6	22.6	22.6
Total Split (s)	10.0	30.0	12.0	32.0	49.0	66.0	66.0	12.0	29.0	29.0
Total Split (%)	8.3%	25.0%	10.0%	26.7%	40.8%	55.0%	55.0%	10.0%	24.2%	24.2%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	5.7	16.4	6.3	18.5	25.1	40.4	40.4	6.4	13.5	13.5
Actuated g/C Ratio	0.08	0.22	0.09	0.25	0.34	0.55	0.55	0.09	0.18	0.18
v/c Ratio	0.02	0.64	0.15	0.45	0.78	0.18	0.07	0.19	0.42	0.24
Control Delay	47.0	20.4	45.6	27.1	34.2	12.7	1.4	45.6	37.8	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	20.4	45.6	27.1	34.2	12.7	1.4	45.6	37.8	3.8
LOS	D	C	D	C	C	B	A	D	D	A
Approach Delay		20.5		28.0		25.2			26.2	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 73.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	239	298	19	348	14	406	172	63	26	132	90
Future Volume (veh/h)	2	239	298	19	348	14	406	172	63	26	132	90
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	2	252	314	20	366	15	427	181	66	27	139	95
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	4	447	398	38	943	39	474	742	629	48	268	227
Arrive On Green	0.00	0.26	0.26	0.02	0.28	0.28	0.29	0.41	0.41	0.03	0.15	0.15
Sat Flow, veh/h	1619	1710	1525	1619	3348	137	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	2	252	314	20	186	195	427	181	66	27	139	95
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1775	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	0.1	8.6	12.9	0.8	5.9	5.9	17.0	4.4	1.8	1.1	4.8	3.8
Cycle Q Clear(g_c), s	0.1	8.6	12.9	0.8	5.9	5.9	17.0	4.4	1.8	1.1	4.8	3.8
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	447	398	38	482	500	474	742	629	48	268	227
V/C Ratio(X)	0.45	0.56	0.79	0.53	0.39	0.39	0.90	0.24	0.10	0.57	0.52	0.42
Avail Cap(c_a), veh/h	130	647	577	178	698	725	1071	1647	1395	178	654	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	21.5	23.1	32.4	19.4	19.5	22.8	12.9	12.1	32.1	26.3	25.9
Incr Delay (d2), s/veh	24.6	1.1	4.6	4.3	0.5	0.5	2.6	0.2	0.1	3.9	1.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.4	4.8	0.4	2.3	2.4	6.3	1.7	0.6	0.5	2.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	22.6	27.6	36.7	20.0	19.9	25.4	13.1	12.2	36.0	27.9	27.1
LnGrp LOS	E	C	C	D	B	B	C	B	B	D	C	C
Approach Vol, veh/h		568			401			674			261	
Approach Delay, s/veh		25.5			20.8			20.8			28.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	32.3	6.2	22.1	24.2	14.6	4.8	23.5
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	61.4	7.4	25.4	44.4	24.4	5.4	27.4
Max Q Clear Time (g_c+I1), s	3.1	6.4	2.8	14.9	19.0	6.8	2.1	7.9
Green Ext Time (p_c), s	0.0	1.3	0.0	2.7	0.6	0.9	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	470	164	0	0	450
Future Vol, veh/h	3	470	164	0	0	450
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	522	182	0	0	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	682	182	0	-	-	-
Stage 1	182	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	419	866	-	0	0	-
Stage 1	854	-	-	0	0	-
Stage 2	613	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	419	866	-	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	862	-
HCM Lane V/C Ratio	-	0.61	-
HCM Control Delay (s)	-	15.5	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.3	-

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	184	3	0	0	455	0
Future Vol, veh/h	184	3	0	0	455	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	4	0	0	555	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11.4	19.5
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	187	455
LT Vol	184	455
Through Vol	3	0
RT Vol	0	0
Lane Flow Rate	228	555
Geometry Grp	1	1
Degree of Util (X)	0.346	0.729
Departure Headway (Hd)	5.463	4.732
Convergence, Y/N	Yes	Yes
Cap	654	760
Service Time	3.532	2.781
HCM Lane V/C Ratio	0.349	0.73
HCM Control Delay	11.4	19.5
HCM Lane LOS	B	C
HCM 95th-tile Q	1.5	6.4

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1075	1300	53	621
Demand Flow Rate, veh/h	1075	1300	53	621
Vehicles Circulating, veh/h	413	223	1406	751
Vehicles Exiting, veh/h	959	1236	82	772
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.2	10.2	10.2	12.1
Approach LOS	B	B	B	B

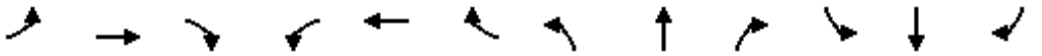
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.596	0.404
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	505	570	611	689	53	370	251
Cap Entry Lane, veh/h	923	1000	1099	1175	430	676	750
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	505	570	611	689	53	370	251
Cap Entry, veh/h	924	999	1099	1175	430	676	750
V/C Ratio	0.547	0.570	0.556	0.586	0.123	0.547	0.335
Control Delay, s/veh	11.2	11.1	10.1	10.2	10.2	14.3	8.9
LOS	B	B	B	B	B	B	A
95th %tile Queue, veh	3	4	4	4	0	3	1

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	283	820	1050	624	146	0	421
Future Volume (vph)	283	820	1050	624	146	0	421
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	22.0	94.0	72.0	72.0	26.0	26.0	26.0
Total Split (%)	18.3%	78.3%	60.0%	60.0%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.0	68.7	46.0	46.0	14.7	13.3	13.3
Actuated g/C Ratio	0.19	0.74	0.49	0.49	0.16	0.14	0.14
v/c Ratio	0.90	0.34	0.65	0.66	0.57	0.57	0.56
Control Delay	69.2	4.8	19.1	6.9	47.7	12.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	4.8	19.1	6.9	47.7	12.5	12.4
LOS	E	A	B	A	D	B	B
Approach Delay		21.3	14.5			21.5	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.3	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 17.9	Intersection LOS: B
Intersection Capacity Utilization 76.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	820	0	0	1050	624	146	0	421	0	0	0
Future Volume (veh/h)	283	820	0	0	1050	624	146	0	421	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	311	901	0	0	1154	538	160	0	370			
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	0	0	0	0	0	0	0	0			
Cap, veh/h	350	2632	0	0	1730	751	276	0	492			
Arrive On Green	0.19	0.73	0.00	0.00	0.48	0.48	0.15	0.00	0.15			
Sat Flow, veh/h	1810	3705	0	0	3705	1567	1810	0	3220			
Grp Volume(v), veh/h	311	901	0	0	1154	538	160	0	370			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1567	1810	0	1610			
Q Serve(g_s), s	13.6	7.3	0.0	0.0	19.9	22.1	6.7	0.0	8.9			
Cycle Q Clear(g_c), s	13.6	7.3	0.0	0.0	19.9	22.1	6.7	0.0	8.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	350	2632	0	0	1730	751	276	0	492			
V/C Ratio(X)	0.89	0.34	0.00	0.00	0.67	0.72	0.58	0.00	0.75			
Avail Cap(c_a), veh/h	388	3954	0	0	2976	1292	479	0	853			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.9	4.0	0.0	0.0	16.2	16.8	32.0	0.0	32.9			
Incr Delay (d2), s/veh	19.0	0.1	0.0	0.0	0.4	1.3	1.9	0.0	2.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.5	1.8	0.0	0.0	7.4	7.3	2.9	0.0	3.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	4.0	0.0	0.0	16.6	18.1	33.9	0.0	35.3			
LnGrp LOS	D	A	A	A	B	B	C	A	D			
Approach Vol, veh/h		1212			1692			530				
Approach Delay, s/veh		16.1			17.1			34.8				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.3			20.3	44.0		16.9				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		88.9			17.4	66.9		21.5				
Max Q Clear Time (g_c+I1), s		9.3			15.6	24.1		10.9				
Green Ext Time (p_c), s		7.8			0.1	14.8		1.5				

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

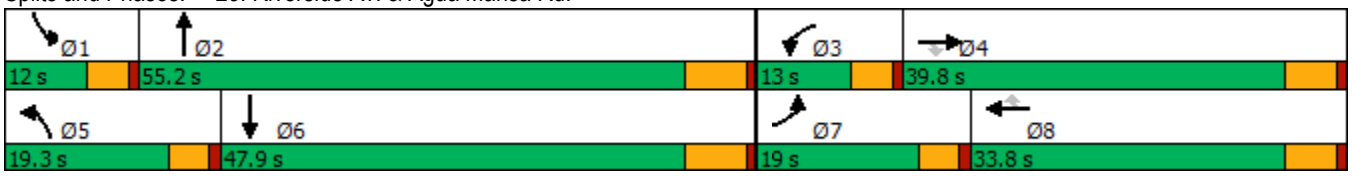
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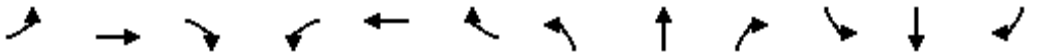
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	265	218	97	118	322	113	214	963	123	932
Future Volume (vph)	265	218	97	118	322	113	214	963	123	932
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.8	33.8	9.6	29.5	9.6	31.5
Total Split (s)	19.0	39.8	39.8	13.0	33.8	33.8	19.3	55.2	12.0	47.9
Total Split (%)	15.8%	33.2%	33.2%	10.8%	28.2%	28.2%	16.1%	46.0%	10.0%	39.9%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	5.8	4.6	5.8	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.4	30.5	30.5	8.4	24.5	24.5	14.7	48.8	7.4	41.5
Actuated g/C Ratio	0.11	0.26	0.26	0.07	0.21	0.21	0.13	0.42	0.06	0.36
v/c Ratio	1.35	0.46	0.19	0.95	0.85	0.24	0.99	0.73	1.13	1.06
Control Delay	224.6	39.3	1.8	123.0	64.5	1.2	108.7	32.1	172.9	77.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	224.6	39.3	1.8	123.0	64.5	1.2	108.7	32.1	172.9	77.9
LOS	F	D	A	F	E	A	F	C	F	E
Approach Delay		117.8			64.0			45.2		86.3
Approach LOS		F			E			D		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 116.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 74.2	Intersection LOS: E
Intersection Capacity Utilization 98.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	218	97	118	322	113	214	963	72	123	932	329
Future Volume (veh/h)	265	218	97	118	322	113	214	963	72	123	932	329
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	279	229	65	124	339	100	225	1014	69	129	981	277
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	210	482	408	132	383	324	231	1449	99	116	999	281
Arrive On Green	0.12	0.25	0.25	0.07	0.20	0.20	0.13	0.42	0.42	0.06	0.36	0.36
Sat Flow, veh/h	1810	1900	1608	1810	1900	1608	1810	3429	233	1810	2781	782
Grp Volume(v), veh/h	279	229	65	124	339	100	225	534	549	129	635	623
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1608	1810	1805	1858	1810	1805	1758
Q Serve(g_s), s	13.4	11.8	3.6	7.9	20.0	6.1	14.3	27.9	27.9	7.4	40.1	40.5
Cycle Q Clear(g_c), s	13.4	11.8	3.6	7.9	20.0	6.1	14.3	27.9	27.9	7.4	40.1	40.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.44
Lane Grp Cap(c), veh/h	210	482	408	132	383	324	231	763	785	116	648	632
V/C Ratio(X)	1.33	0.48	0.16	0.94	0.88	0.31	0.97	0.70	0.70	1.11	0.98	0.99
Avail Cap(c_a), veh/h	210	561	474	132	462	391	231	763	785	116	648	632
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	36.5	33.4	53.2	44.7	39.2	50.1	27.3	27.3	53.9	36.5	36.6
Incr Delay (d2), s/veh	175.7	0.7	0.2	59.5	16.1	0.5	51.7	2.8	2.8	116.2	30.2	32.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	5.4	1.4	5.7	10.8	2.4	9.5	11.6	11.9	7.0	21.6	21.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	226.7	37.2	33.6	112.6	60.8	39.7	101.8	30.1	30.0	170.1	66.7	68.8
LnGrp LOS	F	D	C	F	E	D	F	C	C	F	E	E
Approach Vol, veh/h		573			563			1308			1387	
Approach Delay, s/veh		129.1			68.4			42.4			77.2	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	55.2	13.0	35.0	19.3	47.9	19.0	29.0
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	7.4	48.7	8.4	34.0	14.7	41.4	14.4	28.0
Max Q Clear Time (g_c+I1), s	9.4	29.9	9.9	13.8	16.3	42.5	15.4	22.0
Green Ext Time (p_c), s	0.0	5.9	0.0	1.3	0.0	0.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	71.8
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	814	2	2	352	3	3
Future Vol, veh/h	814	2	2	352	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	885	2	2	383	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	887	0	1273	886
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	387	-
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	-	-	772	-	187	346
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	772	-	186	346
Mov Cap-2 Maneuver	-	-	-	-	309	-
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	326	-	-	772	-
HCM Lane V/C Ratio	0.02	-	-	0.003	-
HCM Control Delay (s)	16.3	-	-	9.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	815	2	9	347	6	26
Future Vol, veh/h	815	2	9	347	6	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	886	2	10	377	7	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	888	0	1284	887
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	397	-
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	-	-	771	-	184	346
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	771	-	182	346
Mov Cap-2 Maneuver	-	-	-	-	307	-
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	674	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	338	-	-	771	-
HCM Lane V/C Ratio	0.103	-	-	0.013	-
HCM Control Delay (s)	16.9	-	-	9.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	837	18	349	8
Future Volume (vph)	837	18	349	8
Turn Type	NA	Prot	NA	Prot
Protected Phases	4	3	8	2
Permitted Phases				
Detector Phase	4	3	8	2
Switch Phase				
Minimum Initial (s)	10.0	5.0	10.0	10.0
Minimum Split (s)	20.8	9.6	15.8	19.6
Total Split (s)	90.0	9.6	99.6	20.4
Total Split (%)	75.0%	8.0%	83.0%	17.0%
Yellow Time (s)	4.8	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	4.6	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	None	None	None	Max
Act Effct Green (s)	43.5	5.4	46.4	17.2
Actuated g/C Ratio	0.58	0.07	0.62	0.23
v/c Ratio	0.87	0.17	0.34	0.11
Control Delay	23.3	46.8	6.6	16.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.3	46.8	6.6	16.9
LOS	C	D	A	B
Approach Delay	23.3		8.6	16.9
Approach LOS	C		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 18.8	Intersection LOS: B
Intersection Capacity Utilization 63.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Driveway 3 & Agua Mansa Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	837	4	18	349	8	32
Future Volume (veh/h)	837	4	18	349	8	32
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	1800	1800	1700	1800	1800	1800
Adj Flow Rate, veh/h	910	4	20	379	9	35
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	1025	5	37	1180	65	253
Arrive On Green	0.57	0.57	0.02	0.66	0.21	0.21
Sat Flow, veh/h	1791	8	1619	1800	313	1217
Grp Volume(v), veh/h	0	914	20	379	45	0
Grp Sat Flow(s),veh/h/ln	0	1799	1619	1800	1565	0
Q Serve(g_s), s	0.0	33.6	0.9	7.0	1.8	0.0
Cycle Q Clear(g_c), s	0.0	33.6	0.9	7.0	1.8	0.0
Prop In Lane		0.00	1.00		0.20	0.78
Lane Grp Cap(c), veh/h	0	1030	37	1180	325	0
V/C Ratio(X)	0.00	0.89	0.55	0.32	0.14	0.00
Avail Cap(c_a), veh/h	0	1990	106	2219	325	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.1	36.8	5.7	24.6	0.0
Incr Delay (d2), s/veh	0.0	2.8	4.6	0.2	0.9	0.0
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	11.0	0.4	1.8	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	17.0	41.4	5.9	25.5	0.0
LnGrp LOS	A	B	D	A	C	A
Approach Vol, veh/h	914			399	45	
Approach Delay, s/veh	17.0			7.7	25.5	
Approach LOS	B			A	C	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	20.4	6.3	49.4	55.7
Change Period (Y+Rc), s	4.6	4.6	5.8	5.8
Max Green Setting (Gmax), s	15.8	5.0	84.2	93.8
Max Q Clear Time (g_c+I1), s	3.8	2.9	35.6	9.0
Green Ext Time (p_c), s	0.1	0.0	8.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	837	4	18	349	8	32
Future Vol, veh/h	837	4	18	349	8	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	910	4	20	379	9	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	914	0	1331	912
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	419	-
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	-	-	754	-	172	335
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	754	-	167	335
Mov Cap-2 Maneuver	-	-	-	-	167	-
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	650	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	279	-	-	754	-
HCM Lane V/C Ratio	0.156	-	-	0.026	-
HCM Control Delay (s)	20.3	-	-	9.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	867	3	15	361	6	31
Future Vol, veh/h	867	3	15	361	6	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	942	3	16	392	7	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	945	0	1368	944
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	424	-
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	-	-	734	-	163	321
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	734	-	159	321
Mov Cap-2 Maneuver	-	-	-	-	285	-
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	649	-

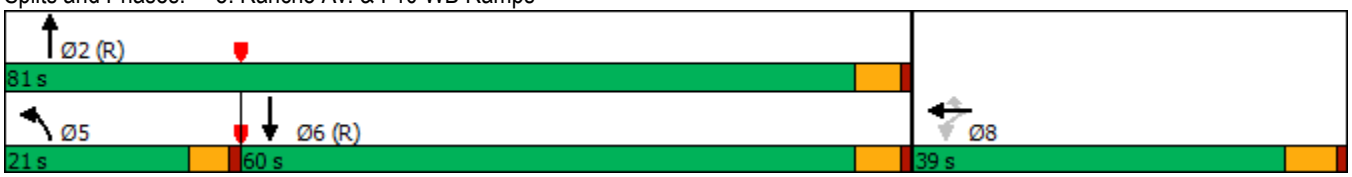
Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	18.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	315	-	-	734	-
HCM Lane V/C Ratio	0.128	-	-	0.022	-
HCM Control Delay (s)	18.1	-	-	10	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	1	449	164	925	739
Future Volume (vph)	1	449	164	925	739
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	28.7	28.7	14.3	80.4	61.6
Actuated g/C Ratio	0.24	0.24	0.12	0.67	0.51
v/c Ratio	0.36	0.91	0.78	0.39	0.53
Control Delay	39.3	52.4	81.2	8.0	21.3
Queue Delay	0.6	0.0	0.0	0.5	0.1
Total Delay	39.9	52.4	81.2	8.5	21.4
LOS	D	D	F	A	C
Approach Delay	49.2			19.5	21.4
Approach LOS	D			B	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: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 26.9	Intersection LOS: C
Intersection Capacity Utilization 87.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	152	1	449	164	925	0	0	739	210
Future Volume (veh/h)	0	0	0	152	1	449	164	925	0	0	739	210
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	0	1900	1900
Adj Flow Rate, veh/h				155	1	356	167	944	0	0	754	137
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				433	3	388	194	2413	0	0	1598	290
Arrive On Green				0.24	0.24	0.24	0.14	0.89	0.00	0.00	0.52	0.52
Sat Flow, veh/h				1798	12	1610	1810	3705	0	0	3146	554
Grp Volume(v), veh/h				156	0	356	167	944	0	0	446	445
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1800
Q Serve(g_s), s				8.6	0.0	25.9	10.8	5.3	0.0	0.0	18.8	18.8
Cycle Q Clear(g_c), s				8.6	0.0	25.9	10.8	5.3	0.0	0.0	18.8	18.8
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.31
Lane Grp Cap(c), veh/h				436	0	388	194	2413	0	0	945	943
V/C Ratio(X)				0.36	0.00	0.92	0.86	0.39	0.00	0.00	0.47	0.47
Avail Cap(c_a), veh/h				501	0	445	249	2413	0	0	945	943
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.38	0.38	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.8	0.0	44.4	50.6	2.5	0.0	0.0	18.1	18.1
Incr Delay (d2), s/veh				0.5	0.0	22.3	7.7	0.2	0.0	0.0	1.7	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				3.8	0.0	12.3	5.1	1.4	0.0	0.0	8.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.3	0.0	66.7	58.3	2.7	0.0	0.0	19.8	19.8
LnGrp LOS				D	A	E	E	A	A	A	B	B
Approach Vol, veh/h					512			1111			891	
Approach Delay, s/veh					58.0			11.1			19.8	
Approach LOS					E			B			B	

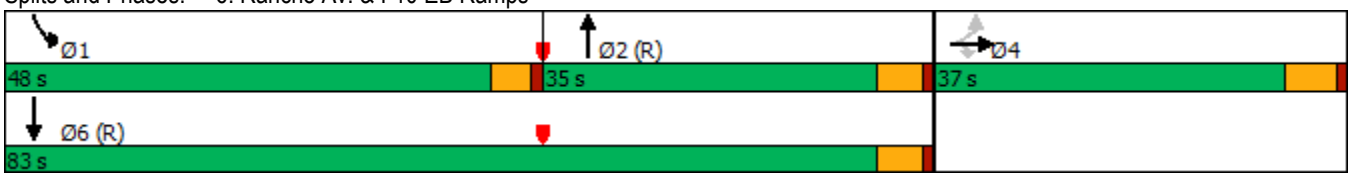
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.3			17.4	68.0		34.7				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		7.3			12.8	20.8		27.9				
Green Ext Time (p_c), s		8.3			0.1	6.4		1.0				

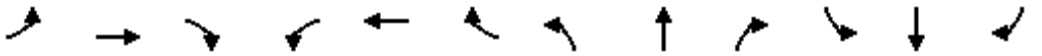
Intersection Summary												
HCM 6th Ctrl Delay			23.7									
HCM 6th LOS			C									

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	6	381	671	377	514
Future Volume (vph)	6	381	671	377	514
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	31.0	31.0	42.3	31.3	78.1
Actuated g/C Ratio	0.26	0.26	0.35	0.26	0.65
v/c Ratio	0.95	0.65	0.87	0.84	0.23
Control Delay	76.0	18.1	43.2	67.9	9.5
Queue Delay	0.0	0.0	0.0	3.2	0.5
Total Delay	76.0	18.1	43.2	71.1	10.0
LOS	E	B	D	E	B
Approach Delay	48.5		43.2		35.9
Approach LOS	D		D		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: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 42.4	Intersection LOS: D
Intersection Capacity Utilization 87.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	6	381	0	0	0	0	671	366	377	514	0
Future Volume (veh/h)	417	6	381	0	0	0	0	671	366	377	514	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	439	6	322				0	706	343	397	541	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	463	6	417				0	897	435	418	2347	0
Arrive On Green	0.26	0.26	0.26				0.00	0.38	0.38	0.46	1.00	0.00
Sat Flow, veh/h	1786	24	1610				0	2450	1144	1810	3705	0
Grp Volume(v), veh/h	445	0	322				0	541	508	397	541	0
Grp Sat Flow(s),veh/h/ln	1811	0	1610				0	1805	1694	1810	1805	0
Q Serve(g_s), s	29.0	0.0	22.2				0.0	31.8	31.8	25.2	0.0	0.0
Cycle Q Clear(g_c), s	29.0	0.0	22.2				0.0	31.8	31.8	25.2	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.68	1.00		0.00
Lane Grp Cap(c), veh/h	469	0	417				0	687	645	418	2347	0
V/C Ratio(X)	0.95	0.00	0.77				0.00	0.79	0.79	0.95	0.23	0.00
Avail Cap(c_a), veh/h	471	0	419				0	687	645	654	2347	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	1.00	1.00	0.83	0.83	0.00
Uniform Delay (d), s/veh	43.7	0.0	41.2				0.0	32.9	32.9	31.6	0.0	0.0
Incr Delay (d2), s/veh	28.9	0.0	8.6				0.0	8.9	9.4	12.0	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
%ile BackOfQ(50%),veh/ln	16.2	0.0	9.5				0.0	15.2	14.4	9.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	0.0	49.8				0.0	41.7	42.3	43.6	0.2	0.0
LnGrp LOS	E	A	D				A	D	D	D	A	A
Approach Vol, veh/h		767						1049			938	
Approach Delay, s/veh		63.0						42.0			18.6	
Approach LOS		E						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	32.3	50.8		36.9		83.1
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9
Max Q Clear Time (g_c+I1), s	27.2	33.8		31.0		2.0
Green Ext Time (p_c), s	0.5	0.0		0.1		4.0

Intersection Summary			
HCM 6th Ctrl Delay			39.9
HCM 6th LOS			D

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	44	664	114	139	1078
Future Vol, veh/h	11	44	664	114	139	1078
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	48	730	125	153	1185

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2284	428	0	0	855	0
Stage 1	793	-	-	-	-	-
Stage 2	1491	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	39	581	-	-	793	-
Stage 1	411	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	31	581	-	-	793	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	168	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	148	581	793	-
HCM Lane V/C Ratio	-	-	0.082	0.083	0.193	-
HCM Control Delay (s)	-	-	31.5	11.8	10.6	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.7	-

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	544	97	28	135	519	14	810
Future Volume (vph)	544	97	28	135	519	14	810
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)		31.4	32.6	8.9	48.4	5.7	37.0
Actuated g/C Ratio		0.34	0.35	0.10	0.52	0.06	0.40
v/c Ratio		2.03	0.07	0.95	0.31	0.15	0.82
Control Delay		494.2	18.9	105.6	13.9	48.3	29.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		494.2	18.9	105.6	13.9	48.3	29.5
LOS		F	B	F	B	D	C
Approach Delay		494.2	18.9		32.8		29.8
Approach LOS		F	B		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.03	
Intersection Signal Delay: 188.7	Intersection LOS: F
Intersection Capacity Utilization 113.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	544	97	256	0	28	10	135	519	2	14	810	215
Future Volume (veh/h)	544	97	256	0	28	10	135	519	2	14	810	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	579	103	262	0	30	9	144	552	1	15	862	65
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	385	56	143	0	488	147	168	1486	3	28	1090	82
Arrive On Green	0.37	0.37	0.37	0.00	0.37	0.37	0.10	0.42	0.42	0.02	0.34	0.34
Sat Flow, veh/h	861	153	390	0	1329	399	1619	3503	6	1619	3223	243
Grp Volume(v), veh/h	944	0	0	0	0	39	144	269	284	15	457	470
Grp Sat Flow(s),veh/h/ln	1404	0	0	0	0	1728	1619	1710	1799	1619	1710	1756
Q Serve(g_s), s	30.0	0.0	0.0	0.0	0.0	1.2	7.4	9.1	9.1	0.8	20.5	20.5
Cycle Q Clear(g_c), s	31.2	0.0	0.0	0.0	0.0	1.2	7.4	9.1	9.1	0.8	20.5	20.5
Prop In Lane	0.61		0.28	0.00		0.23	1.00		0.00	1.00		0.14
Lane Grp Cap(c), veh/h	584	0	0	0	0	635	168	726	763	28	578	594
V/C Ratio(X)	1.62	0.00	0.00	0.00	0.00	0.06	0.86	0.37	0.37	0.53	0.79	0.79
Avail Cap(c_a), veh/h	584	0	0	0	0	659	168	1313	1381	141	1285	1319
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	0.0	0.0	0.0	0.0	17.4	37.4	16.7	16.7	41.4	25.4	25.4
Incr Delay (d2), s/veh	284.8	0.0	0.0	0.0	0.0	0.0	32.0	0.3	0.3	5.5	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	57.6	0.0	0.0	0.0	0.0	0.5	4.3	3.3	3.4	0.3	7.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	314.0	0.0	0.0	0.0	0.0	17.4	69.4	17.0	17.0	46.9	27.9	27.8
LnGrp LOS	F	A	A	A	A	B	E	B	B	D	C	C
Approach Vol, veh/h		944			39			697			942	
Approach Delay, s/veh		314.0			17.4			27.8			28.1	
Approach LOS		F			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	41.8		37.0	13.4	34.5		37.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	2.8	11.1		33.2	9.4	22.5		3.2				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	6.2		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		130.8
HCM 6th LOS		F

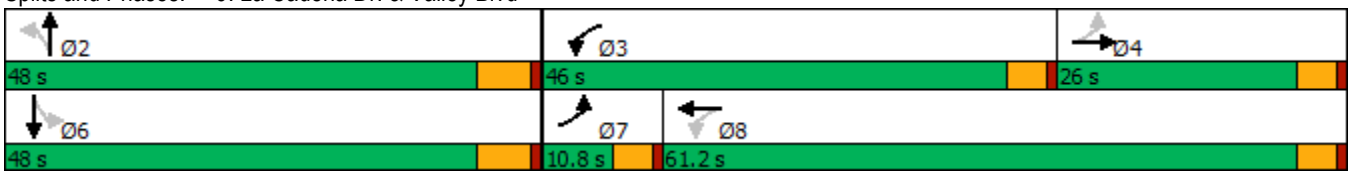
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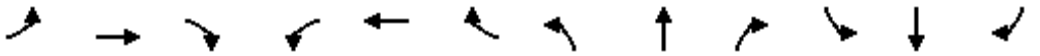
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	62	417	568	255	187	432	38	443
Future Volume (vph)	62	417	568	255	187	432	38	443
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	10.8	26.0	46.0	61.2	48.0	48.0	48.0	48.0
Total Split (%)	9.0%	21.7%	38.3%	51.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	27.1	21.2	65.6	57.4	38.5	38.5	38.5	38.5
Actuated g/C Ratio	0.24	0.18	0.57	0.50	0.34	0.34	0.34	0.34
v/c Ratio	0.25	0.93	0.97	0.17	0.93	0.72	0.47	0.44
Control Delay	21.6	66.5	60.0	16.9	84.3	28.6	50.5	30.6
Queue Delay	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	66.5	72.0	16.9	84.3	28.6	50.5	30.6
LOS	C	E	E	B	F	C	D	C
Approach Delay		62.0		54.1		38.9		32.1
Approach LOS		E		D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.6	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 46.8	Intersection LOS: D
Intersection Capacity Utilization 103.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	417	144	568	255	19	187	432	397	38	443	39
Future Volume (veh/h)	62	417	144	568	255	19	187	432	397	38	443	39
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	65	439	152	598	268	20	197	455	418	40	466	41
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	318	447	154	616	1542	114	267	604	539	127	1123	99
Arrive On Green	0.04	0.18	0.18	0.34	0.48	0.48	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1619	2498	857	1619	3228	239	856	1710	1525	609	3181	279
Grp Volume(v), veh/h	65	299	292	598	141	147	197	455	418	40	250	257
Grp Sat Flow(s),veh/h/ln	1619	1710	1646	1619	1710	1757	856	1710	1525	609	1710	1750
Q Serve(g_s), s	3.9	20.8	21.1	38.8	5.6	5.7	27.1	28.0	29.2	7.5	13.2	13.3
Cycle Q Clear(g_c), s	3.9	20.8	21.1	38.8	5.6	5.7	40.4	28.0	29.2	36.7	13.2	13.3
Prop In Lane	1.00		0.52	1.00		0.14	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	318	306	295	616	817	839	267	604	539	127	604	618
V/C Ratio(X)	0.20	0.98	0.99	0.97	0.17	0.17	0.74	0.75	0.78	0.32	0.41	0.42
Avail Cap(c_a), veh/h	332	306	295	623	817	839	267	604	539	127	604	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	48.8	48.9	30.9	17.8	17.8	44.6	34.1	34.4	50.8	29.3	29.3
Incr Delay (d2), s/veh	0.1	45.0	49.6	28.4	0.1	0.1	10.2	5.3	7.0	1.4	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	12.7	12.7	21.6	2.2	2.3	6.3	12.0	11.4	1.2	5.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	93.8	98.5	59.3	17.9	17.9	54.9	39.4	41.4	52.2	29.7	29.8
LnGrp LOS	D	F	F	E	B	B	D	D	D	D	C	C
Approach Vol, veh/h		656			886			1070			547	
Approach Delay, s/veh		90.3			45.8			43.0			31.4	
Approach LOS		F			D			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		48.0	45.5	26.0		48.0	9.8	61.7				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		42.2	41.4	21.4		42.2	6.2	56.6				
Max Q Clear Time (g_c+I1), s		42.4	40.8	23.1		38.7	5.9	7.7				
Green Ext Time (p_c), s		0.0	0.1	0.0		1.0	0.0	1.8				

Intersection Summary												
HCM 6th Ctrl Delay			51.6									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	181	863	995	166
Future Vol, veh/h	0	0	181	863	995	166
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	193	918	1059	177

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1993	618	1236	0	-	0
Stage 1	1148	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	54	437	571	-	-	-
Stage 1	269	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	17	437	571	-	-	-
Mov Cap-2 Maneuver	17	-	-	-	-	-
Stage 1	83	-	-	-	-	-
Stage 2	387	-	-	-	-	-

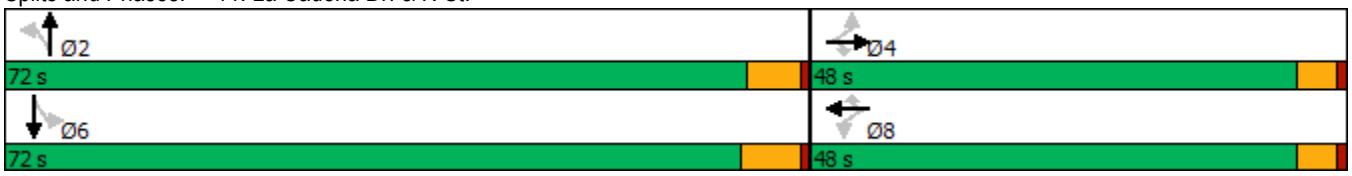
Approach	EB	NB	SB
HCM Control Delay, s	0	5.4	0
HCM LOS	A		

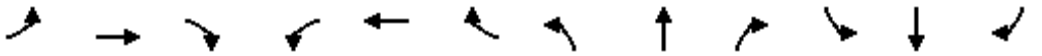
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	571	-	-	-	-
HCM Lane V/C Ratio	0.337	-	-	-	-
HCM Control Delay (s)	14.5	3.5	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	1.5	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	97	28	46	21	29	14	27	726	22	751
Future Volume (vph)	97	28	46	21	29	14	27	726	22	751
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		11.1	11.1		11.1	11.1	22.4	22.4	22.1	22.1
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.57	0.57	0.56	0.56
v/c Ratio		0.35	0.10		0.12	0.03	0.09	0.39	0.07	0.44
Control Delay		15.6	5.6		12.8	4.0	7.2	7.6	7.1	8.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		15.6	5.6		12.8	4.0	7.2	7.6	7.1	8.1
LOS		B	A		B	A	A	A	A	A
Approach Delay		12.9			10.8			7.6		8.1
Approach LOS		B			B			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 39.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 8.4	Intersection LOS: A
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	28	46	21	29	14	27	726	9	22	751	62
Future Volume (veh/h)	97	28	46	21	29	14	27	726	9	22	751	62
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	101	29	48	22	30	15	28	756	9	23	782	65
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	184	34	572	130	129	572	279	1313	16	305	1213	101
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	101	92	1525	37	345	1525	624	3461	41	674	3197	266
Grp Volume(v), veh/h	130	0	48	52	0	15	28	373	392	23	418	429
Grp Sat Flow(s),veh/h/ln	193	0	1525	382	0	1525	624	1710	1793	674	1710	1752
Q Serve(g_s), s	1.5	0.0	0.9	0.4	0.0	0.3	1.7	7.6	7.6	1.2	8.8	8.8
Cycle Q Clear(g_c), s	16.5	0.0	0.9	16.0	0.0	0.3	10.3	7.6	7.6	8.7	8.8	8.8
Prop In Lane	0.78		1.00	0.42		1.00	1.00		0.02	1.00		0.15
Lane Grp Cap(c), veh/h	218	0	572	260	0	572	279	649	680	305	649	665
V/C Ratio(X)	0.60	0.00	0.08	0.20	0.00	0.03	0.10	0.58	0.58	0.08	0.64	0.64
Avail Cap(c_a), veh/h	1111	0	1506	1224	0	1506	982	2576	2700	1058	2560	2623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	8.9	10.8	0.0	8.7	15.3	10.8	10.8	14.2	11.2	11.2
Incr Delay (d2), s/veh	2.6	0.0	0.1	0.4	0.0	0.0	0.2	0.8	0.8	0.1	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.2	0.3	0.0	0.1	0.2	2.1	2.1	0.1	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	8.9	11.2	0.0	8.7	15.5	11.6	11.6	14.3	12.3	12.3
LnGrp LOS	C	A	A	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		178			67			793			870	
Approach Delay, s/veh		18.0			10.6			11.8			12.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.2		22.0		23.2		22.0				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 66		43.4		65.8		43.4				
Max Q Clear Time (g_c+I1), s		12.3		18.5		10.8		18.0				
Green Ext Time (p_c), s		5.1		0.8		5.6		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		12.6
HCM 6th LOS		B

Notes

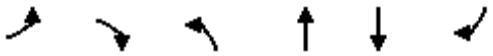
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	53	712	464	595	738
Future Volume (vph)	53	712	464	595	738
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	19.5	19.5	39.5	76.7	32.6
Actuated g/C Ratio	0.18	0.18	0.36	0.71	0.30
v/c Ratio	0.90	0.70	0.90	0.28	0.85
Control Delay	41.5	11.7	57.5	6.7	45.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	11.7	57.5	6.7	45.6
LOS	D	B	E	A	D
Approach Delay	26.8			28.9	45.6
Approach LOS	C			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 33.2	Intersection LOS: C
Intersection Capacity Utilization 91.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	53	712	464	595	738	22
Future Volume (veh/h)	53	712	464	595	738	22
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	1620	1620	1530	1620	1620	1620
Adj Flow Rate, veh/h	0	613	478	613	761	23
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	349	621	497	2051	866	26
Arrive On Green	0.00	0.23	0.34	0.67	0.28	0.28
Sat Flow, veh/h	1543	2746	1457	3159	3131	92
Grp Volume(v), veh/h	0	613	478	613	384	400
Grp Sat Flow(s),veh/h/ln	1543	1373	1457	1539	1539	1603
Q Serve(g_s), s	0.0	24.8	35.9	9.3	26.5	26.5
Cycle Q Clear(g_c), s	0.0	24.8	35.9	9.3	26.5	26.5
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	349	621	497	2051	437	455
V/C Ratio(X)	0.00	0.99	0.96	0.30	0.88	0.88
Avail Cap(c_a), veh/h	349	621	515	2287	536	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	43.0	36.0	7.8	38.1	38.1
Incr Delay (d2), s/veh	0.0	32.8	29.3	0.1	13.3	12.9
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	2.8	15.9	2.5	11.0	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	75.8	65.3	7.8	51.4	51.0
LnGrp LOS	A	E	E	A	D	D
Approach Vol, veh/h	613			1091	784	
Approach Delay, s/veh	75.8			33.0	51.2	
Approach LOS	E			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		80.4		31.0	42.6	37.8
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		11.3		26.8	37.9	28.5
Green Ext Time (p_c), s		4.1		0.0	0.2	3.1

Intersection Summary	
HCM 6th Ctrl Delay	49.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	413	442	922	274	442	1206
Future Volume (vph)	413	442	922	274	442	1206
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	36.2	36.2	34.8	34.8	32.4	71.8
Actuated g/C Ratio	0.30	0.30	0.29	0.29	0.27	0.60
v/c Ratio	0.87	0.82	0.96	0.45	1.05	0.61
Control Delay	59.8	40.1	62.6	7.6	98.5	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	40.1	62.6	7.6	98.5	16.8
LOS	E	D	E	A	F	B
Approach Delay	49.6		50.0			38.7
Approach LOS	D		D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 44.9	Intersection LOS: D
Intersection Capacity Utilization 93.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	413	442	922	274	442	1206
Future Volume (veh/h)	413	442	922	274	442	1206
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	426	0	951	246	456	1243
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	488		992	442	437	2046
Arrive On Green	0.30	0.00	0.29	0.29	0.27	0.60
Sat Flow, veh/h	1619	1525	3510	1525	1619	3510
Grp Volume(v), veh/h	426	0	951	246	456	1243
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1525	1619	1710
Q Serve(g_s), s	29.9	0.0	32.8	16.4	32.4	27.5
Cycle Q Clear(g_c), s	29.9	0.0	32.8	16.4	32.4	27.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	488		992	442	437	2046
V/C Ratio(X)	0.87		0.96	0.56	1.04	0.61
Avail Cap(c_a), veh/h	488		992	442	437	2046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.20	0.20	0.50	0.50
Uniform Delay (d), s/veh	39.7	0.0	41.9	36.1	43.8	15.2
Incr Delay (d2), s/veh	18.9	0.0	6.0	0.3	42.3	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	14.2	0.0	13.9	5.9	17.4	9.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	58.6	0.0	47.9	36.4	86.1	15.5
LnGrp LOS	E		D	D	F	B
Approach Vol, veh/h	426		1197			1699
Approach Delay, s/veh	58.6		45.5			34.4
Approach LOS	E		D			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	41.0			78.0	42.0
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8			71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	34.8			29.5	31.9
Green Ext Time (p_c), s	0.0	0.0			10.5	0.3

Intersection Summary		
HCM 6th Ctrl Delay	41.5	
HCM 6th LOS	D	

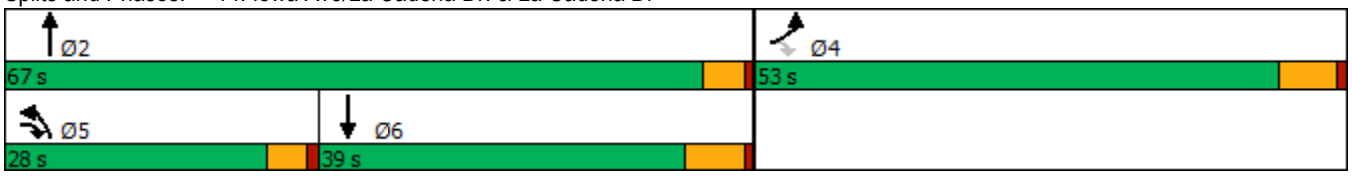
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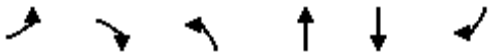
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	581	233	272	856	442	1279
Future Volume (vph)	581	233	272	856	442	1279
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	53.0	28.0	28.0	67.0	39.0	
Total Split (%)	44.2%	23.3%	23.3%	55.8%	32.5%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	44.8	73.1	22.1	59.7	31.3	115.3
Actuated g/C Ratio	0.39	0.63	0.19	0.52	0.27	1.00
v/c Ratio	0.96	0.25	0.91	0.95	0.93	0.52
Control Delay	62.3	10.1	79.5	46.7	69.1	0.8
Queue Delay	0.0	0.0	11.1	48.2	0.0	0.0
Total Delay	62.3	10.1	90.6	94.9	69.1	0.8
LOS	E	B	F	F	E	A
Approach Delay	47.3			93.8	18.3	
Approach LOS	D			F	B	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 115.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 48.0		Intersection LOS: D	
Intersection Capacity Utilization 92.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	581	233	272	856	442	1279
Future Volume (veh/h)	581	233	272	856	442	1279
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	1700	1800	1700	1800	1800	1700
Adj Flow Rate, veh/h	599	214	280	882	456	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	623	873	304	917	509	
Arrive On Green	0.38	0.38	0.19	0.51	0.28	0.00
Sat Flow, veh/h	1619	1525	1619	1800	1800	2536
Grp Volume(v), veh/h	599	214	280	882	456	0
Grp Sat Flow(s),veh/h/ln	1619	1525	1619	1800	1800	1268
Q Serve(g_s), s	42.4	8.2	19.9	55.3	28.6	0.0
Cycle Q Clear(g_c), s	42.4	8.2	19.9	55.3	28.6	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	623	873	304	917	509	
V/C Ratio(X)	0.96	0.25	0.92	0.96	0.90	
Avail Cap(c_a), veh/h	645	894	323	957	509	
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	0.00
Uniform Delay (d), s/veh	35.2	12.5	46.9	27.7	40.4	0.0
Incr Delay (d2), s/veh	25.7	0.1	29.1	20.0	18.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.9	10.0	10.1	26.2	14.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	60.9	12.6	75.9	47.7	58.7	0.0
LnGrp LOS	E	B	E	D	E	
Approach Vol, veh/h	813			1162	456	
Approach Delay, s/veh	48.2			54.5	58.7	
Approach LOS	D			D	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		66.0		51.4	26.6	39.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 62		46.8	23.4	32.8
Max Q Clear Time (g_c+I1), s		57.3		44.4	21.9	30.6
Green Ext Time (p_c), s		2.5		0.8	0.1	0.6

Intersection Summary		
HCM 6th Ctrl Delay		53.2
HCM 6th LOS		D

Notes

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

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

Intersection	
Intersection Delay, s/veh	250.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	10	19	0	0	0	30	789	7	580	897	83
Future Vol, veh/h	56	10	19	0	0	0	30	789	7	580	897	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	61	11	21	0	0	0	33	858	8	630	975	90
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15.1	57.6	365.8
HCM LOS	C	F	F

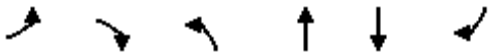
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	66%	100%	0%
Vol Thru, %	0%	100%	97%	12%	0%	92%
Vol Right, %	0%	0%	3%	22%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	526	270	85	580	980
LT Vol	30	0	0	56	580	0
Through Vol	0	526	263	10	0	897
RT Vol	0	0	7	19	0	83
Lane Flow Rate	33	572	293	92	630	1065
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.064	1.034	0.529	0.221	1.293	2.02
Departure Headway (Hd)	8.487	7.982	7.963	9.648	7.49	6.828
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	425	457	458	374	492	533
Service Time	6.187	5.682	5.663	7.348	5.19	4.625
HCM Lane V/C Ratio	0.078	1.252	0.64	0.246	1.28	1.998
HCM Control Delay	11.8	79.8	19.3	15.1	169.4	482
HCM Lane LOS	B	F	C	C	F	F
HCM 95th-tile Q	0.2	14.2	3	0.8	26.4	71.8

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	153	632	976	623
Future Volume (vph)	153	632	976	623
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.8	32.0
Actuated g/C Ratio	0.13	0.13	0.24	0.40
v/c Ratio	0.69	1.11	2.25	0.84
Control Delay	53.3	83.7	590.2	32.2
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	53.3	83.7	590.2	32.3
LOS	D	F	F	C
Approach Delay	77.8		590.2	32.3
Approach LOS	E		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.25	
Intersection Signal Delay: 275.6	Intersection LOS: F
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	632	0	976	623	0
Future Volume (veh/h)	153	632	0	976	623	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	158	516	0	1006	642	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	441	393	0	862	862	0
Arrive On Green	0.24	0.24	0.00	0.45	0.45	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	158	516	0	1006	642	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	3.0	10.0	0.0	18.6	11.4	0.0
Cycle Q Clear(g_c), s	3.0	10.0	0.0	18.6	11.4	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	441	393	0	862	862	0
V/C Ratio(X)	0.36	1.31	0.00	1.17	0.74	0.00
Avail Cap(c_a), veh/h	441	393	0	862	3374	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.8	15.5	0.0	11.2	9.2	0.0
Incr Delay (d2), s/veh	0.5	158.4	0.0	87.7	1.3	0.0
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	20.4	0.0	24.9	2.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	173.9	0.0	98.9	10.5	0.0
LnGrp LOS	B	F	A	F	B	A
Approach Vol, veh/h	674			1006	642	
Approach Delay, s/veh	136.2			98.9	10.5	
Approach LOS	F			F	B	

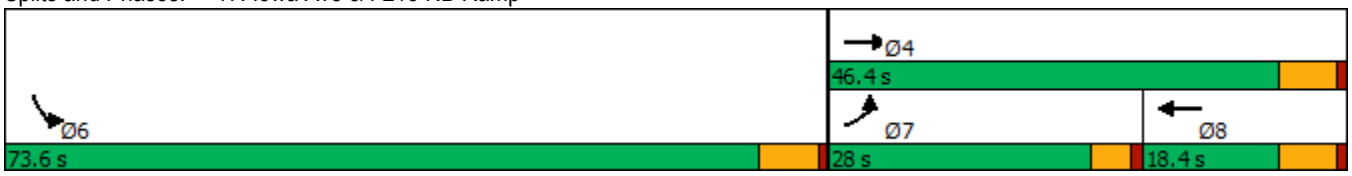
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		24.8		16.2		24.8
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		20.6		12.0		13.4
Green Ext Time (p_c), s		0.0		0.0		4.2

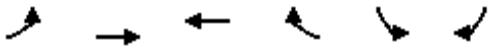
Intersection Summary		
HCM 6th Ctrl Delay		85.3
HCM 6th LOS		F

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	513	872	72	206
Future Volume (vph)	513	872	72	206
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.49	1.40	1.50	1.14
Control Delay	270.1	221.7	260.9	93.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	270.1	221.7	260.9	93.6
LOS	F	F	F	F
Approach Delay		239.6	260.9	93.6
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.50	
Intersection Signal Delay: 186.8	Intersection LOS: F
Intersection Capacity Utilization 148.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	513	872	72	463	206	1004
Future Volume (veh/h)	513	872	72	463	206	1004
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	523	890	73	416	210	764
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	353	636	25	143	200	726
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	246	1402	355	1293
Grp Volume(v), veh/h	523	890	0	489	975	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1648	1650	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.85	0.22	0.78
Lane Grp Cap(c), veh/h	353	637	0	168	927	0
V/C Ratio(X)	1.48	1.40	0.00	2.92	1.05	0.00
Avail Cap(c_a), veh/h	353	637	0	168	927	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	231.7	188.7	0.0	879.7	44.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	33.2	51.8	0.0	46.0	34.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	280.0	228.6	0.0	933.6	70.6	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1413	489		975	
Approach Delay, s/veh		247.6	933.6		70.6	
Approach LOS		F	F		E	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	46.4	73.6	28.0	18.4
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	40.2	67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s	42.2	69.4	25.4	14.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	304.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	29	396	44	403	398	253	100	32	114	75
Future Volume (vph)	29	396	44	403	398	253	100	32	114	75
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.6	26.6	8.6	26.6	8.6	22.6	22.6	8.6	22.6	22.6
Total Split (s)	12.0	35.0	15.0	38.0	43.0	58.0	58.0	12.0	27.0	27.0
Total Split (%)	10.0%	29.2%	12.5%	31.7%	35.8%	48.3%	48.3%	10.0%	22.5%	22.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	6.4	22.1	7.5	23.0	27.8	39.3	39.3	6.5	12.1	12.1
Actuated g/C Ratio	0.08	0.26	0.09	0.27	0.33	0.47	0.47	0.08	0.14	0.14
v/c Ratio	0.24	0.68	0.32	0.48	0.78	0.31	0.14	0.27	0.46	0.23
Control Delay	51.7	31.3	50.8	29.5	39.4	19.7	4.7	52.0	45.9	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	31.3	50.8	29.5	39.4	19.7	4.7	52.0	45.9	1.7
LOS	D	C	D	C	D	B	A	D	D	A
Approach Delay		32.3		31.5		28.1			31.8	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	396	199	44	403	26	398	253	100	32	114	75
Future Volume (veh/h)	29	396	199	44	403	26	398	253	100	32	114	75
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	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	30	412	207	46	420	27	415	264	104	33	119	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	42	586	291	58	895	57	466	663	562	46	195	165
Arrive On Green	0.03	0.26	0.26	0.04	0.27	0.27	0.29	0.37	0.37	0.03	0.11	0.11
Sat Flow, veh/h	1619	2213	1099	1619	3263	209	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	30	317	302	46	219	228	415	264	104	33	119	78
Grp Sat Flow(s),veh/h/ln	1619	1710	1602	1619	1710	1762	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	1.1	10.2	10.4	1.7	6.5	6.5	14.9	6.6	2.8	1.2	3.8	2.9
Cycle Q Clear(g_c), s	1.1	10.2	10.4	1.7	6.5	6.5	14.9	6.6	2.8	1.2	3.8	2.9
Prop In Lane	1.00		0.69	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	42	453	424	58	469	484	466	663	562	46	195	165
V/C Ratio(X)	0.71	0.70	0.71	0.80	0.47	0.47	0.89	0.40	0.19	0.72	0.61	0.47
Avail Cap(c_a), veh/h	197	856	802	277	941	969	1024	1583	1342	197	664	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	20.1	20.2	29.1	18.3	18.4	20.7	14.2	13.0	29.3	25.8	25.4
Incr Delay (d2), s/veh	7.8	2.0	2.2	9.1	0.7	0.7	2.4	0.4	0.2	7.9	3.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.0	3.8	0.8	2.4	2.5	5.4	2.5	0.9	0.6	1.7	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	22.1	22.4	38.1	19.1	19.1	23.1	14.6	13.2	37.1	28.9	27.5
LnGrp LOS	D	C	C	D	B	B	C	B	B	D	C	C
Approach Vol, veh/h		649			493			783			230	
Approach Delay, s/veh		23.0			20.8			18.9			29.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	27.0	6.8	20.7	22.1	11.2	6.2	21.3
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	53.4	10.4	30.4	38.4	22.4	7.4	33.4
Max Q Clear Time (g_c+I1), s	3.2	8.6	3.7	12.4	16.9	5.8	3.1	8.5
Green Ext Time (p_c), s	0.0	2.0	0.0	3.7	0.6	0.7	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	438	279	0	0	359
Future Vol, veh/h	6	438	279	0	0	359
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	471	300	0	0	386

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	686	300	0	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	416	744	-	0	0	-
Stage 1	756	-	-	0	0	-
Stage 2	691	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	416	744	-	-	-	-
Mov Cap-2 Maneuver	518	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	740	-
HCM Lane V/C Ratio	-	0.645	-
HCM Control Delay (s)	-	18.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.8	-

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	322	2	0	0	369	0
Future Vol, veh/h	322	2	0	0	369	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	362	2	0	0	415	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	13.9	15
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	324	369
LT Vol	322	369
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	364	415
Geometry Grp	1	1
Degree of Util (X)	0.523	0.583
Departure Headway (Hd)	5.174	5.061
Convergence, Y/N	Yes	Yes
Cap	692	709
Service Time	3.247	3.13
HCM Lane V/C Ratio	0.526	0.585
HCM Control Delay	13.9	15
HCM Lane LOS	B	B
HCM 95th-tile Q	3.1	3.8

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1032	1184	78	745
Demand Flow Rate, veh/h	1032	1184	78	745
Vehicles Circulating, veh/h	508	187	1474	800
Vehicles Exiting, veh/h	1037	1365	66	571
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.5	8.7	11.9	16.9
Approach LOS	B	A	B	C

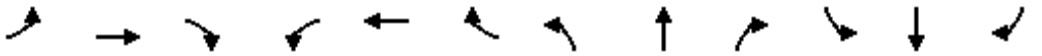
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.608	0.392
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	485	547	556	628	78	453	292
Cap Entry Lane, veh/h	846	922	1137	1211	406	647	719
Entry HV Adj Factor	1.000	1.000	1.001	0.999	1.000	1.000	1.000
Flow Entry, veh/h	485	547	556	628	78	453	292
Cap Entry, veh/h	846	922	1137	1210	406	647	719
V/C Ratio	0.573	0.593	0.489	0.518	0.192	0.701	0.406
Control Delay, s/veh	12.7	12.4	8.6	8.7	11.9	21.0	10.4
LOS	B	B	A	A	B	C	B
95th %tile Queue, veh	4	4	3	3	1	6	2

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	269	1028	956	421	169	0	562
Future Volume (vph)	269	1028	956	421	169	0	562
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	28.0	80.0	52.0	52.0	40.0	40.0	40.0
Total Split (%)	23.3%	66.7%	43.3%	43.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	19.9	63.9	39.3	39.3	35.9	34.6	34.6
Actuated g/C Ratio	0.18	0.58	0.36	0.36	0.33	0.32	0.32
v/c Ratio	0.85	0.50	0.76	0.59	1.15	0.51	0.51
Control Delay	67.6	14.0	35.3	12.5	121.2	23.4	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	14.0	35.3	12.5	121.2	23.4	23.3
LOS	E	B	D	B	F	C	C
Approach Delay		25.1	28.3			76.1	
Approach LOS		C	C			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.5	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 42.2	Intersection LOS: D
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	269	1028	0	0	956	421	169	0	562	0	0	0
Future Volume (veh/h)	269	1028	0	0	956	421	169	0	562	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	277	1060	0	0	986	356	676	0	466			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.25	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	310	2028	0	0	1248	540	624	0	1111			
Arrive On Green	0.17	0.56	0.00	0.00	0.35	0.35	0.34	0.00	0.34			
Sat Flow, veh/h	1810	3705	0	0	3705	1563	1810	0	3220			
Grp Volume(v), veh/h	277	1060	0	0	986	356	676	0	466			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1563	1810	0	1610			
Q Serve(g_s), s	15.4	18.7	0.0	0.0	25.3	19.9	35.5	0.0	11.4			
Cycle Q Clear(g_c), s	15.4	18.7	0.0	0.0	25.3	19.9	35.5	0.0	11.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	310	2028	0	0	1248	540	624	0	1111			
V/C Ratio(X)	0.89	0.52	0.00	0.00	0.79	0.66	1.08	0.00	0.42			
Avail Cap(c_a), veh/h	411	2627	0	0	1645	712	624	0	1111			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.7	14.0	0.0	0.0	30.3	28.5	33.7	0.0	25.8			
Incr Delay (d2), s/veh	14.8	0.2	0.0	0.0	2.0	1.4	60.5	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	8.0	7.1	0.0	0.0	10.9	7.4	25.0	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	14.2	0.0	0.0	32.3	29.9	94.2	0.0	26.1			
LnGrp LOS	E	B	A	A	C	C	F	A	C			
Approach Vol, veh/h		1337			1342			1142				
Approach Delay, s/veh		23.0			31.6			66.4				
Approach LOS		C			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.9			22.2	40.7		40.0				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		74.9			23.4	46.9		35.5				
Max Q Clear Time (g_c+I1), s		20.7			17.4	27.3		37.5				
Green Ext Time (p_c), s		9.7			0.2	8.3		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

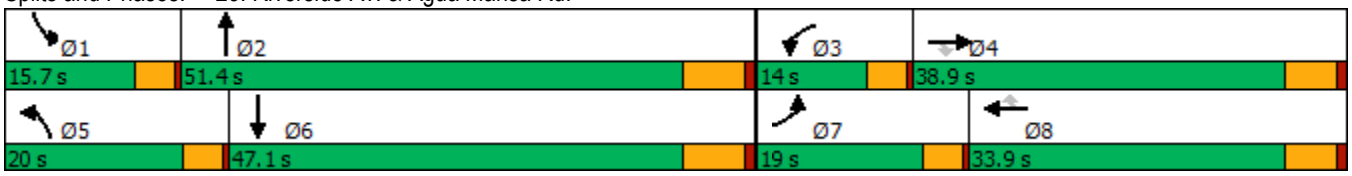
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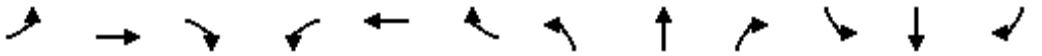
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	316	484	349	89	296	144	181	844	107	896
Future Volume (vph)	316	484	349	89	296	144	181	844	107	896
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.1	34.8	34.8	9.1	33.8	33.8	9.1	29.5	9.1	31.5
Total Split (s)	19.0	38.9	38.9	14.0	33.9	33.9	20.0	51.4	15.7	47.1
Total Split (%)	15.8%	32.4%	32.4%	11.7%	28.3%	28.3%	16.7%	42.8%	13.1%	39.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	5.8	4.1	5.8	5.8	4.1	6.5	4.1	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	14.9	32.7	32.7	8.9	26.6	26.6	14.6	44.7	10.2	40.3
Actuated g/C Ratio	0.13	0.28	0.28	0.08	0.23	0.23	0.12	0.38	0.09	0.34
v/c Ratio	1.43	0.95	0.57	0.68	0.71	0.30	0.84	0.73	0.70	0.96
Control Delay	254.6	71.1	14.5	78.0	52.1	4.4	80.8	34.7	76.0	54.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	254.6	71.1	14.5	78.0	52.1	4.4	80.8	34.7	76.0	54.8
LOS	F	E	B	E	D	A	F	C	E	D
Approach Delay		104.3			43.5			42.1		56.7
Approach LOS		F			D			D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117	
Natural Cycle: 125	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 64.4	Intersection LOS: E
Intersection Capacity Utilization 92.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	484	349	89	296	144	181	844	106	107	896	225
Future Volume (veh/h)	316	484	349	89	296	144	181	844	106	107	896	225
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	329	504	239	93	308	138	189	879	95	111	933	195
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	243	541	458	118	409	347	219	1278	138	138	1023	214
Arrive On Green	0.13	0.28	0.28	0.06	0.22	0.22	0.12	0.39	0.39	0.08	0.34	0.34
Sat Flow, veh/h	1810	1900	1608	1810	1900	1610	1810	3286	355	1810	2972	621
Grp Volume(v), veh/h	329	504	239	93	308	138	189	483	491	111	566	562
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1610	1810	1805	1836	1810	1805	1787
Q Serve(g_s), s	14.9	28.6	13.8	5.6	16.8	8.1	11.4	24.7	24.7	6.7	33.2	33.3
Cycle Q Clear(g_c), s	14.9	28.6	13.8	5.6	16.8	8.1	11.4	24.7	24.7	6.7	33.2	33.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.35
Lane Grp Cap(c), veh/h	243	541	458	118	409	347	219	702	714	138	622	615
V/C Ratio(X)	1.35	0.93	0.52	0.79	0.75	0.40	0.86	0.69	0.69	0.81	0.91	0.91
Avail Cap(c_a), veh/h	243	568	480	162	482	408	260	731	744	189	661	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	38.6	33.3	51.1	40.7	37.3	47.8	28.2	28.2	50.4	34.7	34.7
Incr Delay (d2), s/veh	183.1	21.7	0.9	11.3	5.5	0.7	19.9	2.6	2.5	11.4	16.4	16.7
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	18.9	15.9	5.3	2.8	8.2	3.2	6.1	10.3	10.4	3.3	16.2	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	231.1	60.3	34.2	62.4	46.2	38.0	67.7	30.8	30.8	61.8	51.1	51.4
LnGrp LOS	F	E	C	E	D	D	E	C	C	E	D	D
Approach Vol, veh/h		1072			539			1163			1239	
Approach Delay, s/veh		106.9			46.9			36.8			52.2	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	49.6	11.3	37.4	17.5	44.7	19.0	29.7
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	11.6	44.9	9.9	33.1	15.9	40.6	14.9	28.1
Max Q Clear Time (g_c+I1), s	8.7	26.7	7.6	30.6	13.4	35.3	16.9	18.8
Green Ext Time (p_c), s	0.0	5.1	0.0	1.0	0.1	2.9	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	61.6
HCM 6th LOS	E

APPENDIX 5.3:

OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

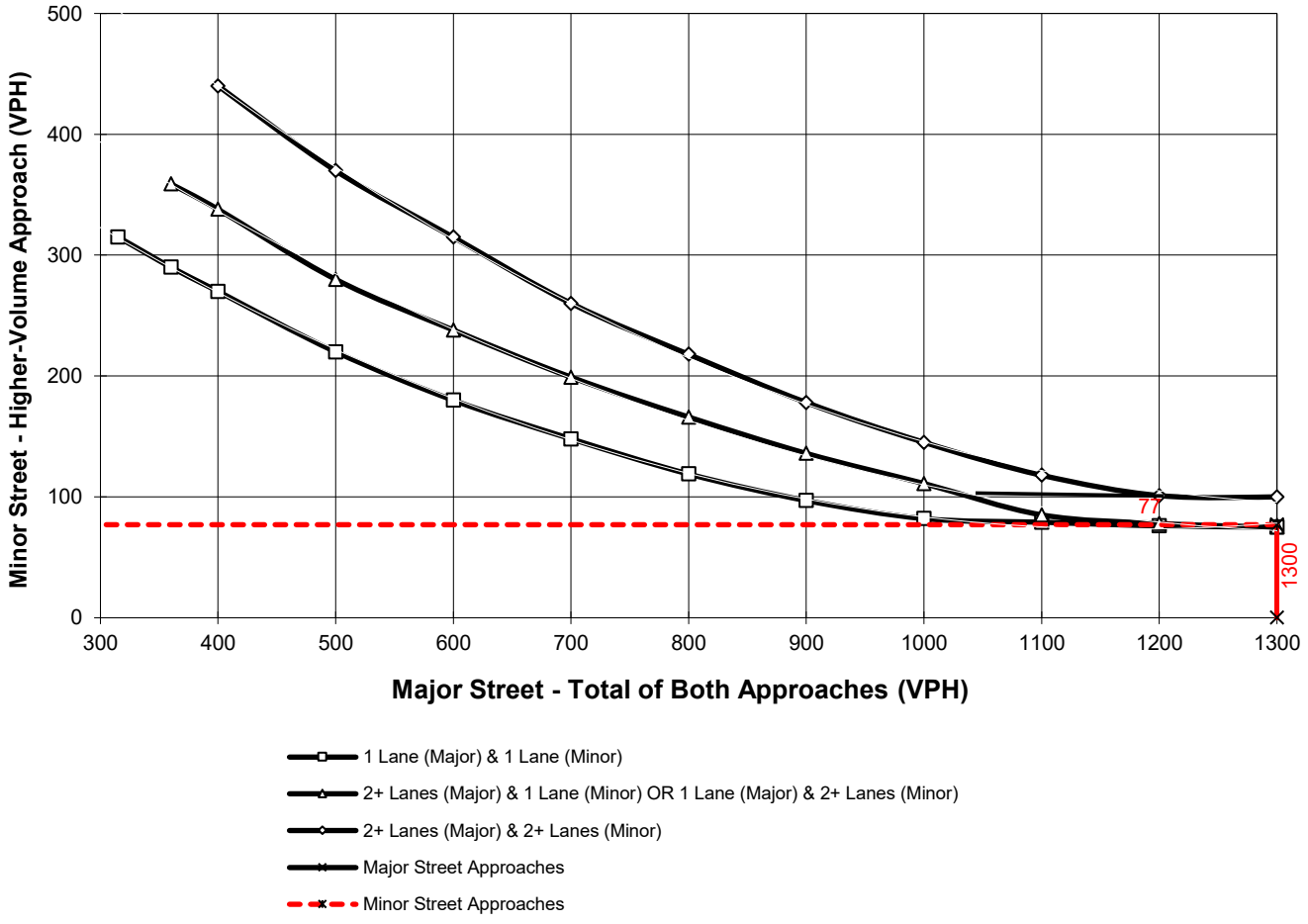
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Rancho Av.** Total of Both Approaches (VPH) = **1760**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **W. N St.** High Volume Approach (VPH) = **77**
Number of Approach Lanes Minor Street = **2**

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)

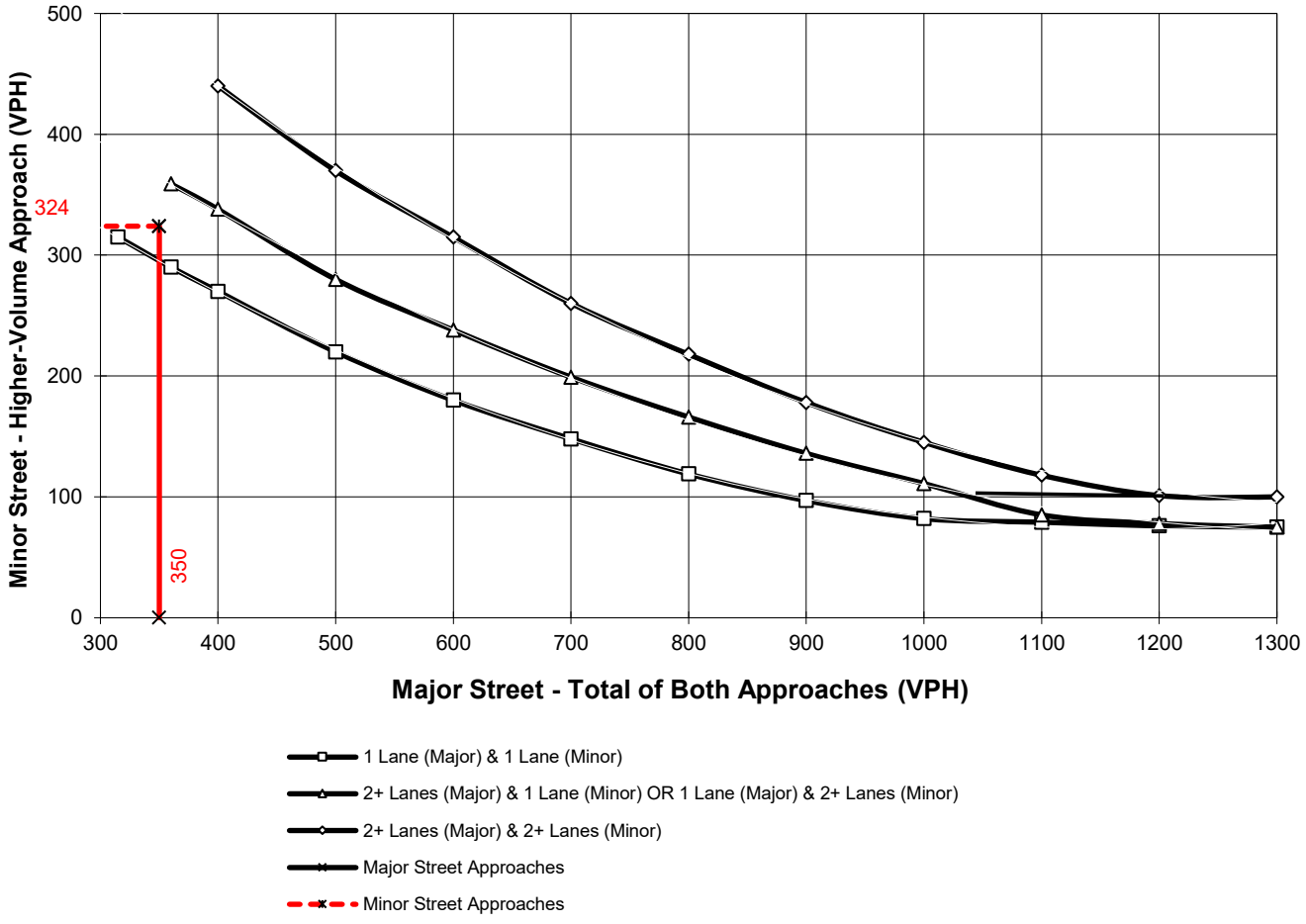
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **9th St**
Total of Both Approaches (VPH) = **350**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-10 EB Ramps**
High Volume Approach (VPH) = **324**
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 5.4:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

DIST ___ CO ___ RTE ___ PM ___ TRAFFIC CONDITIONS **OYC WP**

CALC CH DATE 07/30/20

Jurisdiction: **City of Colton** CHK CH DATE 07/30/20

Major Street: **Agua Mansa Rd.** Critical Approach Speed (Major) 45 mph

Minor Street: **Driveway 1** Critical Approach Speed (Minor) 25 mph

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

Major Street Future ADT = **12,662** vpd Minor Street Future ADT = **58** 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			
CONDITION A - Minimum Vehicular Volume	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied: XX / XX (RURAL)	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach: Major Street / Minor Street				
1 **12,662** / *1* **58**	8,000	5,600 *	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied: XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach: Major Street / Minor Street				
1 **12,662** / *1* **58**	12,000	8,400 *	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 3% B: 7%				

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

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

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		OYC WP
				CALC CH	DATE	07/30/20
Jurisdiction: City of Colton				CHK CH	DATE	07/30/20
Major Street: Agua Mansa Rd.				Critical Approach Speed (Major)		45 mph
Minor Street: Driveway 2				Critical Approach Speed (Minor)		25 mph

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

Major Street Future ADT = **12,836** vpd Minor Street Future ADT = **288** 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 XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **12,836**	*1* **288**	8,000	5,600 *	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **12,836**	*1* **288**	12,000	8,400 *	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	A 17% B 34%				

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

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

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		OYC WP
				CALC CH	DATE	07/30/20
Jurisdiction: **City of Colton**				CHK CH	DATE	07/30/20
Major Street: **Agua Mansa Rd.**				Critical Approach Speed (Major)		45 mph
Minor Street: **Driveway 3**				Critical Approach Speed (Minor)		25 mph

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

Major Street Future ADT = **13,219** vpd Minor Street Future ADT = **335** vpd

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

or

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

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **13,219** / *1* **335**	8,000	5,600 *	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **13,219** / *1* **335**	12,000	8,400 *	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 20% B: 39%				

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

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

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		OYC WP
				CALC CH	DATE	07/30/20
Jurisdiction: **City of Colton**				CHK CH	DATE	07/30/20
Major Street: **Agua Mansa Rd.**				Critical Approach Speed (Major)		45 mph
Minor Street: **Driveway 4**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane

Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **13,641** vpd

Minor Street Future ADT = **313** 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				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **13,641**	*1* **313**	8,000	5,600 *	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **13,641**	*1* **313**	12,000	8,400 *	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	A: 19% B: 37%				

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)

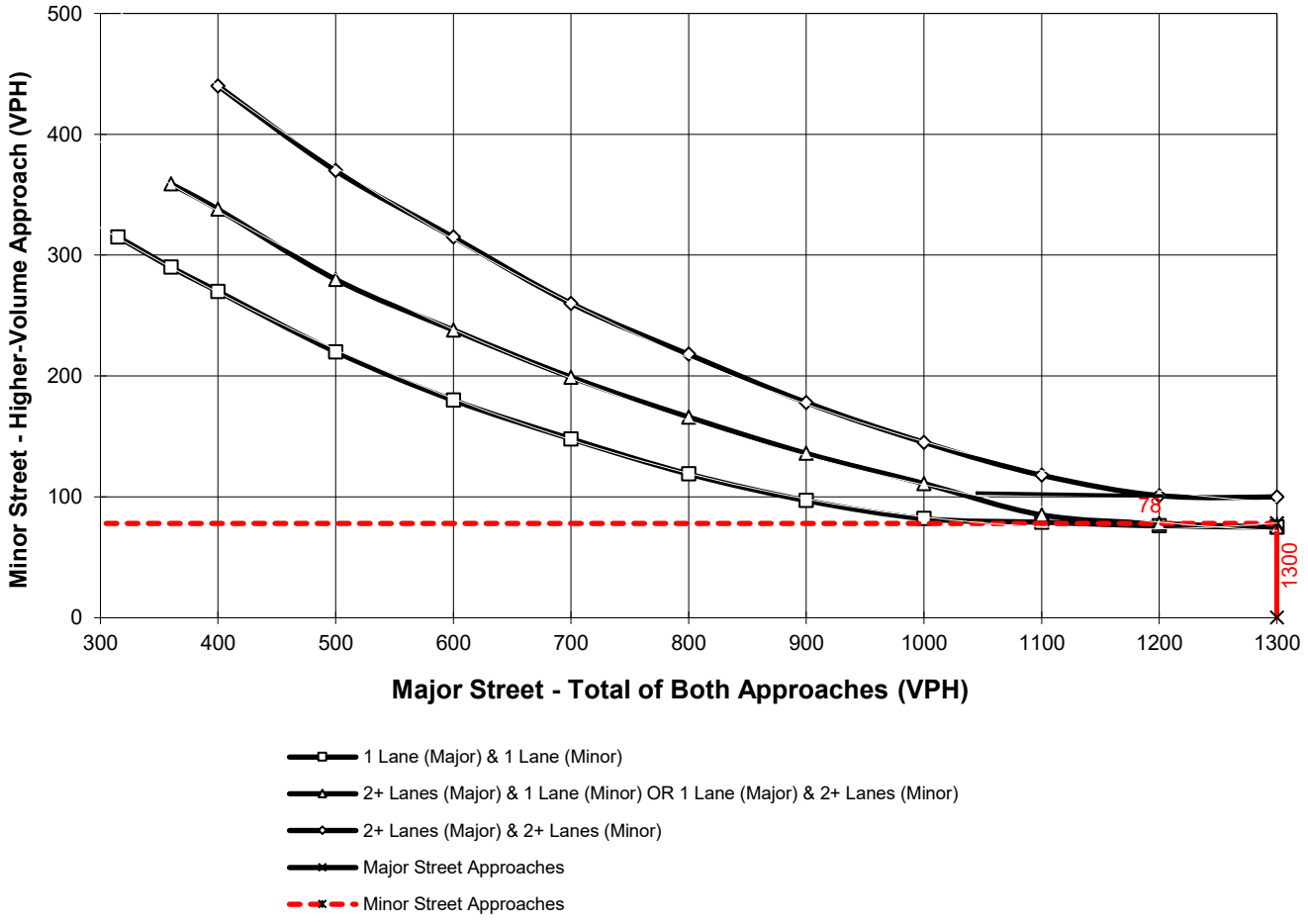
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Rancho Av.**
Total of Both Approaches (VPH) = **1792**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **W. N St.**
High Volume Approach (VPH) = **78**
Number of Approach Lanes Minor Street = **2**

SIGNAL WARRANT NOT SATISFIED



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

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APPENDIX 5.5:

OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	309	406	119	439	1170
v/c Ratio	0.78	0.62	0.65	0.18	0.60
Control Delay	57.7	9.3	89.3	1.5	19.9
Queue Delay	1.6	0.0	0.0	0.0	0.0
Total Delay	59.3	9.3	89.3	1.5	19.9
Queue Length 50th (ft)	226	15	95	5	289
Queue Length 95th (ft)	307	100	162	20	437
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	499	722	248	2491	1934
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	74	0	0	0	49
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.56	0.48	0.18	0.62

Intersection Summary



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	164	385	627	417	760
v/c Ratio	0.56	0.84	0.41	0.85	0.28
Control Delay	52.0	33.7	24.7	55.0	6.5
Queue Delay	0.0	0.0	0.0	3.7	0.5
Total Delay	52.0	33.7	24.7	58.7	7.0
Queue Length 50th (ft)	120	116	151	296	56
Queue Length 95th (ft)	164	200	263	437	194
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	595	1537	652	2696
Starvation Cap Reductn	0	0	0	153	1423
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.65	0.41	0.84	0.60

Intersection Summary

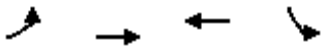


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	126	759	868	819
v/c Ratio	0.64	1.50	2.26	0.89
Control Delay	59.5	254.8	598.4	33.4
Queue Delay	0.0	0.0	0.0	0.7
Total Delay	59.5	254.8	598.4	34.0
Queue Length 50th (ft)	72	~417	~830	412
Queue Length 95th (ft)	#193	#769	#1323	574
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	196	505	384	1503
Starvation Cap Reductn	0	0	0	344
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	1.50	2.26	0.71

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	485	827	481	1579
v/c Ratio	1.38	1.30	1.66	1.39
Control Delay	226.0	180.7	336.3	201.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	226.0	180.7	336.3	201.2
Queue Length 50th (ft)	~498	~820	~447	~1475
Queue Length 95th (ft)	#708	#1062	#660	#1743
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	290	1136
Starvation Cap Reductn	0	0	0	4
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.38	1.30	1.66	1.39

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.

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	453	164	0	0	441
Future Vol, veh/h	3	453	164	0	0	441
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	503	182	0	0	490

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	672	182	0	-	-	-
Stage 1	182	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	424	866	-	0	0	-
Stage 1	854	-	-	0	0	-
Stage 2	620	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	424	866	-	-	-	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	862	-
HCM Lane V/C Ratio	-	0.588	-
HCM Control Delay (s)	-	15	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	3.9	-

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	184	3	0	0	446	0
Future Vol, veh/h	184	3	0	0	446	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	4	0	0	544	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11.4	18.8
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	187	446
LT Vol	184	446
Through Vol	3	0
RT Vol	0	0
Lane Flow Rate	228	544
Geometry Grp	1	1
Degree of Util (X)	0.344	0.715
Departure Headway (Hd)	5.436	4.73
Convergence, Y/N	Yes	Yes
Cap	657	761
Service Time	3.505	2.777
HCM Lane V/C Ratio	0.347	0.715
HCM Control Delay	11.4	18.8
HCM Lane LOS	B	C
HCM 95th-tile Q	1.5	6.1

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1018	1177	78	745
Demand Flow Rate, veh/h	1018	1177	78	745
Vehicles Circulating, veh/h	508	181	1460	793
Vehicles Exiting, veh/h	1030	1357	66	565
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	8.5	11.8	16.6
Approach LOS	B	A	B	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.608	0.392
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	478	540	553	624	78	453	292
Cap Entry Lane, veh/h	846	922	1143	1218	410	651	724
Entry HV Adj Factor	1.001	0.999	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	478	540	553	624	78	453	292
Cap Entry, veh/h	847	921	1143	1217	410	651	724
V/C Ratio	0.565	0.586	0.484	0.512	0.190	0.696	0.403
Control Delay, s/veh	12.5	12.2	8.5	8.6	11.8	20.7	10.3
LOS	B	B	A	A	B	C	B
95th %tile Queue, veh	4	4	3	3	1	6	2



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	277	1052	982	434	660	290	289
v/c Ratio	0.85	0.50	0.76	0.59	1.12	0.51	0.51
Control Delay	67.6	14.0	35.2	12.5	111.1	23.3	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	14.0	35.2	12.5	111.1	23.3	23.2
Queue Length 50th (ft)	194	212	325	76	~579	108	107
Queue Length 95th (ft)	#335	260	407	179	139	215	214
Internal Link Dist (ft)		520	699			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	390	2502	1566	836	589	565	565
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.42	0.63	0.52	1.12	0.51	0.51

Intersection Summary

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

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



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	156	458	140	940	967
v/c Ratio	0.36	0.91	0.71	0.39	0.52
Control Delay	39.3	52.1	78.4	8.3	20.5
Queue Delay	0.6	0.0	0.0	0.5	0.0
Total Delay	39.9	52.1	78.4	8.8	20.6
Queue Length 50th (ft)	98	233	116	99	254
Queue Length 95th (ft)	157	#401	m132	m116	343
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	501	558	248	2421	1848
Starvation Cap Reductn	0	0	0	937	0
Spillback Cap Reductn	131	0	0	0	82
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.82	0.56	0.63	0.55

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	SBL	SBT
Lane Group Flow (vph)	445	387	1059	397	540
v/c Ratio	0.96	0.64	0.84	0.84	0.23
Control Delay	77.1	17.8	40.8	68.4	9.3
Queue Delay	0.0	0.0	0.0	3.3	0.5
Total Delay	77.1	17.8	40.8	71.7	9.8
Queue Length 50th (ft)	339	81	367	326	70
Queue Length 95th (ft)	#543	192	#582	430	131
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	613	1263	652	2355
Starvation Cap Reductn	0	0	0	164	1300
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.95	0.63	0.84	0.81	0.51

Intersection Summary

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

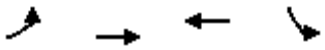


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	158	652	995	638
v/c Ratio	0.69	1.10	2.22	0.84
Control Delay	52.9	82.3	576.2	32.1
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	52.9	82.3	576.2	32.2
Queue Length 50th (ft)	75	~160	~801	275
Queue Length 95th (ft)	#196	#414	#1218	403
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	229	591	449	1733
Starvation Cap Reductn	0	0	0	261
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.69	1.10	2.22	0.43

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	522	890	535	1230
v/c Ratio	1.49	1.40	1.49	1.13
Control Delay	268.9	221.7	256.4	92.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	268.9	221.7	256.4	92.5
Queue Length 50th (ft)	~558	~922	~419	~990
Queue Length 95th (ft)	#772	#1168	#639	#1254
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	360	1085
Starvation Cap Reductn	0	0	0	21
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.49	1.40	1.49	1.16

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.

Intersection	
Int Delay, s/veh	7.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	428	279	0	0	340
Future Vol, veh/h	6	428	279	0	0	340
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	460	300	0	0	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	666	300	0	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	428	744	-	0	0	-
Stage 1	756	-	-	0	0	-
Stage 2	706	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	428	744	-	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	706	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	740	-
HCM Lane V/C Ratio	-	0.631	-
HCM Control Delay (s)	-	17.8	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.5	-

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	322	2	0	0	350	0
Future Vol, veh/h	322	2	0	0	350	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	362	2	0	0	393	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	13.6	14.2
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	324	350
LT Vol	322	350
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	364	393
Geometry Grp	1	1
Degree of Util (X)	0.518	0.552
Departure Headway (Hd)	5.119	5.053
Convergence, Y/N	Yes	Yes
Cap	699	708
Service Time	3.186	3.12
HCM Lane V/C Ratio	0.521	0.555
HCM Control Delay	13.6	14.2
HCM Lane LOS	B	B
HCM 95th-tile Q	3	3.4

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1067	1287	53	621
Demand Flow Rate, veh/h	1067	1287	53	621
Vehicles Circulating, veh/h	413	216	1398	738
Vehicles Exiting, veh/h	946	1235	82	765
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.1	9.9	10.1	11.9
Approach LOS	B	A	B	B

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.596	0.404
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	501	566	605	682	53	370	251
Cap Entry Lane, veh/h	923	1000	1107	1182	433	685	758
Entry HV Adj Factor	1.001	0.999	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	501	566	605	682	53	370	251
Cap Entry, veh/h	924	999	1106	1182	433	685	758
V/C Ratio	0.543	0.566	0.547	0.577	0.122	0.540	0.331
Control Delay, s/veh	11.1	11.0	9.8	10.0	10.1	14.0	8.7
LOS	B	B	A	A	B	B	A
95th %tile Queue, veh	3	4	3	4	0	3	1



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	311	900	1146	686	155	232	231
v/c Ratio	0.89	0.34	0.65	0.66	0.55	0.57	0.57
Control Delay	67.2	4.7	19.0	6.8	47.0	12.6	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	4.7	19.0	6.8	47.0	12.6	12.4
Queue Length 50th (ft)	171	73	237	43	82	5	4
Queue Length 95th (ft)	#469	135	350	155	178	83	82
Internal Link Dist (ft)		528	718			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	350	3335	2698	1296	431	518	518
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	0.89	0.27	0.42	0.53	0.36	0.45	0.45

Intersection Summary

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

APPENDIX 5.6:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	309	406	131	440	1175
v/c Ratio	0.78	0.62	0.69	0.18	0.61
Control Delay	57.7	9.3	91.9	1.6	20.4
Queue Delay	1.9	0.0	0.0	0.0	0.0
Total Delay	59.7	9.3	91.9	1.6	20.4
Queue Length 50th (ft)	226	15	109	7	295
Queue Length 95th (ft)	307	100	176	20	440
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	499	722	248	2491	1918
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	84	0	0	0	49
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	0.56	0.53	0.18	0.63

Intersection Summary

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	164	414	640	417	765
v/c Ratio	0.52	0.87	0.43	0.85	0.29
Control Delay	48.7	38.4	26.2	56.1	7.1
Queue Delay	0.0	0.0	0.0	4.1	0.6
Total Delay	48.7	38.4	26.2	60.2	7.7
Queue Length 50th (ft)	115	142	166	320	65
Queue Length 95th (ft)	164	234	271	437	196
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	593	1489	652	2645
Starvation Cap Reductn	0	0	0	159	1380
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.70	0.43	0.85	0.60

Intersection Summary

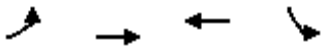


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	126	759	888	820
v/c Ratio	0.64	1.50	2.32	0.89
Control Delay	59.6	254.8	623.0	33.4
Queue Delay	0.0	0.0	0.0	0.7
Total Delay	59.6	254.8	623.0	34.1
Queue Length 50th (ft)	72	~418	~856	413
Queue Length 95th (ft)	#194	#769	#1356	576
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	196	505	383	1501
Starvation Cap Reductn	0	0	0	344
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	1.50	2.32	0.71

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	489	827	497	1580
v/c Ratio	1.39	1.30	1.68	1.39
Control Delay	230.6	180.7	344.6	201.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	230.6	180.7	344.6	201.6
Queue Length 50th (ft)	~505	~820	~465	~1476
Queue Length 95th (ft)	#714	#1062	#679	#1745
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	296	1136
Starvation Cap Reductn	0	0	0	3
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.39	1.30	1.68	1.39

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.

Intersection	
Int Delay, s/veh	6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	470	164	0	0	450
Future Vol, veh/h	3	470	164	0	0	450
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	522	182	0	0	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	682	182	0	-	-	-
Stage 1	182	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	419	866	-	0	0	-
Stage 1	854	-	-	0	0	-
Stage 2	613	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	419	866	-	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	862	-
HCM Lane V/C Ratio	-	0.61	-
HCM Control Delay (s)	-	15.5	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.3	-

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	184	3	0	0	455	0
Future Vol, veh/h	184	3	0	0	455	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	4	0	0	555	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11.4	19.5
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	187	455
LT Vol	184	455
Through Vol	3	0
RT Vol	0	0
Lane Flow Rate	228	555
Geometry Grp	1	1
Degree of Util (X)	0.346	0.729
Departure Headway (Hd)	5.463	4.732
Convergence, Y/N	Yes	Yes
Cap	654	760
Service Time	3.532	2.781
HCM Lane V/C Ratio	0.349	0.73
HCM Control Delay	11.4	19.5
HCM Lane LOS	B	C
HCM 95th-tile Q	1.5	6.4

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1075	1300	53	621
Demand Flow Rate, veh/h	1075	1300	53	621
Vehicles Circulating, veh/h	413	223	1406	751
Vehicles Exiting, veh/h	959	1236	82	772
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.2	10.2	10.2	12.1
Approach LOS	B	B	B	B

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.596	0.404
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	505	570	611	689	53	370	251
Cap Entry Lane, veh/h	923	1000	1099	1175	430	676	750
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	505	570	611	689	53	370	251
Cap Entry, veh/h	924	999	1099	1175	430	676	750
V/C Ratio	0.547	0.570	0.556	0.586	0.123	0.547	0.335
Control Delay, s/veh	11.2	11.1	10.1	10.2	10.2	14.3	8.9
LOS	B	B	B	B	B	B	A
95th %tile Queue, veh	3	4	4	4	0	3	1



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	311	901	1154	686	160	232	231
v/c Ratio	0.90	0.34	0.65	0.66	0.57	0.57	0.56
Control Delay	69.2	4.8	19.1	6.9	47.7	12.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	4.8	19.1	6.9	47.7	12.5	12.4
Queue Length 50th (ft)	176	74	242	45	87	5	4
Queue Length 95th (ft)	#471	136	355	159	184	83	82
Internal Link Dist (ft)		528	718			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	347	3307	2672	1288	426	515	515
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.27	0.43	0.53	0.38	0.45	0.45

Intersection Summary

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



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	156	458	167	944	968
v/c Ratio	0.36	0.91	0.78	0.39	0.53
Control Delay	39.3	52.4	81.2	8.0	21.3
Queue Delay	0.6	0.0	0.0	0.5	0.1
Total Delay	39.9	52.4	81.2	8.5	21.4
Queue Length 50th (ft)	97	234	139	96	265
Queue Length 95th (ft)	157	#404	m155	m113	343
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	501	557	248	2418	1812
Starvation Cap Reductn	0	0	0	943	0
Spillback Cap Reductn	131	0	0	0	82
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.82	0.67	0.64	0.56

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	SBL	SBT
Lane Group Flow (vph)	445	401	1091	397	541
v/c Ratio	0.95	0.65	0.87	0.84	0.23
Control Delay	76.0	18.1	43.2	67.9	9.5
Queue Delay	0.0	0.0	0.0	3.2	0.5
Total Delay	76.0	18.1	43.2	71.1	10.0
Queue Length 50th (ft)	339	85	388	326	71
Queue Length 95th (ft)	#543	199	#614	430	131
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	619	1256	652	2350
Starvation Cap Reductn	0	0	0	163	1317
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.95	0.65	0.87	0.81	0.52

Intersection Summary

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

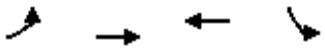


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	158	652	1006	642
v/c Ratio	0.69	1.11	2.25	0.84
Control Delay	53.3	83.7	590.2	32.2
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	53.3	83.7	590.2	32.3
Queue Length 50th (ft)	76	~163	~815	278
Queue Length 95th (ft)	#197	#417	#1238	406
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	228	589	447	1759
Starvation Cap Reductn	0	0	0	263
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.69	1.11	2.25	0.43

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	523	890	545	1234
v/c Ratio	1.49	1.40	1.50	1.14
Control Delay	270.1	221.7	260.9	93.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	270.1	221.7	260.9	93.6
Queue Length 50th (ft)	~559	~922	~428	~995
Queue Length 95th (ft)	#774	#1168	#649	#1261
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	364	1086
Starvation Cap Reductn	0	0	0	21
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.49	1.40	1.50	1.16

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.

Intersection	
Int Delay, s/veh	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	438	279	0	0	359
Future Vol, veh/h	6	438	279	0	0	359
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	471	300	0	0	386

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	686	300	0	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	416	744	-	0	0	-
Stage 1	756	-	-	0	0	-
Stage 2	691	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	416	744	-	-	-	-
Mov Cap-2 Maneuver	518	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	740	-
HCM Lane V/C Ratio	-	0.645	-
HCM Control Delay (s)	-	18.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.8	-

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	322	2	0	0	369	0
Future Vol, veh/h	322	2	0	0	369	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	362	2	0	0	415	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	13.9	15
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	324	369
LT Vol	322	369
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	364	415
Geometry Grp	1	1
Degree of Util (X)	0.523	0.583
Departure Headway (Hd)	5.174	5.061
Convergence, Y/N	Yes	Yes
Cap	692	709
Service Time	3.247	3.13
HCM Lane V/C Ratio	0.526	0.585
HCM Control Delay	13.9	15
HCM Lane LOS	B	B
HCM 95th-tile Q	3.1	3.8

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1032	1184	78	745
Demand Flow Rate, veh/h	1032	1184	78	745
Vehicles Circulating, veh/h	508	187	1474	800
Vehicles Exiting, veh/h	1037	1365	66	571
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.5	8.7	11.9	16.9
Approach LOS	B	A	B	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.608	0.392
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	485	547	556	628	78	453	292
Cap Entry Lane, veh/h	846	922	1137	1211	406	647	719
Entry HV Adj Factor	1.000	1.000	1.001	0.999	1.000	1.000	1.000
Flow Entry, veh/h	485	547	556	628	78	453	292
Cap Entry, veh/h	846	922	1137	1210	406	647	719
V/C Ratio	0.573	0.593	0.489	0.518	0.192	0.701	0.406
Control Delay, s/veh	12.7	12.4	8.6	8.7	11.9	21.0	10.4
LOS	B	B	A	A	B	C	B
95th %tile Queue, veh	4	4	3	3	1	6	2



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	277	1060	986	434	676	290	289
v/c Ratio	0.85	0.50	0.76	0.59	1.15	0.51	0.51
Control Delay	67.6	14.0	35.3	12.5	121.2	23.4	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	14.0	35.3	12.5	121.2	23.4	23.3
Queue Length 50th (ft)	194	214	327	77	~605	109	108
Queue Length 95th (ft)	#335	262	410	180	142	215	214
Internal Link Dist (ft)		520	699			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	390	2499	1564	835	588	564	564
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.42	0.63	0.52	1.15	0.51	0.51

Intersection Summary

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

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

APPENDIX 5.7:

OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	11	67	360	104	1253
Future Volume (vph)	11	67	360	104	1253
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	24.6	9.6	15.1
Total Split (s)	24.6	24.6	73.5	21.9	95.4
Total Split (%)	20.5%	20.5%	61.3%	18.3%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.1
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)	4.6	4.6	4.6	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	10.0	10.0	76.6	12.6	94.3
Actuated g/C Ratio	0.09	0.09	0.70	0.11	0.86
v/c Ratio	0.09	0.38	0.20	0.67	0.97
Control Delay	47.5	16.0	7.0	64.1	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	16.0	7.0	64.1	27.3
LOS	D	B	A	E	C
Approach Delay	20.4		7.0		30.1
Approach LOS	C		A		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 24.6	Intersection LOS: C
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	67	360	43	104	1253
Future Volume (veh/h)	11	67	360	43	104	1253
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	13	80	429	51	124	1492
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	139	131	2129	252	149	1486
Arrive On Green	0.09	0.09	0.69	0.69	0.09	0.83
Sat Flow, veh/h	1619	1525	3170	364	1619	1800
Grp Volume(v), veh/h	13	80	237	243	124	1492
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1734	1619	1800
Q Serve(g_s), s	0.8	5.5	5.4	5.5	8.2	90.3
Cycle Q Clear(g_c), s	0.8	5.5	5.4	5.5	8.2	90.3
Prop In Lane	1.00	1.00		0.21	1.00	
Lane Grp Cap(c), veh/h	139	131	1182	1199	149	1486
V/C Ratio(X)	0.09	0.61	0.20	0.20	0.83	1.00
Avail Cap(c_a), veh/h	296	279	1182	1199	256	1486
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	46.1	48.2	6.1	6.1	48.8	9.6
Incr Delay (d2), s/veh	0.3	4.5	0.1	0.1	4.5	24.4
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	2.3	1.8	1.9	3.5	29.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.4	52.7	6.1	6.1	53.3	33.9
LnGrp LOS	D	D	A	A	D	F
Approach Vol, veh/h	93		480			1616
Approach Delay, s/veh	51.9		6.1			35.4
Approach LOS	D		A			D

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.7	80.7			95.4	14.0
Change Period (Y+Rc), s	4.6	* 5.1			5.1	4.6
Max Green Setting (Gmax), s	17.3	* 69			90.3	20.0
Max Q Clear Time (g_c+I1), s	10.2	7.5			92.3	7.5
Green Ext Time (p_c), s	0.1	3.2			0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

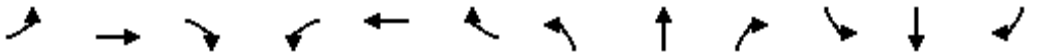
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	204	19	33	158	413	34	846
Future Volume (vph)	204	19	33	158	413	34	846
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	33.1	33.1	33.1	28.0	74.9	12.0	58.9
Total Split (%)	27.6%	27.6%	27.6%	23.3%	62.4%	10.0%	49.1%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)	22.7	22.7	23.9	16.0	61.5	6.6	47.0
Actuated g/C Ratio	0.22	0.22	0.23	0.16	0.60	0.06	0.46
v/c Ratio	0.80	0.27	0.12	0.71	0.23	0.37	0.87
Control Delay	60.9	12.9	28.0	59.1	11.0	62.3	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	12.9	28.0	59.1	11.0	62.3	32.4
LOS	E	B	C	E	B	E	C
Approach Delay		44.9	28.0		24.2		33.2
Approach LOS		D	C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 32.4	Intersection LOS: C
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	19	84	0	33	12	158	413	6	34	846	348
Future Volume (veh/h)	204	19	84	0	33	12	158	413	6	34	846	348
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	229	21	84	0	37	11	178	464	6	38	951	218
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	368	69	277	0	294	87	215	1832	24	59	1198	274
Arrive On Green	0.22	0.22	0.22	0.00	0.22	0.22	0.13	0.53	0.53	0.04	0.43	0.43
Sat Flow, veh/h	1379	315	1259	0	1333	396	1619	3457	45	1619	2764	633
Grp Volume(v), veh/h	229	0	105	0	0	48	178	229	241	38	588	581
Grp Sat Flow(s),veh/h/ln	1379	0	1573	0	0	1729	1619	1710	1792	1619	1710	1686
Q Serve(g_s), s	12.1	0.0	4.2	0.0	0.0	1.7	8.1	5.5	5.5	1.8	22.5	22.6
Cycle Q Clear(g_c), s	13.8	0.0	4.2	0.0	0.0	1.7	8.1	5.5	5.5	1.8	22.5	22.6
Prop In Lane	1.00		0.80	0.00		0.23	1.00		0.02	1.00		0.38
Lane Grp Cap(c), veh/h	368	0	347	0	0	381	215	906	949	59	741	731
V/C Ratio(X)	0.62	0.00	0.30	0.00	0.00	0.13	0.83	0.25	0.25	0.65	0.79	0.80
Avail Cap(c_a), veh/h	560	0	566	0	0	649	499	1557	1632	158	1197	1180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	0.0	24.7	0.0	0.0	23.7	32.1	9.7	9.7	36.1	18.6	18.6
Incr Delay (d2), s/veh	1.7	0.0	0.5	0.0	0.0	0.1	3.1	0.1	0.1	4.4	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	1.5	0.0	0.0	0.7	3.1	1.7	1.8	0.7	7.9	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	25.2	0.0	0.0	23.9	35.2	9.8	9.8	40.4	20.5	20.6
LnGrp LOS	C	A	C	A	A	C	D	A	A	D	C	C
Approach Vol, veh/h		334			48			648			1207	
Approach Delay, s/veh		29.2			23.9			16.8			21.2	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	46.0		22.5	14.7	38.7		22.5				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	69.1		27.3	23.4	53.1		* 29				
Max Q Clear Time (g_c+I1), s	3.8	7.5		15.8	10.1	24.6		3.7				
Green Ext Time (p_c), s	0.0	2.7		0.9	0.2	8.3		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		21.2
HCM 6th LOS		C

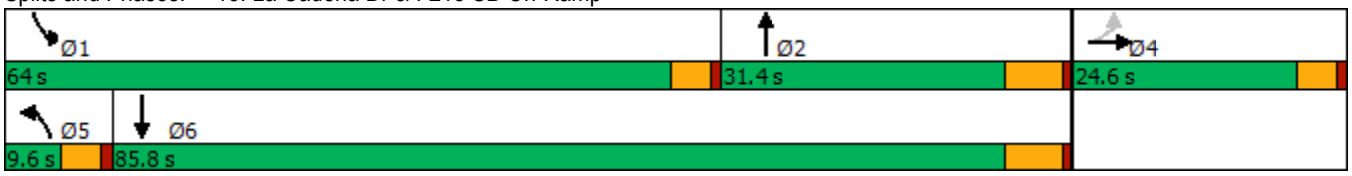
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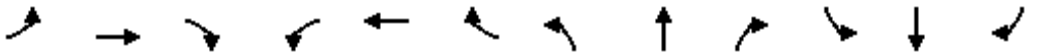
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	19	10	471	584	652
Future Volume (vph)	19	10	471	584	652
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.6	31.4	64.0	85.8
Total Split (%)	20.5%	8.0%	26.2%	53.3%	71.5%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	13.4	5.3	19.9	42.5	65.9
Actuated g/C Ratio	0.15	0.06	0.22	0.46	0.71
v/c Ratio	0.58	0.12	0.72	0.88	0.62
Control Delay	47.5	55.1	42.1	38.3	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	55.1	42.1	38.3	10.2
LOS	D	E	D	D	B
Approach Delay	47.5		42.4		22.9
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 29.6	Intersection LOS: C
Intersection Capacity Utilization 70.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	19	32	0	0	0	10	471	0	584	652	51
Future Volume (veh/h)	81	19	32	0	0	0	10	471	0	584	652	51
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	1800	1800	1800				1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	91	21	36				11	529	0	656	733	57
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	120	28	47				22	733	0	700	1043	81
Arrive On Green	0.12	0.12	0.12				0.01	0.21	0.00	0.43	0.63	0.63
Sat Flow, veh/h	1030	238	407				1619	3510	0	1619	1649	128
Grp Volume(v), veh/h	148	0	0				11	529	0	656	0	790
Grp Sat Flow(s),veh/h/ln	1675	0	0				1619	1710	0	1619	0	1777
Q Serve(g_s), s	5.6	0.0	0.0				0.4	9.3	0.0	25.1	0.0	19.1
Cycle Q Clear(g_c), s	5.6	0.0	0.0				0.4	9.3	0.0	25.1	0.0	19.1
Prop In Lane	0.61		0.24				1.00		0.00	1.00		0.07
Lane Grp Cap(c), veh/h	195	0	0				22	733	0	700	0	1124
V/C Ratio(X)	0.76	0.00	0.00				0.49	0.72	0.00	0.94	0.00	0.70
Avail Cap(c_a), veh/h	516	0	0				125	1326	0	1480	0	2176
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	0.00				1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	0.0				31.8	23.7	0.0	17.6	0.0	7.9
Incr Delay (d2), s/veh	5.9	0.0	0.0				6.0	1.4	0.0	2.8	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	2.4	0.0	0.0				0.2	3.4	0.0	7.7	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	0.0	0.0				37.8	25.1	0.0	20.4	0.0	8.7
LnGrp LOS	C	A	A				D	C	A	C	A	A
Approach Vol, veh/h		148						540			1446	
Approach Delay, s/veh		33.7						25.4			14.0	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	32.7	20.1		12.2	5.5	47.3
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	59.4	25.2		20.0	5.0	79.6
Max Q Clear Time (g_c+I1), s	27.1	11.3		7.6	2.4	21.1
Green Ext Time (p_c), s	0.9	2.6		0.6	0.0	6.0

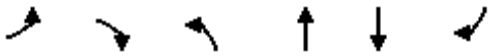
Intersection Summary		
HCM 6th Ctrl Delay		18.3
HCM 6th LOS		B

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	116	706	807	762
Future Volume (vph)	116	706	807	762
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	41.0	41.0	42.0	37.0
Total Split (%)	34.2%	34.2%	35.0%	30.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	23.1	23.1	29.8	27.6
Actuated g/C Ratio	0.23	0.23	0.30	0.28
v/c Ratio	0.30	0.92	0.81	0.82
Control Delay	34.6	25.8	40.8	44.1
Queue Delay	0.0	0.0	0.0	8.9
Total Delay	34.6	25.8	40.8	53.0
LOS	C	C	D	D
Approach Delay	27.0		40.8	53.0
Approach LOS	C		D	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.1	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 39.9	Intersection LOS: D
Intersection Capacity Utilization 75.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	116	706	0	807	762	0
Future Volume (veh/h)	116	706	0	807	762	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	126	617	0	868	819	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	785	698	0	1238	1238	0
Arrive On Green	0.43	0.43	0.00	0.34	0.34	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	126	617	0	868	819	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	2.4	19.5	0.0	11.6	10.7	0.0
Cycle Q Clear(g_c), s	2.4	19.5	0.0	11.6	10.7	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	785	698	0	1238	1238	0
V/C Ratio(X)	0.16	0.88	0.00	0.70	0.66	0.00
Avail Cap(c_a), veh/h	1134	1009	0	2326	2002	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.6	14.4	0.0	15.8	15.5	0.0
Incr Delay (d2), s/veh	0.1	6.8	0.0	0.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.4	0.0	3.7	3.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	21.2	0.0	16.5	16.1	0.0
LnGrp LOS	A	C	A	B	B	A
Approach Vol, veh/h	743			868	819	
Approach Delay, s/veh	19.2			16.5	16.1	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		25.3		30.3		25.3
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		35.8		34.8		30.8
Max Q Clear Time (g_c+I1), s		13.6		21.5		12.7
Green Ext Time (p_c), s		5.5		2.6		4.8

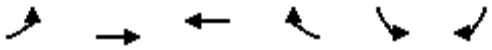
Intersection Summary		
HCM 6th Ctrl Delay	17.2	
HCM 6th LOS	B	

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	451	769	90	192	1277
Future Volume (vph)	451	769	90	192	1277
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2	24.2
Total Split (s)	42.1	80.1	38.0	39.9	39.9
Total Split (%)	35.1%	66.8%	31.7%	33.3%	33.3%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
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)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	29.7	59.7	25.0	20.2	20.2
Actuated g/C Ratio	0.32	0.64	0.27	0.22	0.22
v/c Ratio	0.84	0.68	0.84	0.53	0.81
Control Delay	45.8	14.6	36.8	39.9	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	14.6	36.8	39.9	6.5
LOS	D	B	D	D	A
Approach Delay		26.1	36.8	10.8	
Approach LOS		C	D	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 81.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	451	769	90	357	192	1277
Future Volume (veh/h)	451	769	90	357	192	1277
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	485	827	97	250	206	905
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	517	1068	109	281	580	908
Arrive On Green	0.29	0.56	0.23	0.23	0.32	0.32
Sat Flow, veh/h	1810	1900	470	1212	1810	2834
Grp Volume(v), veh/h	485	827	0	347	206	905
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1682	1810	1417
Q Serve(g_s), s	27.5	35.5	0.0	21.0	9.2	33.6
Cycle Q Clear(g_c), s	27.5	35.5	0.0	21.0	9.2	33.6
Prop In Lane	1.00			0.72	1.00	1.00
Lane Grp Cap(c), veh/h	517	1068	0	391	580	908
V/C Ratio(X)	0.94	0.77	0.00	0.89	0.36	1.00
Avail Cap(c_a), veh/h	645	1334	0	508	580	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	17.9	0.0	39.1	27.4	35.7
Incr Delay (d2), s/veh	17.5	2.3	0.0	14.3	0.4	29.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	15.2	0.0	10.1	3.8	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.2	20.2	0.0	53.4	27.8	64.8
LnGrp LOS	D	C	A	D	C	E
Approach Vol, veh/h		1312	347		1111	
Approach Delay, s/veh		32.7	53.4		58.0	
Approach LOS		C	D		E	

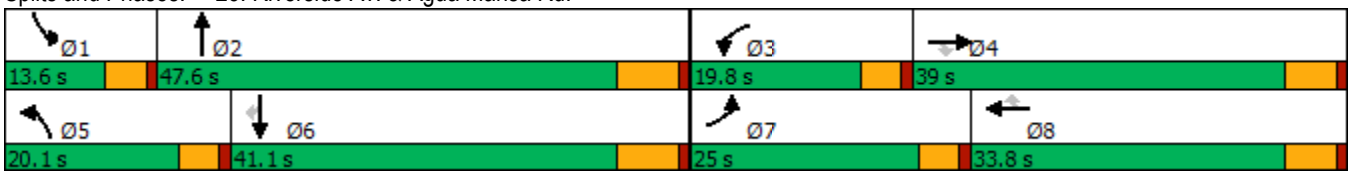
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			65.3		39.9	34.7	30.6
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			73.9		33.7	37.5	31.8
Max Q Clear Time (g_c+I1), s			37.5		35.6	29.5	23.0
Green Ext Time (p_c), s			7.5		0.0	0.6	1.4

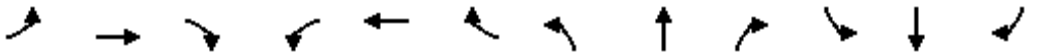
Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	265	215	97	117	322	104	214	963	111	932	329
Future Volume (vph)	265	215	97	117	322	104	214	963	111	932	329
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.8	33.8	9.6	29.5	9.6	31.5	31.5
Total Split (s)	25.0	39.0	39.0	19.8	33.8	33.8	20.1	47.6	13.6	41.1	41.1
Total Split (%)	20.8%	32.5%	32.5%	16.5%	28.2%	28.2%	16.8%	39.7%	11.3%	34.3%	34.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	5.8	4.6	5.8	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.0	32.6	32.6	11.8	24.4	24.4	15.5	40.4	8.9	33.8	33.8
Actuated g/C Ratio	0.16	0.28	0.28	0.10	0.21	0.21	0.13	0.35	0.08	0.29	0.29
v/c Ratio	0.94	0.42	0.18	0.67	0.85	0.22	0.93	0.86	0.84	0.93	0.58
Control Delay	87.7	37.2	1.7	68.5	63.4	1.0	92.3	43.6	96.9	55.2	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.7	37.2	1.7	68.5	63.4	1.0	92.3	43.6	96.9	55.2	19.5
LOS	F	D	A	E	E	A	F	D	F	E	B
Approach Delay		54.5			52.6			52.0		50.0	
Approach LOS		D			D			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.3	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 51.7	Intersection LOS: D
Intersection Capacity Utilization 88.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	215	97	117	322	104	214	963	66	111	932	329
Future Volume (veh/h)	265	215	97	117	322	104	214	963	66	111	932	329
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	279	226	65	123	339	90	225	1014	62	117	981	308
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	293	552	467	151	385	326	249	1230	75	144	1074	478
Arrive On Green	0.16	0.29	0.29	0.08	0.20	0.20	0.14	0.36	0.36	0.08	0.30	0.30
Sat Flow, veh/h	1810	1900	1609	1810	1900	1608	1810	3455	211	1810	3610	1607
Grp Volume(v), veh/h	279	226	65	123	339	90	225	530	546	117	981	308
Grp Sat Flow(s),veh/h/ln	1810	1900	1609	1810	1900	1608	1810	1805	1862	1810	1805	1607
Q Serve(g_s), s	17.2	10.8	3.4	7.5	19.5	5.3	13.8	30.1	30.1	7.2	29.5	18.7
Cycle Q Clear(g_c), s	17.2	10.8	3.4	7.5	19.5	5.3	13.8	30.1	30.1	7.2	29.5	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	293	552	467	151	385	326	249	642	663	144	1074	478
V/C Ratio(X)	0.95	0.41	0.14	0.82	0.88	0.28	0.90	0.82	0.82	0.82	0.91	0.64
Avail Cap(c_a), veh/h	312	561	475	245	473	400	249	660	680	145	1110	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	32.2	29.5	50.7	43.5	37.9	47.7	33.0	33.0	51.0	38.1	34.3
Incr Delay (d2), s/veh	36.3	0.5	0.1	4.3	15.0	0.5	31.8	8.2	8.0	27.0	11.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	4.9	1.3	3.5	10.4	2.1	8.1	13.5	13.9	4.2	13.8	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	32.6	29.7	55.0	58.5	38.3	79.5	41.3	41.0	78.0	49.4	37.1
LnGrp LOS	F	C	C	D	E	D	E	D	D	E	D	D
Approach Vol, veh/h		570			552			1301			1406	
Approach Delay, s/veh		56.9			54.4			47.8			49.1	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	46.5	14.0	38.4	20.1	40.0	23.8	28.6
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	9.0	41.1	15.2	33.2	15.5	34.6	20.4	28.0
Max Q Clear Time (g_c+I1), s	9.2	32.1	9.5	12.8	15.8	31.5	19.2	21.5
Green Ext Time (p_c), s	0.0	4.0	0.1	1.3	0.0	2.0	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	50.6
HCM 6th LOS	D

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	11	44	633	139	1064
Future Volume (vph)	11	44	633	139	1064
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	24.6	9.6	15.1
Total Split (s)	24.6	24.6	70.6	24.8	95.4
Total Split (%)	20.5%	20.5%	58.8%	20.7%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.1
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)	4.6	4.6	4.6	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	11.3	11.3	41.6	13.3	62.8
Actuated g/C Ratio	0.16	0.16	0.57	0.18	0.87
v/c Ratio	0.05	0.17	0.43	0.52	0.75
Control Delay	39.8	14.9	10.4	39.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	14.9	10.4	39.1	8.8
LOS	D	B	B	D	A
Approach Delay	19.9		10.4		12.3
Approach LOS	B		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 72.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 11.8	Intersection LOS: B
Intersection Capacity Utilization 75.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	44	633	114	139	1064
Future Volume (veh/h)	11	44	633	114	139	1064
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	12	48	696	125	153	1169
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	166	156	1616	290	190	1344
Arrive On Green	0.10	0.10	0.56	0.56	0.12	0.75
Sat Flow, veh/h	1619	1525	2987	520	1619	1800
Grp Volume(v), veh/h	12	48	411	410	153	1169
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1706	1619	1800
Q Serve(g_s), s	0.4	1.9	9.0	9.0	5.9	30.2
Cycle Q Clear(g_c), s	0.4	1.9	9.0	9.0	5.9	30.2
Prop In Lane	1.00	1.00		0.30	1.00	
Lane Grp Cap(c), veh/h	166	156	954	952	190	1344
V/C Ratio(X)	0.07	0.31	0.43	0.43	0.81	0.87
Avail Cap(c_a), veh/h	504	474	1755	1751	509	2528
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	26.1	26.8	8.3	8.3	27.7	5.9
Incr Delay (d2), s/veh	0.2	1.1	0.3	0.3	3.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	2.8	2.8	2.3	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.3	27.9	8.6	8.6	30.7	7.7
LnGrp LOS	C	C	A	A	C	A
Approach Vol, veh/h	60		821			1322
Approach Delay, s/veh	27.5		8.6			10.4
Approach LOS	C		A			B

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.1	41.0			53.1	11.2
Change Period (Y+Rc), s	4.6	* 5.1			5.1	4.6
Max Green Setting (Gmax), s	20.2	* 66			90.3	20.0
Max Q Clear Time (g_c+I1), s	7.9	11.0			32.2	3.9
Green Ext Time (p_c), s	0.1	6.4			15.9	0.1

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

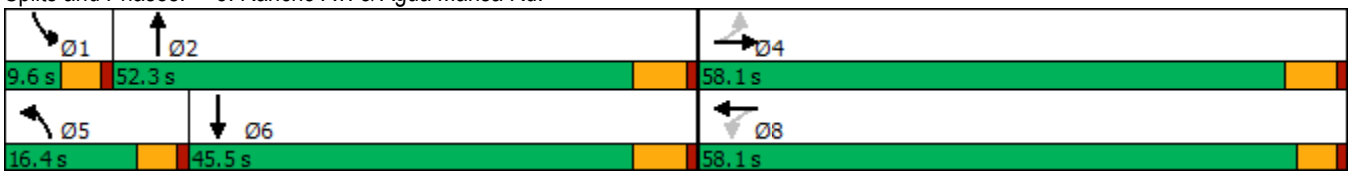
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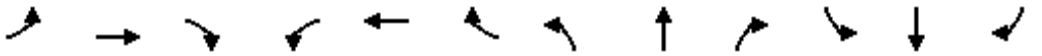
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	513	97	28	104	519	14	810
Future Volume (vph)	513	97	28	104	519	14	810
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	58.1	58.1	58.1	16.4	52.3	9.6	45.5
Total Split (%)	48.4%	48.4%	48.4%	13.7%	43.6%	8.0%	37.9%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)	50.4	50.4	51.6	10.6	50.5	5.0	39.0
Actuated g/C Ratio	0.43	0.43	0.44	0.09	0.43	0.04	0.34
v/c Ratio	0.96	0.41	0.05	0.76	0.37	0.22	0.95
Control Delay	62.2	16.4	15.1	82.6	24.2	63.2	55.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	16.4	15.1	82.6	24.2	63.2	55.2
LOS	E	B	B	F	C	E	E
Approach Delay		45.7	15.1		33.9		55.3
Approach LOS		D	B		C		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 116.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 46.2	Intersection LOS: D
Intersection Capacity Utilization 87.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	513	97	194	0	28	10	104	519	2	14	810	201
Future Volume (veh/h)	513	97	194	0	28	10	104	519	2	14	810	201
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	546	103	196	0	30	9	111	552	1	15	862	50
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	664	242	461	0	581	174	136	1326	2	28	1025	59
Arrive On Green	0.44	0.44	0.44	0.00	0.44	0.44	0.08	0.38	0.38	0.02	0.31	0.31
Sat Flow, veh/h	1390	555	1055	0	1329	399	1619	3503	6	1619	3285	191
Grp Volume(v), veh/h	546	0	299	0	0	39	111	269	284	15	449	463
Grp Sat Flow(s),veh/h/ln	1390	0	1610	0	0	1728	1619	1710	1799	1619	1710	1766
Q Serve(g_s), s	36.1	0.0	12.4	0.0	0.0	1.3	6.5	11.3	11.3	0.9	23.7	23.7
Cycle Q Clear(g_c), s	37.3	0.0	12.4	0.0	0.0	1.3	6.5	11.3	11.3	0.9	23.7	23.7
Prop In Lane	1.00		0.66	0.00		0.23	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	664	0	703	0	0	755	136	648	681	28	533	551
V/C Ratio(X)	0.82	0.00	0.43	0.00	0.00	0.05	0.82	0.42	0.42	0.54	0.84	0.84
Avail Cap(c_a), veh/h	807	0	869	0	0	955	197	821	864	84	701	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	18.9	0.0	0.0	15.7	43.6	22.2	22.2	47.2	31.1	31.1
Incr Delay (d2), s/veh	5.8	0.0	0.4	0.0	0.0	0.0	10.3	0.4	0.4	5.9	7.1	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	0.0	4.3	0.0	0.0	0.5	2.9	4.3	4.5	0.4	10.1	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	0.0	19.3	0.0	0.0	15.7	53.9	22.6	22.6	53.2	38.2	38.0
LnGrp LOS	C	A	B	A	A	B	D	C	C	D	D	D
Approach Vol, veh/h		845			39			664			927	
Approach Delay, s/veh		27.7			15.7			27.8			38.3	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	42.5		48.1	12.7	36.0		48.1				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	5.0	46.5		52.3	11.8	39.7		* 54				
Max Q Clear Time (g_c+I1), s	2.9	13.3		39.3	8.5	25.7		3.3				
Green Ext Time (p_c), s	0.0	3.1		3.0	0.0	4.5		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		31.5
HCM 6th LOS		C

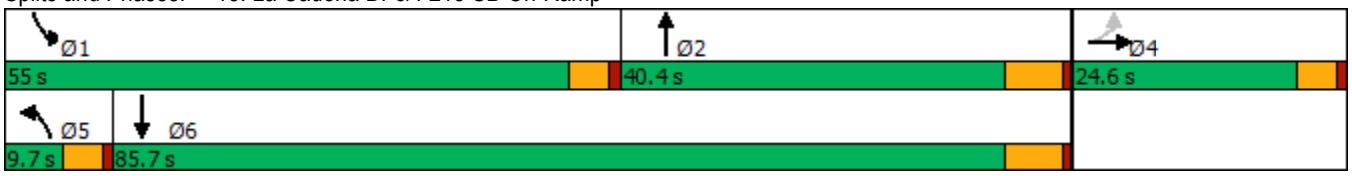
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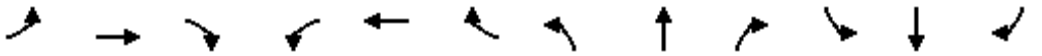
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	10	30	788	563	893
Future Volume (vph)	10	30	788	563	893
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.7	40.4	55.0	85.7
Total Split (%)	20.5%	8.1%	33.7%	45.8%	71.4%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	10.6	5.4	31.2	43.2	76.2
Actuated g/C Ratio	0.11	0.06	0.32	0.44	0.78
v/c Ratio	0.48	0.38	0.79	0.86	0.77
Control Delay	50.4	64.2	39.0	40.2	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	64.2	39.0	40.2	15.3
LOS	D	E	D	D	B
Approach Delay	50.4		39.9		24.4
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.9	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 77.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	10	19	0	0	0	30	788	7	563	893	83
Future Volume (veh/h)	56	10	19	0	0	0	30	788	7	563	893	83
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	1800	1800	1800				1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	61	11	21				33	857	8	612	971	90
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	81	15	28				54	1083	10	652	1105	102
Arrive On Green	0.07	0.07	0.07				0.03	0.31	0.31	0.40	0.68	0.68
Sat Flow, veh/h	1100	198	379				1619	3472	32	1619	1623	150
Grp Volume(v), veh/h	93	0	0				33	422	443	612	0	1061
Grp Sat Flow(s),veh/h/ln	1677	0	0				1619	1710	1794	1619	0	1773
Q Serve(g_s), s	3.9	0.0	0.0				1.5	16.4	16.4	26.4	0.0	34.5
Cycle Q Clear(g_c), s	3.9	0.0	0.0				1.5	16.4	16.4	26.4	0.0	34.5
Prop In Lane	0.66		0.23				1.00		0.02	1.00		0.08
Lane Grp Cap(c), veh/h	123	0	0				54	534	560	652	0	1208
V/C Ratio(X)	0.76	0.00	0.00				0.61	0.79	0.79	0.94	0.00	0.88
Avail Cap(c_a), veh/h	462	0	0				114	806	845	1124	0	1942
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	0.00				1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	0.0				34.6	22.8	22.8	20.8	0.0	9.2
Incr Delay (d2), s/veh	9.1	0.0	0.0				4.1	3.1	3.0	5.7	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	1.9	0.0	0.0				0.6	6.1	6.4	9.2	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.1	0.0	0.0				38.7	25.9	25.8	26.5	0.0	12.1
LnGrp LOS	D	A	A				D	C	C	C	A	B
Approach Vol, veh/h		93						898			1673	
Approach Delay, s/veh		42.1						26.3			17.4	
Approach LOS		D						C			B	

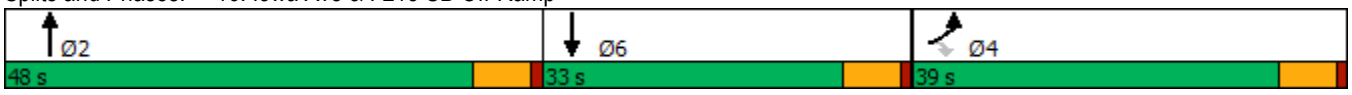
Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	33.8	28.9		9.9	7.0	55.6
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	50.4	34.2		20.0	5.1	79.5
Max Q Clear Time (g_c+I1), s	28.4	18.4		5.9	3.5	36.5
Green Ext Time (p_c), s	0.9	4.3		0.3	0.0	10.3

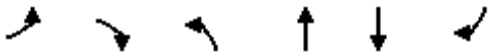
Intersection Summary		
HCM 6th Ctrl Delay		21.3
HCM 6th LOS		C

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	153	632	965	619
Future Volume (vph)	153	632	965	619
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	39.0	39.0	48.0	33.0
Total Split (%)	32.5%	32.5%	40.0%	27.5%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	15.7	15.7	31.5	21.8
Actuated g/C Ratio	0.18	0.18	0.36	0.25
v/c Ratio	0.49	0.79	0.77	0.72
Control Delay	40.4	11.0	31.0	37.3
Queue Delay	0.0	0.0	0.0	0.5
Total Delay	40.4	11.0	31.0	37.8
LOS	D	B	C	D
Approach Delay	16.7		31.0	37.8
Approach LOS	B		C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 88.4	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 66.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	632	0	965	619	0
Future Volume (veh/h)	153	632	0	965	619	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	158	516	0	995	638	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	678	603	0	1428	1428	0
Arrive On Green	0.37	0.37	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	158	516	0	995	638	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	3.2	15.9	0.0	12.4	7.0	0.0
Cycle Q Clear(g_c), s	3.2	15.9	0.0	12.4	7.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	678	603	0	1428	1428	0
V/C Ratio(X)	0.23	0.86	0.00	0.70	0.45	0.00
Avail Cap(c_a), veh/h	1100	979	0	2797	1793	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	15.5	0.0	13.6	12.0	0.0
Incr Delay (d2), s/veh	0.2	4.3	0.0	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.8	0.0	3.7	2.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.7	19.8	0.0	14.2	12.2	0.0
LnGrp LOS	B	B	A	B	B	A
Approach Vol, veh/h	674			995	638	
Approach Delay, s/veh	17.9			14.2	12.2	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		27.5		26.4		27.5
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		41.8		32.8		26.8
Max Q Clear Time (g_c+I1), s		14.4		17.9		9.0
Green Ext Time (p_c), s		6.9		2.3		3.5

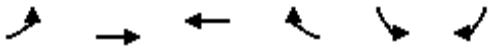
Intersection Summary		
HCM 6th Ctrl Delay		14.7
HCM 6th LOS		B

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	512	872	72	206	1000
Future Volume (vph)	512	872	72	206	1000
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2	24.2
Total Split (s)	47.0	87.0	40.0	33.0	33.0
Total Split (%)	39.2%	72.5%	33.3%	27.5%	27.5%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
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)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	31.6	60.3	23.7	18.7	18.7
Actuated g/C Ratio	0.34	0.65	0.26	0.20	0.20
v/c Ratio	0.85	0.72	0.85	0.58	0.73
Control Delay	44.2	14.5	31.8	43.8	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.2	14.5	31.8	43.8	6.1
LOS	D	B	C	D	A
Approach Delay		25.5	31.8	12.5	
Approach LOS		C	C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	512	872	72	453	206	1000
Future Volume (veh/h)	512	872	72	453	206	1000
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	522	890	73	334	210	760
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	556	1183	81	369	467	731
Arrive On Green	0.31	0.62	0.27	0.27	0.26	0.26
Sat Flow, veh/h	1810	1900	297	1359	1810	2834
Grp Volume(v), veh/h	522	890	0	407	210	760
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1655	1810	1417
Q Serve(g_s), s	29.2	34.5	0.0	24.7	10.1	26.8
Cycle Q Clear(g_c), s	29.2	34.5	0.0	24.7	10.1	26.8
Prop In Lane	1.00			0.82	1.00	1.00
Lane Grp Cap(c), veh/h	556	1183	0	450	467	731
V/C Ratio(X)	0.94	0.75	0.00	0.91	0.45	1.04
Avail Cap(c_a), veh/h	738	1477	0	538	467	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	13.9	0.0	36.6	32.4	38.6
Incr Delay (d2), s/veh	15.0	1.7	0.0	16.9	0.7	44.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	13.9	0.0	11.9	4.3	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.1	15.6	0.0	53.5	33.1	82.7
LnGrp LOS	D	B	A	D	C	F
Approach Vol, veh/h		1412	407		970	
Approach Delay, s/veh		28.4	53.5		72.0	
Approach LOS		C	D		E	

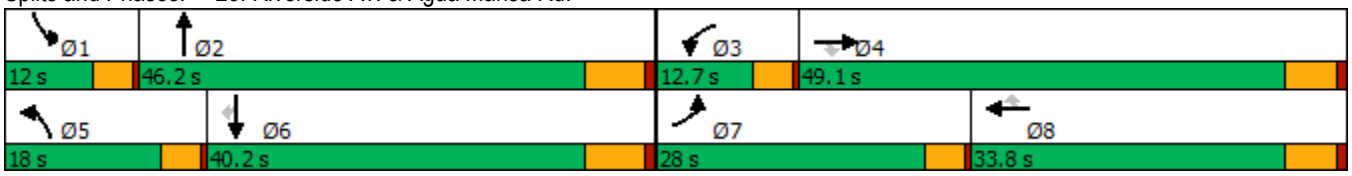
Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	70.9	33.0	36.5	34.4
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	80.8	26.8	42.4	33.8
Max Q Clear Time (g_c+I1), s	36.5	28.8	31.2	26.7
Green Ext Time (p_c), s	8.8	0.0	0.7	1.5

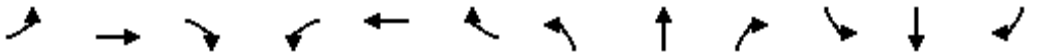
Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	316	483	349	83	293	130	181	844	99	896	225
Future Volume (vph)	316	483	349	83	293	130	181	844	99	896	225
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.1	34.8	34.8	9.1	33.8	33.8	9.1	29.5	9.1	31.5	31.5
Total Split (s)	28.0	49.1	49.1	12.7	33.8	33.8	18.0	46.2	12.0	40.2	40.2
Total Split (%)	23.3%	40.9%	40.9%	10.6%	28.2%	28.2%	15.0%	38.5%	10.0%	33.5%	33.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	5.8	4.1	5.8	5.8	4.1	6.5	4.1	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	22.7	37.2	37.2	8.0	22.4	22.4	13.6	38.0	8.0	32.4	32.4
Actuated g/C Ratio	0.20	0.33	0.33	0.07	0.20	0.20	0.12	0.34	0.07	0.29	0.29
v/c Ratio	0.90	0.80	0.52	0.67	0.80	0.29	0.87	0.81	0.80	0.89	0.40
Control Delay	72.4	44.7	12.2	77.8	59.5	3.5	84.6	40.3	94.2	50.7	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.4	44.7	12.2	77.8	59.5	3.5	84.6	40.3	94.2	50.7	11.9
LOS	E	D	B	E	E	A	F	D	F	D	B
Approach Delay		42.4			48.1			47.4		47.1	
Approach LOS		D			D			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.9	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 46.0	Intersection LOS: D
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	483	349	83	293	130	181	844	104	99	896	225
Future Volume (veh/h)	316	483	349	83	293	130	181	844	104	99	896	225
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	329	503	239	86	305	123	189	879	93	103	933	195
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	360	622	526	110	359	304	220	1135	120	129	1064	474
Arrive On Green	0.20	0.33	0.33	0.06	0.19	0.19	0.12	0.34	0.34	0.07	0.29	0.29
Sat Flow, veh/h	1810	1900	1609	1810	1900	1610	1810	3294	348	1810	3610	1607
Grp Volume(v), veh/h	329	503	239	86	305	123	189	482	490	103	933	195
Grp Sat Flow(s),veh/h/ln	1810	1900	1609	1810	1900	1610	1810	1805	1837	1810	1805	1607
Q Serve(g_s), s	18.6	25.3	12.3	4.9	16.2	7.0	10.7	24.9	24.9	5.9	25.7	10.2
Cycle Q Clear(g_c), s	18.6	25.3	12.3	4.9	16.2	7.0	10.7	24.9	24.9	5.9	25.7	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	360	622	526	110	359	304	220	622	633	129	1064	474
V/C Ratio(X)	0.91	0.81	0.45	0.78	0.85	0.40	0.86	0.77	0.77	0.80	0.88	0.41
Avail Cap(c_a), veh/h	414	787	667	149	509	431	241	686	698	137	1164	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	32.2	27.8	48.4	40.9	37.2	45.0	30.6	30.6	47.8	35.1	29.6
Incr Delay (d2), s/veh	21.4	5.0	0.6	11.8	9.3	0.9	22.5	5.0	5.0	23.7	7.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	11.8	4.6	2.5	8.2	2.7	5.9	10.7	10.9	3.4	11.5	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	37.2	28.4	60.2	50.2	38.1	67.5	35.7	35.6	71.5	42.4	30.2
LnGrp LOS	E	D	C	E	D	D	E	D	D	E	D	C
Approach Vol, veh/h		1071			514			1161			1231	
Approach Delay, s/veh		43.0			49.0			40.8			42.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	42.5	10.4	40.0	16.8	37.3	24.9	25.5
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	7.9	39.7	8.6	43.3	13.9	33.7	23.9	28.0
Max Q Clear Time (g_c+I1), s	7.9	26.9	6.9	27.3	12.7	27.7	20.6	18.2
Green Ext Time (p_c), s	0.0	4.4	0.0	3.4	0.0	3.1	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

APPENDIX 5.8:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	11	67	371	104	1281
Future Volume (vph)	11	67	371	104	1281
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	24.6	9.6	15.1
Total Split (s)	24.6	24.6	73.5	21.9	95.4
Total Split (%)	20.5%	20.5%	61.3%	18.3%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.1
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)	4.6	4.6	4.6	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	10.0	10.0	76.6	12.6	94.3
Actuated g/C Ratio	0.09	0.09	0.70	0.11	0.86
v/c Ratio	0.09	0.38	0.21	0.67	0.99
Control Delay	47.5	16.1	7.0	64.1	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	16.1	7.0	64.1	32.0
LOS	D	B	A	E	C
Approach Delay	20.4		7.0		34.4
Approach LOS	C		A		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 27.8	Intersection LOS: C
Intersection Capacity Utilization 87.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	67	371	43	104	1281
Future Volume (veh/h)	11	67	371	43	104	1281
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	13	80	442	51	124	1525
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	139	131	2137	245	149	1486
Arrive On Green	0.09	0.09	0.69	0.69	0.09	0.83
Sat Flow, veh/h	1619	1525	3181	355	1619	1800
Grp Volume(v), veh/h	13	80	244	249	124	1525
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1736	1619	1800
Q Serve(g_s), s	0.8	5.5	5.6	5.7	8.2	90.3
Cycle Q Clear(g_c), s	0.8	5.5	5.6	5.7	8.2	90.3
Prop In Lane	1.00	1.00		0.20	1.00	
Lane Grp Cap(c), veh/h	139	131	1182	1200	149	1486
V/C Ratio(X)	0.09	0.61	0.21	0.21	0.83	1.03
Avail Cap(c_a), veh/h	296	279	1182	1200	256	1486
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	46.1	48.2	6.1	6.1	48.8	9.6
Incr Delay (d2), s/veh	0.1	1.7	0.1	0.1	4.5	30.4
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	2.2	1.9	1.9	3.5	31.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.2	49.9	6.2	6.2	53.3	39.9
LnGrp LOS	D	D	A	A	D	F
Approach Vol, veh/h	93		493			1649
Approach Delay, s/veh	49.4		6.2			40.9
Approach LOS	D		A			D

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.7	80.7			95.4	14.0
Change Period (Y+Rc), s	4.6	* 5.1			5.1	4.6
Max Green Setting (Gmax), s	17.3	* 69			90.3	20.0
Max Q Clear Time (g_c+I1), s	10.2	7.7			92.3	7.5
Green Ext Time (p_c), s	0.1	3.3			0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

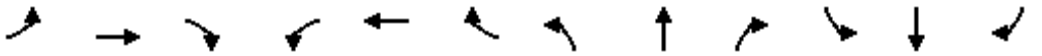
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	215	19	33	213	413	34	846
Future Volume (vph)	215	19	33	213	413	34	846
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	33.1	33.1	33.1	28.0	74.9	12.0	58.9
Total Split (%)	27.6%	27.6%	27.6%	23.3%	62.4%	10.0%	49.1%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)	24.0	24.0	25.2	19.7	67.1	6.6	49.2
Actuated g/C Ratio	0.22	0.22	0.23	0.18	0.61	0.06	0.45
v/c Ratio	0.85	0.33	0.12	0.82	0.23	0.40	0.91
Control Delay	69.1	11.7	29.0	67.8	11.0	66.1	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	11.7	29.0	67.8	11.0	66.1	37.7
LOS	E	B	C	E	B	E	D
Approach Delay		47.3	29.0		30.1		38.4
Approach LOS		D	C		C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 37.3	Intersection LOS: D
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	19	113	0	33	12	213	413	6	34	846	376
Future Volume (veh/h)	215	19	113	0	33	12	213	413	6	34	846	376
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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	242	21	117	0	37	11	239	464	6	38	951	249
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	359	53	297	0	299	89	272	1940	25	55	1146	299
Arrive On Green	0.22	0.22	0.22	0.00	0.22	0.22	0.17	0.56	0.56	0.03	0.43	0.43
Sat Flow, veh/h	1379	238	1324	0	1333	396	1619	3457	45	1619	2683	701
Grp Volume(v), veh/h	242	0	138	0	0	48	239	229	241	38	605	595
Grp Sat Flow(s),veh/h/ln	1379	0	1562	0	0	1729	1619	1710	1792	1619	1710	1674
Q Serve(g_s), s	15.3	0.0	6.8	0.0	0.0	2.0	12.9	6.1	6.1	2.1	28.2	28.4
Cycle Q Clear(g_c), s	17.2	0.0	6.8	0.0	0.0	2.0	12.9	6.1	6.1	2.1	28.2	28.4
Prop In Lane	1.00		0.85	0.00		0.23	1.00		0.02	1.00		0.42
Lane Grp Cap(c), veh/h	359	0	351	0	0	388	272	959	1005	55	730	715
V/C Ratio(X)	0.67	0.00	0.39	0.00	0.00	0.12	0.88	0.24	0.24	0.69	0.83	0.83
Avail Cap(c_a), veh/h	469	0	475	0	0	548	422	1315	1378	133	1011	989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	29.6	0.0	0.0	27.8	36.5	10.0	10.0	42.9	22.8	22.9
Incr Delay (d2), s/veh	2.5	0.0	0.7	0.0	0.0	0.1	8.3	0.1	0.1	5.6	4.2	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	2.5	0.0	0.0	0.8	5.5	2.0	2.1	0.9	10.9	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	30.3	0.0	0.0	27.9	44.8	10.1	10.1	48.5	27.0	27.3
LnGrp LOS	D	A	C	A	A	C	D	B	B	D	C	C
Approach Vol, veh/h		380			48			709			1238	
Approach Delay, s/veh		34.7			27.9			21.8			27.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	56.2		26.0	19.7	44.2		26.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	69.1		27.3	23.4	53.1		* 29				
Max Q Clear Time (g_c+I1), s	4.1	8.1		19.2	14.9	30.4		4.0				
Green Ext Time (p_c), s	0.0	2.7		0.9	0.2	8.0		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		27.1	
HCM 6th LOS		C	

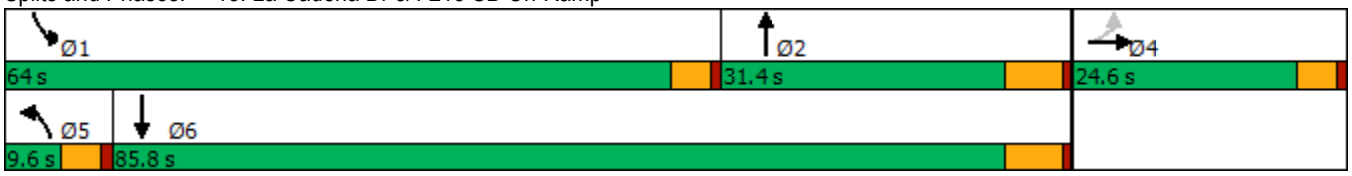
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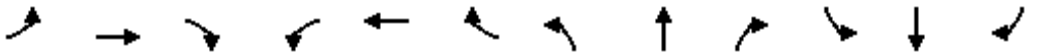
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	19	10	475	595	653
Future Volume (vph)	19	10	475	595	653
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.6	31.4	64.0	85.8
Total Split (%)	20.5%	8.0%	26.2%	53.3%	71.5%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	13.5	5.3	20.2	43.9	67.5
Actuated g/C Ratio	0.14	0.06	0.21	0.47	0.72
v/c Ratio	0.59	0.12	0.73	0.89	0.62
Control Delay	48.4	55.8	43.2	38.8	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	55.8	43.2	38.8	10.1
LOS	D	E	D	D	B
Approach Delay	48.4		43.5		23.2
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 30.1	Intersection LOS: C
Intersection Capacity Utilization 71.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	19	32	0	0	0	10	475	0	595	653	51
Future Volume (veh/h)	81	19	32	0	0	0	10	475	0	595	653	51
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	1800	1800	1800				1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	91	21	36				11	534	0	669	734	57
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	120	28	47				22	732	0	711	1054	82
Arrive On Green	0.12	0.12	0.12				0.01	0.21	0.00	0.44	0.64	0.64
Sat Flow, veh/h	1030	238	407				1619	3510	0	1619	1649	128
Grp Volume(v), veh/h	148	0	0				11	534	0	669	0	791
Grp Sat Flow(s),veh/h/ln	1675	0	0				1619	1710	0	1619	0	1777
Q Serve(g_s), s	5.7	0.0	0.0				0.5	9.7	0.0	26.4	0.0	19.3
Cycle Q Clear(g_c), s	5.7	0.0	0.0				0.5	9.7	0.0	26.4	0.0	19.3
Prop In Lane	0.61		0.24				1.00		0.00	1.00		0.07
Lane Grp Cap(c), veh/h	195	0	0				22	732	0	711	0	1136
V/C Ratio(X)	0.76	0.00	0.00				0.49	0.73	0.00	0.94	0.00	0.70
Avail Cap(c_a), veh/h	502	0	0				121	1290	0	1440	0	2117
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	0.00				1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	0.0				32.7	24.5	0.0	17.9	0.0	7.8
Incr Delay (d2), s/veh	6.0	0.0	0.0				6.1	1.4	0.0	2.9	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	2.5	0.0	0.0				0.2	3.6	0.0	8.1	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.0	0.0				38.8	25.9	0.0	20.8	0.0	8.6
LnGrp LOS	C	A	A				D	C	A	C	A	A
Approach Vol, veh/h		148						545			1460	
Approach Delay, s/veh		34.6						26.1			14.2	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	33.9	20.5		12.4	5.5	48.9
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	59.4	25.2		20.0	5.0	79.6
Max Q Clear Time (g_c+I1), s	28.4	11.7		7.7	2.5	21.3
Green Ext Time (p_c), s	1.0	2.6		0.6	0.0	6.0

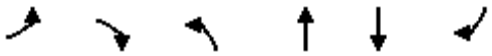
Intersection Summary			
HCM 6th Ctrl Delay			18.6
HCM 6th LOS			B

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	116	706	826	763
Future Volume (vph)	116	706	826	763
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	41.0	41.0	42.0	37.0
Total Split (%)	34.2%	34.2%	35.0%	30.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	23.2	23.2	30.3	27.7
Actuated g/C Ratio	0.23	0.23	0.30	0.28
v/c Ratio	0.30	0.92	0.82	0.83
Control Delay	34.8	25.9	41.3	44.5
Queue Delay	0.0	0.0	0.0	10.2
Total Delay	34.8	25.9	41.3	54.7
LOS	C	C	D	D
Approach Delay	27.2		41.3	54.7
Approach LOS	C		D	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 40.7	Intersection LOS: D
Intersection Capacity Utilization 75.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	116	706	0	826	763	0
Future Volume (veh/h)	116	706	0	826	763	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	126	617	0	888	820	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	783	697	0	1255	1255	0
Arrive On Green	0.43	0.43	0.00	0.35	0.35	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	126	617	0	888	820	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	2.4	19.9	0.0	12.0	10.8	0.0
Cycle Q Clear(g_c), s	2.4	19.9	0.0	12.0	10.8	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	783	697	0	1255	1255	0
V/C Ratio(X)	0.16	0.89	0.00	0.71	0.65	0.00
Avail Cap(c_a), veh/h	1115	992	0	2289	1969	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.8	14.7	0.0	15.9	15.5	0.0
Incr Delay (d2), s/veh	0.1	7.2	0.0	0.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.6	0.0	3.9	3.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.9	21.9	0.0	16.7	16.1	0.0
LnGrp LOS	A	C	A	B	B	A
Approach Vol, veh/h	743			888	820	
Approach Delay, s/veh	19.8			16.7	16.1	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		25.8		30.6		25.8
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		35.8		34.8		30.8
Max Q Clear Time (g_c+I1), s		14.0		21.9		12.8
Green Ext Time (p_c), s		5.6		2.5		4.8

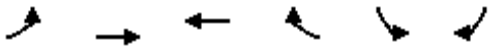
Intersection Summary		
HCM 6th Ctrl Delay		17.5
HCM 6th LOS		B

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	455	769	90	192	1278
Future Volume (vph)	455	769	90	192	1278
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2	24.2
Total Split (s)	42.1	80.1	38.0	39.9	39.9
Total Split (%)	35.1%	66.8%	31.7%	33.3%	33.3%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
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)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	30.3	61.1	25.9	20.3	20.3
Actuated g/C Ratio	0.32	0.65	0.27	0.21	0.21
v/c Ratio	0.85	0.67	0.85	0.53	0.81
Control Delay	46.6	14.4	37.5	40.5	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	14.4	37.5	40.5	6.5
LOS	D	B	D	D	A
Approach Delay		26.4	37.5	11.0	
Approach LOS		C	D	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 82.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	455	769	90	372	192	1278
Future Volume (veh/h)	455	769	90	372	192	1278
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	489	827	97	266	206	906
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	520	1085	108	296	568	889
Arrive On Green	0.29	0.57	0.24	0.24	0.31	0.31
Sat Flow, veh/h	1810	1900	449	1230	1810	2834
Grp Volume(v), veh/h	489	827	0	363	206	906
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1679	1810	1417
Q Serve(g_s), s	28.4	35.5	0.0	22.5	9.5	33.7
Cycle Q Clear(g_c), s	28.4	35.5	0.0	22.5	9.5	33.7
Prop In Lane	1.00			0.73	1.00	1.00
Lane Grp Cap(c), veh/h	520	1085	0	404	568	889
V/C Ratio(X)	0.94	0.76	0.00	0.90	0.36	1.02
Avail Cap(c_a), veh/h	632	1307	0	497	568	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	17.5	0.0	39.5	28.6	36.9
Incr Delay (d2), s/veh	18.7	2.2	0.0	16.7	0.4	35.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.0	15.2	0.0	11.0	3.9	26.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.1	19.7	0.0	56.2	29.0	72.0
LnGrp LOS	E	B	A	E	C	F
Approach Vol, veh/h		1316	363		1112	
Approach Delay, s/veh		33.2	56.2		64.0	
Approach LOS		C	E		E	

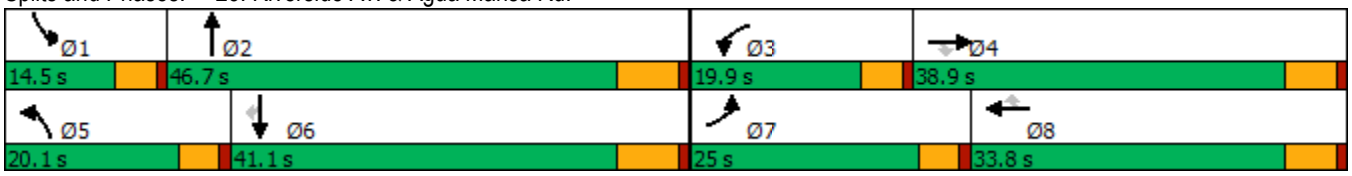
Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	67.6	39.9	35.5	32.1
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	73.9	33.7	37.5	31.8
Max Q Clear Time (g_c+I1), s	37.5	35.7	30.4	24.5
Green Ext Time (p_c), s	7.5	0.0	0.5	1.3

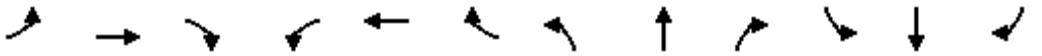
Intersection Summary	
HCM 6th Ctrl Delay	48.5
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	265	218	97	118	322	113	214	963	123	932	329
Future Volume (vph)	265	218	97	118	322	113	214	963	123	932	329
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.8	33.8	9.6	29.5	9.6	31.5	31.5
Total Split (s)	25.0	38.9	38.9	19.9	33.8	33.8	20.1	46.7	14.5	41.1	41.1
Total Split (%)	20.8%	32.4%	32.4%	16.6%	28.2%	28.2%	16.8%	38.9%	12.1%	34.3%	34.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	5.8	4.6	5.8	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.0	32.5	32.5	11.8	24.4	24.4	15.5	39.6	9.8	33.8	33.8
Actuated g/C Ratio	0.16	0.28	0.28	0.10	0.21	0.21	0.13	0.34	0.08	0.29	0.29
v/c Ratio	0.94	0.43	0.18	0.67	0.85	0.24	0.93	0.89	0.85	0.93	0.58
Control Delay	87.7	37.4	1.7	68.3	63.4	1.2	92.3	46.1	95.0	55.2	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.7	37.4	1.7	68.3	63.4	1.2	92.3	46.1	95.0	55.2	19.5
LOS	F	D	A	E	E	A	F	D	F	E	B
Approach Delay		54.5			51.7			54.0		50.2	
Approach LOS		D			D			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.3	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 52.4	Intersection LOS: D
Intersection Capacity Utilization 88.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	218	97	118	322	113	214	963	72	123	932	329
Future Volume (veh/h)	265	218	97	118	322	113	214	963	72	123	932	329
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	279	229	65	124	339	100	225	1014	69	129	981	277
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	293	551	466	152	385	326	249	1196	81	156	1073	478
Arrive On Green	0.16	0.29	0.29	0.08	0.20	0.20	0.14	0.35	0.35	0.09	0.30	0.30
Sat Flow, veh/h	1810	1900	1609	1810	1900	1608	1810	3429	233	1810	3610	1607
Grp Volume(v), veh/h	279	229	65	124	339	100	225	534	549	129	981	277
Grp Sat Flow(s),veh/h/ln	1810	1900	1609	1810	1900	1608	1810	1805	1858	1810	1805	1607
Q Serve(g_s), s	17.2	10.9	3.4	7.6	19.5	5.9	13.8	30.7	30.8	7.9	29.5	16.5
Cycle Q Clear(g_c), s	17.2	10.9	3.4	7.6	19.5	5.9	13.8	30.7	30.8	7.9	29.5	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	293	551	466	152	385	326	249	629	648	156	1073	478
V/C Ratio(X)	0.95	0.42	0.14	0.82	0.88	0.31	0.90	0.85	0.85	0.83	0.91	0.58
Avail Cap(c_a), veh/h	312	559	473	246	473	400	249	645	664	159	1111	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	32.2	29.6	50.7	43.5	38.1	47.7	33.9	33.9	50.5	38.1	33.6
Incr Delay (d2), s/veh	36.3	0.5	0.1	4.4	14.9	0.5	31.7	10.1	9.9	26.5	11.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	4.9	1.3	3.5	10.4	2.3	8.1	14.1	14.5	4.6	13.8	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	32.8	29.7	55.0	58.4	38.6	79.5	44.0	43.8	77.1	49.4	35.2
LnGrp LOS	F	C	C	E	E	D	E	D	D	E	D	D
Approach Vol, veh/h		573			563			1308			1387	
Approach Delay, s/veh		56.8			54.2			50.0			49.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	45.7	14.0	38.4	20.1	39.9	23.8	28.6
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	9.9	40.2	15.3	33.1	15.5	34.6	20.4	28.0
Max Q Clear Time (g_c+I1), s	9.9	32.8	9.6	12.9	15.8	31.5	19.2	21.5
Green Ext Time (p_c), s	0.0	3.5	0.1	1.3	0.0	1.9	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	51.3
HCM 6th LOS	D

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	11	44	664	139	1078
Future Volume (vph)	11	44	664	139	1078
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	24.6	9.6	15.1
Total Split (s)	24.6	24.6	70.6	24.8	95.4
Total Split (%)	20.5%	20.5%	58.8%	20.7%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.1
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)	4.6	4.6	4.6	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	11.3	11.3	43.6	13.4	64.9
Actuated g/C Ratio	0.15	0.15	0.58	0.18	0.87
v/c Ratio	0.05	0.18	0.43	0.53	0.76
Control Delay	40.9	15.2	10.4	40.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	15.2	10.4	40.5	8.9
LOS	D	B	B	D	A
Approach Delay	20.3		10.4		12.5
Approach LOS	C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 11.9	Intersection LOS: B
Intersection Capacity Utilization 76.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	44	664	114	139	1078
Future Volume (veh/h)	11	44	664	114	139	1078
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	1700	1800	1800	1800	1700	1800
Adj Flow Rate, veh/h	12	48	730	125	153	1185
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	163	154	1655	283	190	1355
Arrive On Green	0.10	0.10	0.57	0.57	0.12	0.75
Sat Flow, veh/h	1619	1525	3010	500	1619	1800
Grp Volume(v), veh/h	12	48	427	428	153	1185
Grp Sat Flow(s),veh/h/ln	1619	1525	1710	1710	1619	1800
Q Serve(g_s), s	0.4	1.9	9.6	9.6	6.1	31.6
Cycle Q Clear(g_c), s	0.4	1.9	9.6	9.6	6.1	31.6
Prop In Lane	1.00	1.00		0.29	1.00	
Lane Grp Cap(c), veh/h	163	154	969	969	190	1355
V/C Ratio(X)	0.07	0.31	0.44	0.44	0.81	0.87
Avail Cap(c_a), veh/h	488	460	1701	1701	493	2450
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	27.0	27.7	8.3	8.3	28.6	5.9
Incr Delay (d2), s/veh	0.2	1.1	0.3	0.3	3.1	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	3.0	3.0	2.4	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.2	28.8	8.6	8.6	31.6	7.9
LnGrp LOS	C	C	A	A	C	A
Approach Vol, veh/h	60		855			1338
Approach Delay, s/veh	28.5		8.6			10.6
Approach LOS	C		A			B

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.4	42.7			55.1	11.3
Change Period (Y+Rc), s	4.6	* 5.1			5.1	4.6
Max Green Setting (Gmax), s	20.2	* 66			90.3	20.0
Max Q Clear Time (g_c+I1), s	8.1	11.6			33.6	3.9
Green Ext Time (p_c), s	0.1	6.7			16.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

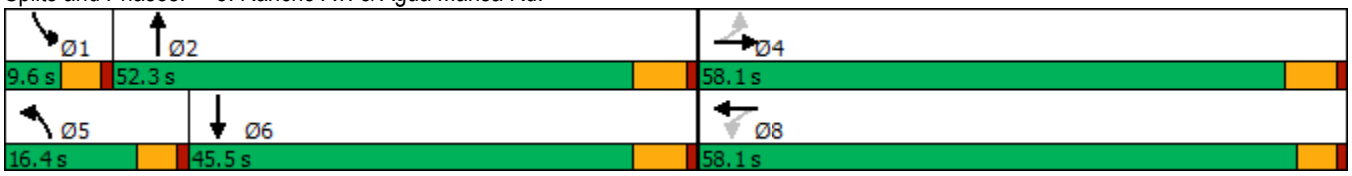
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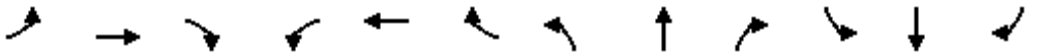
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	544	97	28	135	519	14	810
Future Volume (vph)	544	97	28	135	519	14	810
Turn Type	Perm	NA	NA	Prot	NA	Prot	NA
Protected Phases		4	8	5	2	1	6
Permitted Phases	4						
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	23.8	23.8	14.6	9.6	20.8	9.6	20.8
Total Split (s)	58.1	58.1	58.1	16.4	52.3	9.6	45.5
Total Split (%)	48.4%	48.4%	48.4%	13.7%	43.6%	8.0%	37.9%
Yellow Time (s)	4.8	4.8	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	4.6	5.8	4.6	5.8
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min
Act Effct Green (s)	52.3	52.3	53.5	11.8	52.2	5.0	39.7
Actuated g/C Ratio	0.44	0.44	0.45	0.10	0.44	0.04	0.33
v/c Ratio	1.01	0.48	0.05	0.91	0.37	0.22	0.98
Control Delay	75.0	16.9	15.2	105.7	24.5	63.7	61.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.0	16.9	15.2	105.7	24.5	63.7	61.0
LOS	E	B	B	F	C	E	E
Approach Delay		52.2	15.2		41.3		61.0
Approach LOS		D	B		D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 52.4	Intersection LOS: D
Intersection Capacity Utilization 91.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	544	97	256	0	28	10	135	519	2	14	810	215
Future Volume (veh/h)	544	97	256	0	28	10	135	519	2	14	810	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	579	103	262	0	30	9	144	552	1	15	862	65
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	668	201	512	0	595	178	169	1371	2	27	980	74
Arrive On Green	0.45	0.45	0.45	0.00	0.45	0.45	0.10	0.39	0.39	0.02	0.30	0.30
Sat Flow, veh/h	1390	450	1144	0	1329	399	1619	3503	6	1619	3223	243
Grp Volume(v), veh/h	579	0	365	0	0	39	144	269	284	15	457	470
Grp Sat Flow(s),veh/h/ln	1390	0	1594	0	0	1728	1619	1710	1799	1619	1710	1756
Q Serve(g_s), s	45.3	0.0	18.4	0.0	0.0	1.4	9.8	12.8	12.8	1.0	28.5	28.5
Cycle Q Clear(g_c), s	46.7	0.0	18.4	0.0	0.0	1.4	9.8	12.8	12.8	1.0	28.5	28.5
Prop In Lane	1.00		0.72	0.00		0.23	1.00		0.00	1.00		0.14
Lane Grp Cap(c), veh/h	668	0	713	0	0	773	169	670	704	27	520	534
V/C Ratio(X)	0.87	0.00	0.51	0.00	0.00	0.05	0.85	0.40	0.40	0.56	0.88	0.88
Avail Cap(c_a), veh/h	694	0	743	0	0	824	170	708	745	72	605	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	0.0	22.2	0.0	0.0	17.5	49.4	24.7	24.7	54.8	37.1	37.1
Incr Delay (d2), s/veh	10.9	0.0	0.6	0.0	0.0	0.0	30.6	0.4	0.4	6.5	12.6	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	0.0	6.6	0.0	0.0	0.6	5.3	5.0	5.2	0.5	13.1	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	0.0	22.8	0.0	0.0	17.6	80.1	25.1	25.0	61.3	49.8	49.5
LnGrp LOS	D	A	C	A	A	B	F	C	C	E	D	D
Approach Vol, veh/h		944			39			697			942	
Approach Delay, s/veh		34.4			17.6			36.4			49.8	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	49.8		56.0	16.3	39.9		56.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	5.0	46.5		52.3	11.8	39.7		* 54				
Max Q Clear Time (g_c+I1), s	3.0	14.8		48.7	11.8	30.5		3.4				
Green Ext Time (p_c), s	0.0	3.1		1.5	0.0	3.6		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		40.2
HCM 6th LOS		D

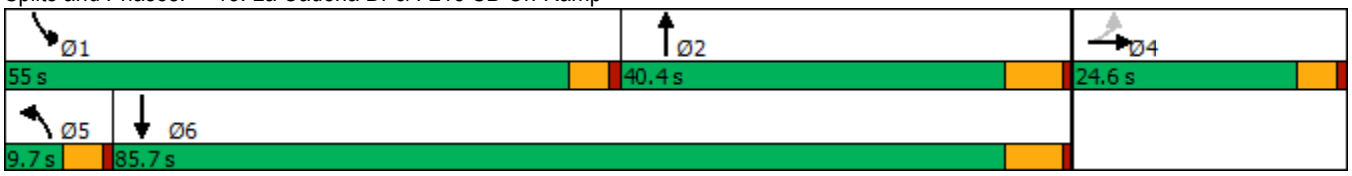
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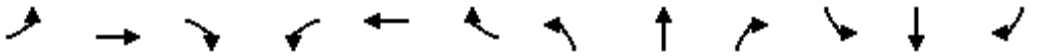
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	10	30	789	580	897
Future Volume (vph)	10	30	789	580	897
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.7	40.4	55.0	85.7
Total Split (%)	20.5%	8.1%	33.7%	45.8%	71.4%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	10.7	5.3	31.5	45.1	78.3
Actuated g/C Ratio	0.11	0.05	0.31	0.45	0.78
v/c Ratio	0.49	0.38	0.80	0.87	0.77
Control Delay	51.4	65.6	40.3	40.8	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	65.6	40.3	40.8	15.2
LOS	D	E	D	D	B
Approach Delay	51.4		41.2		24.7
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.1	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 31.2	Intersection LOS: C
Intersection Capacity Utilization 77.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	10	19	0	0	0	30	789	7	580	897	83
Future Volume (veh/h)	56	10	19	0	0	0	30	789	7	580	897	83
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	1800	1800	1800				1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	61	11	21				33	858	8	630	975	90
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	80	15	28				54	1074	10	668	1118	103
Arrive On Green	0.07	0.07	0.07				0.03	0.31	0.31	0.41	0.69	0.69
Sat Flow, veh/h	1100	198	379				1619	3472	32	1619	1623	150
Grp Volume(v), veh/h	93	0	0				33	423	443	630	0	1065
Grp Sat Flow(s),veh/h/ln	1677	0	0				1619	1710	1794	1619	0	1773
Q Serve(g_s), s	4.1	0.0	0.0				1.5	17.0	17.0	28.1	0.0	35.2
Cycle Q Clear(g_c), s	4.1	0.0	0.0				1.5	17.0	17.0	28.1	0.0	35.2
Prop In Lane	0.66		0.23				1.00		0.02	1.00		0.08
Lane Grp Cap(c), veh/h	123	0	0				54	529	555	668	0	1221
V/C Ratio(X)	0.76	0.00	0.00				0.62	0.80	0.80	0.94	0.00	0.87
Avail Cap(c_a), veh/h	446	0	0				110	778	816	1086	0	1875
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	0.00				1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	0.0	0.0				35.9	23.8	23.8	21.2	0.0	9.1
Incr Delay (d2), s/veh	9.2	0.0	0.0				4.2	3.7	3.5	7.8	0.0	3.1
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	1.9	0.0	0.0				0.6	6.5	6.8	10.2	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	0.0	0.0				40.1	27.5	27.3	29.0	0.0	12.2
LnGrp LOS	D	A	A				D	C	C	C	A	B
Approach Vol, veh/h		93						899			1695	
Approach Delay, s/veh		43.4						27.9			18.4	
Approach LOS		D						C			B	

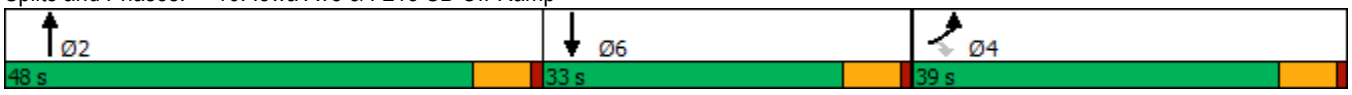
Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	35.6	29.5		10.1	7.1	58.0
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	50.4	34.2		20.0	5.1	79.5
Max Q Clear Time (g_c+I1), s	30.1	19.0		6.1	3.5	37.2
Green Ext Time (p_c), s	0.9	4.2		0.3	0.0	10.4

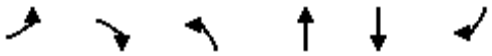
Intersection Summary			
HCM 6th Ctrl Delay			22.5
HCM 6th LOS			C

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	153	632	976	623
Future Volume (vph)	153	632	976	623
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	39.0	39.0	48.0	33.0
Total Split (%)	32.5%	32.5%	40.0%	27.5%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	15.7	15.7	32.0	22.0
Actuated g/C Ratio	0.18	0.18	0.36	0.25
v/c Ratio	0.50	0.79	0.78	0.72
Control Delay	40.8	11.1	31.1	37.7
Queue Delay	0.0	0.0	0.0	0.6
Total Delay	40.8	11.1	31.1	38.2
LOS	D	B	C	D
Approach Delay	16.9		31.1	38.2
Approach LOS	B		C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 28.3	Intersection LOS: C
Intersection Capacity Utilization 66.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	632	0	976	623	0
Future Volume (veh/h)	153	632	0	976	623	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	158	516	0	1006	642	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	677	602	0	1438	1438	0
Arrive On Green	0.37	0.37	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	158	516	0	1006	642	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	3.3	16.1	0.0	12.7	7.1	0.0
Cycle Q Clear(g_c), s	3.3	16.1	0.0	12.7	7.1	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	677	602	0	1438	1438	0
V/C Ratio(X)	0.23	0.86	0.00	0.70	0.45	0.00
Avail Cap(c_a), veh/h	1091	970	0	2773	1778	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.7	15.7	0.0	13.7	12.0	0.0
Incr Delay (d2), s/veh	0.2	4.5	0.0	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.9	0.0	3.8	2.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.9	20.2	0.0	14.3	12.2	0.0
LnGrp LOS	B	C	A	B	B	A
Approach Vol, veh/h	674			1006	642	
Approach Delay, s/veh	18.2			14.3	12.2	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		27.9		26.5		27.9
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		41.8		32.8		26.8
Max Q Clear Time (g_c+I1), s		14.7		18.1		9.1
Green Ext Time (p_c), s		7.0		2.3		3.6

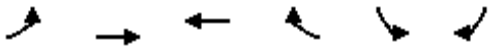
Intersection Summary		
HCM 6th Ctrl Delay	14.8	
HCM 6th LOS	B	

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	513	872	72	206	1004
Future Volume (vph)	513	872	72	206	1004
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2	24.2
Total Split (s)	47.0	87.0	40.0	33.0	33.0
Total Split (%)	39.2%	72.5%	33.3%	27.5%	27.5%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
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)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	31.8	61.1	24.3	18.7	18.7
Actuated g/C Ratio	0.34	0.65	0.26	0.20	0.20
v/c Ratio	0.85	0.72	0.86	0.58	0.74
Control Delay	44.8	14.4	31.7	44.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	14.4	31.7	44.2	6.1
LOS	D	B	C	D	A
Approach Delay		25.7	31.7	12.6	
Approach LOS		C	C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 86.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	513	872	72	463	206	1004
Future Volume (veh/h)	513	872	72	463	206	1004
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	523	890	73	344	210	764
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	556	1192	80	377	461	722
Arrive On Green	0.31	0.63	0.28	0.28	0.25	0.25
Sat Flow, veh/h	1810	1900	290	1365	1810	2834
Grp Volume(v), veh/h	523	890	0	417	210	764
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1654	1810	1417
Q Serve(g_s), s	29.6	34.5	0.0	25.7	10.3	26.8
Cycle Q Clear(g_c), s	29.6	34.5	0.0	25.7	10.3	26.8
Prop In Lane	1.00			0.82	1.00	1.00
Lane Grp Cap(c), veh/h	556	1192	0	457	461	722
V/C Ratio(X)	0.94	0.75	0.00	0.91	0.46	1.06
Avail Cap(c_a), veh/h	729	1459	0	531	461	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	13.7	0.0	36.8	33.1	39.2
Incr Delay (d2), s/veh	15.5	1.7	0.0	18.4	0.7	50.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	13.9	0.0	12.5	4.4	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.1	15.4	0.0	55.2	33.8	89.2
LnGrp LOS	D	B	A	E	C	F
Approach Vol, veh/h		1413	417		974	
Approach Delay, s/veh		28.6	55.2		77.3	
Approach LOS		C	E		E	

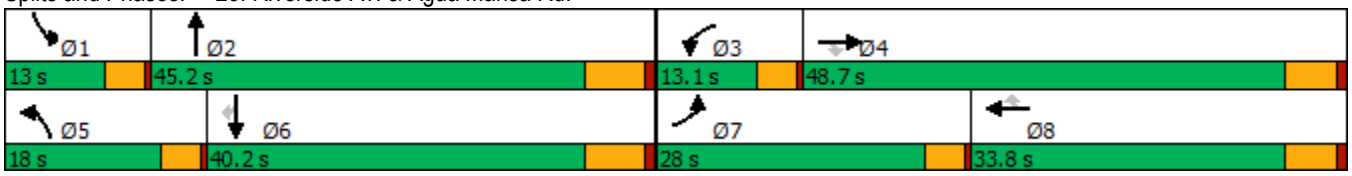
Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	72.2	33.0	36.9	35.3
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	80.8	26.8	42.4	33.8
Max Q Clear Time (g_c+I1), s	36.5	28.8	31.6	27.7
Green Ext Time (p_c), s	8.8	0.0	0.7	1.4

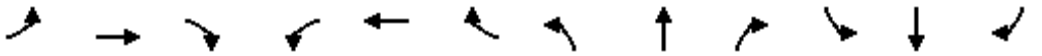
Intersection Summary	
HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	316	484	349	89	296	144	181	844	107	896	225
Future Volume (vph)	316	484	349	89	296	144	181	844	107	896	225
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.1	34.8	34.8	9.1	33.8	33.8	9.1	29.5	9.1	31.5	31.5
Total Split (s)	28.0	48.7	48.7	13.1	33.8	33.8	18.0	45.2	13.0	40.2	40.2
Total Split (%)	23.3%	40.6%	40.6%	10.9%	28.2%	28.2%	15.0%	37.7%	10.8%	33.5%	33.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	5.8	4.1	5.8	5.8	4.1	6.5	4.1	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	22.8	37.0	37.0	8.4	22.6	22.6	13.6	37.3	8.7	32.5	32.5
Actuated g/C Ratio	0.20	0.33	0.33	0.07	0.20	0.20	0.12	0.33	0.08	0.29	0.29
v/c Ratio	0.90	0.80	0.53	0.69	0.80	0.32	0.87	0.83	0.79	0.89	0.40
Control Delay	72.6	45.4	12.5	78.7	59.5	4.7	85.1	42.1	89.5	50.9	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.6	45.4	12.5	78.7	59.5	4.7	85.1	42.1	89.5	50.9	12.0
LOS	E	D	B	E	E	A	F	D	F	D	B
Approach Delay		42.9			47.8			49.0		47.1	
Approach LOS		D			D			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112.1	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 46.5	Intersection LOS: D
Intersection Capacity Utilization 85.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	484	349	89	296	144	181	844	106	107	896	225
Future Volume (veh/h)	316	484	349	89	296	144	181	844	106	107	896	225
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	329	504	239	93	308	138	189	879	95	111	933	195
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	360	616	521	118	362	307	220	1114	120	138	1062	473
Arrive On Green	0.20	0.32	0.32	0.07	0.19	0.19	0.12	0.34	0.34	0.08	0.29	0.29
Sat Flow, veh/h	1810	1900	1609	1810	1900	1610	1810	3286	355	1810	3610	1607
Grp Volume(v), veh/h	329	504	239	93	308	138	189	483	491	111	933	195
Grp Sat Flow(s),veh/h/ln	1810	1900	1609	1810	1900	1610	1810	1805	1836	1810	1805	1607
Q Serve(g_s), s	18.7	25.6	12.4	5.3	16.4	8.0	10.8	25.3	25.3	6.3	25.8	10.2
Cycle Q Clear(g_c), s	18.7	25.6	12.4	5.3	16.4	8.0	10.8	25.3	25.3	6.3	25.8	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	360	616	521	118	362	307	220	612	623	138	1062	473
V/C Ratio(X)	0.91	0.82	0.46	0.79	0.85	0.45	0.86	0.79	0.79	0.80	0.88	0.41
Avail Cap(c_a), veh/h	412	776	657	155	507	429	240	665	677	153	1159	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	32.6	28.2	48.4	41.0	37.6	45.3	31.3	31.3	47.7	35.3	29.8
Incr Delay (d2), s/veh	21.6	5.5	0.6	13.1	9.5	1.0	22.8	5.9	5.8	21.1	7.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	12.0	4.6	2.8	8.3	3.1	5.9	11.0	11.2	3.5	11.5	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.8	38.2	28.8	61.5	50.6	38.6	68.0	37.2	37.1	68.8	42.8	30.3
LnGrp LOS	E	D	C	E	D	D	E	D	D	E	D	C
Approach Vol, veh/h		1072			539			1163			1239	
Approach Delay, s/veh		43.7			49.4			42.2			43.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	42.1	10.9	39.8	16.8	37.4	25.0	25.8
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	8.9	38.7	9.0	42.9	13.9	33.7	23.9	28.0
Max Q Clear Time (g_c+I1), s	8.3	27.3	7.3	27.6	12.8	27.8	20.7	18.4
Green Ext Time (p_c), s	0.0	4.1	0.0	3.3	0.0	3.0	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

APPENDIX 6.1:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Volume Development
AM Peak Hour

1: Driveway 1 & Agua Mansa Rd.

PHF: _____ Count Date: _____

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**319**	0	0	**918**	0	1,237

2: Driveway 2 & Agua Mansa Rd.

PHF: _____ **7:45 AM** Count Date: 1/0/1900

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**319**	0	0	**918**	0	1,237

3: Driveway 3 & Agua Mansa Rd.

PHF: _____ **7:45 AM** Count Date: 1/0/1900

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**319**	0	0	**918**	0	1,237

4: Driveway 4 & Agua Mansa Rd.

PHF: 0.884 **7:45 AM** Count Date: 1/0/1900

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**319**	0	0	**918**	0	1,237

5: Rancho Av. & I-10 WB Ramps

PHF: 0.928 **7:00 AM** Count Date: 7/27/2016

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	123	466	0	0	878	397	0	0	0	326	0	444	2,635

Volume Development
AM Peak Hour

6: Rancho Av. & I-10 EB Ramps

	PHF:	0.883		7:15 AM					Count Date:	7/27/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	421	207	431	773	0	168	1	372	0	0	0	2,373

7: Rancho Av. & W. N St.

	PHF:	0.836		7:00 AM					Count Date:	2/12/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	383	49	110	1,390	0	0	0	0	20	0	78	2,030

8: Rancho Av. & Agua Mansa Rd.

	PHF:	0.887		7:00 AM					Count Date:	2/14/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	108	475	7	40	987	771	227	22	70	5	39	15	2,765

9: La Cadena Dr. & Valley Bl.

	PHF:	0.906		7:45 AM					Count Date:	10/29/2013		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	182	243	278	35	382	28	35	455	200	522	301	11	2,671

10: La Cadena Bl & I-10 WB On Ramp

	PHF:	0.881		7:15 AM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	176	612	0	0	956	221	0	0	0	0	0	0	1,965

Volume Development
AM Peak Hour

11: La Cadena Dr. & W N St

	PHF:	0.868		7:00 AM					Count Date:	2/4/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	22	734	7	9	603	36	61	16	68	20	17	19	1,612

12: La Cadena Dr. & Rancho Av.

	PHF:	0.980		7:00 AM					Count Date:	2/2/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	455	669	0	0	704	28	11	0	657	0	0	0	2,524

13: La Cadena Dr. & Barton Rd.

	PHF:	0.942		7:00 AM					Count Date:	5/23/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	765	397	567	1,390	0	0	0	0	323	0	361	3,804

14: Iowa Av. & La Cadena Dr.

	PHF:	0.967		7:00 AM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	233	787	0	0	716	1,187	395	0	217	0	0	0	3,535

15: La Cadena Dr. & I-215 SB On-Ramp

	PHF:	0.889		7:00 AM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	11	513	0	617	699	54	86	20	33	0	0	0	2,032

Volume Development
AM Peak Hour

16: Iowa Av. & I-215 SB Off-Ramp

	PHF:	0.926		7:00 AM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	897	0	0	933	0	123	0	805	0	0	0	2,758

17: Iowa Av. & I-215 NB Ramps

	PHF:	0.931		7:00 AM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	266	0	1,472	512	877	0	0	97	385	3,609

18: 9th St & Valley Bl

	PHF:	0.953		7:00 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	413	182	67	27	139	95	2	261	308	22	388	15	1,921

19: 9th St. & I-10 WB Off Ramp

	PHF:	0.903		7:15 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	1	194	0	0	469	1	1	0	1	4	2	480	1,154

20: 9th St & I-10 EB Ramps

	PHF:	0.817		7:15 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	474	0	0	195	4	0	0	0	0	673

21: I-215 SB Ramps & Barton Rd.

	PHF:	0.915							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	**0**	**0**	**14**	**362**	**28**	**253**	**203**	**837**	**13**	**40**	**694**	**587**	3,029

22: I-215 NB Ramps & Barton Rd.

	PHF:	0.907							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	**125**	**0**	**484**	**0**	**0**	**0**	**292**	**919**	**0**	**0**	**1,196**	**726**	3,743

23: Riverside Av. & Agua Mansa Rd.

	PHF:	0.946							Count Date:		12/5/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	**229**	**1,135**	**76**	**116**	**1,534**	**343**	**278**	**226**	**114**	**182**	**367**	**122**	4,723

Volume Development
PM Peak Hour

1: Driveway 1 & Agua Mansa Rd.

	PHF:								Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**828**	0	0	**338**	0	1,166

2: Driveway 2 & Agua Mansa Rd.

	PHF:								Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**828**	0	0	**338**	0	1,166

3: Driveway 3 & Agua Mansa Rd.

	PHF:			**4:45 PM**					Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**828**	0	0	**338**	0	1,166

4: Driveway 4 & Agua Mansa Rd.

	PHF:			**4:30 PM**					Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	0	0	0	0	**828**	0	0	**338**	0	1,166

5: Rancho Av. & I-10 WB Ramps

	PHF:	0.979		**5:00 PM**					Count Date:		7/27/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	153	1,069	0	0	853	247	0	0	0	181	1	527	3,031

Volume Development
PM Peak Hour

6: Rancho Av. & I-10 EB Ramps

	PHF:	0.948		4:45 PM					Count Date:	7/27/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	718	429	443	591	0	505	7	421	0	0	0	3,114

7: Rancho Av. & W. N St.

	PHF:	0.909		4:30 PM					Count Date:	2/12/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	678	156	147	1,128	0	0	0	0	14	0	47	2,170

8: Rancho Av. & Agua Mansa Rd.

	PHF:	0.945		4:30 PM					Count Date:	2/14/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	85	607	3	16	941	220	566	114	148	5	32	12	2,749

9: La Cadena Dr. & Valley Bl.

	PHF:	0.951		4:30 PM					Count Date:	1/29/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	200	454	399	40	470	43	71	460	169	593	290	20	3,210

10: La Cadena Bl & I-10 WB On Ramp

	PHF:	0.939		4:45 PM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	209	945	0	0	1,117	194	0	0	0	0	0	0	2,466

Volume Development
PM Peak Hour

11: La Cadena Dr. & W N St

	PHF:	0.965		4:45 PM					Count Date:	2/4/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	28	749	10	27	790	70	103	30	48	22	31	16	1,924

12: La Cadena Dr. & Rancho Av.

	PHF:	0.966		4:15 PM					Count Date:	2/2/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	503	697	0	0	852	3	11	0	761	0	0	0	2,826

13: La Cadena Dr. & Barton Rd.

	PHF:	0.973		4:30 AM					Count Date:	5/23/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	1,042	322	489	1,358	0	0	0	0	514	0	508	4,232

14: Iowa Av. & La Cadena Dr.

	PHF:	0.962		4:30 PM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	292	962	0	0	481	1,404	640	0	264	0	0	0	4,042

15: La Cadena Dr. & I-215 SB On-Ramp

	PHF:	0.919		4:15 PM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	32	845	7	595	964	88	59	11	20	0	0	0	2,622

Volume Development
PM Peak Hour

16: Iowa Av. & I-215 SB Off-Ramp

	PHF:	0.968		4:00 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	1,092	0	0	744	0	162	0	711	0	0	0	2,709

17: Iowa Av. & I-215 NB Ramps

	PHF:	0.981		4:00 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	315	0	1,140	583	1,003	0	0	75	509	3,624

18: 9th St & Valley Bl

	PHF:	0.956		4:45 PM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	414	268	106	33	120	80	32	456	192	46	437	27	2,212

19: 9th St. & I-10 WB Off Ramp

	PHF:	0.933		4:15 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	4	**338**	0	0	362	5	1	0	4	6	2	454	1,175

20: 9th St & I-10 EB Ramps

	PHF:	0.888		4:00 PM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	0	0	0	372	0	0	342	2	0	0	0	0	716

21: I-215 SB Ramps & Barton Rd.

	PHF:	0.948							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	**3**	**0**	**76**	**487**	**3**	**348**	**157**	**853**	**7**	**52**	**751**	**422**	3,160

22: I-215 NB Ramps & Barton Rd.

	PHF:	0.973							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	**160**	**0**	**644**	**0**	**0**	**0**	**267**	**1,150**	**0**	**0**	**1,064**	**479**	3,765

23: Riverside Av. & Agua Mansa Rd.

	PHF:	0.959							Count Date:		12/5/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	**229**	**1,356**	**186**	**115**	**1,125**	**235**	**327**	**569**	**374**	**121**	**322**	**137**	5,095

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	0	444	123	466	878
Future Volume (vph)	0	444	123	466	878
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	28.4	28.4	12.7	80.7	63.5
Actuated g/C Ratio	0.24	0.24	0.11	0.67	0.53
v/c Ratio	0.82	0.70	0.69	0.21	0.74
Control Delay	59.1	13.7	92.6	2.1	25.1
Queue Delay	7.4	0.0	0.0	0.1	0.1
Total Delay	66.5	13.7	92.6	2.2	25.2
LOS	E	B	F	A	C
Approach Delay	36.1			21.1	25.2
Approach LOS	D			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: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 27.5	Intersection LOS: C
Intersection Capacity Utilization 74.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	326	0	444	123	466	0	0	878	397
Future Volume (veh/h)	0	0	0	326	0	444	123	466	0	0	878	397
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	0	1900	1900
Adj Flow Rate, veh/h				351	0	369	132	501	0	0	944	346
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				455	0	404	160	2375	0	0	1379	502
Arrive On Green				0.25	0.00	0.25	0.06	0.44	0.00	0.00	0.53	0.53
Sat Flow, veh/h				1810	0	1610	1810	3705	0	0	2687	944
Grp Volume(v), veh/h				351	0	369	132	501	0	0	656	634
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1730
Q Serve(g_s), s				21.6	0.0	26.7	8.7	10.3	0.0	0.0	32.0	32.5
Cycle Q Clear(g_c), s				21.6	0.0	26.7	8.7	10.3	0.0	0.0	32.0	32.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.55
Lane Grp Cap(c), veh/h				455	0	404	160	2375	0	0	960	921
V/C Ratio(X)				0.77	0.00	0.91	0.83	0.21	0.00	0.00	0.68	0.69
Avail Cap(c_a), veh/h				501	0	445	249	2375	0	0	960	921
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.86	0.86	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.7	0.0	43.6	55.5	14.3	0.0	0.0	20.6	20.7
Incr Delay (d2), s/veh				6.7	0.0	21.8	5.8	0.2	0.0	0.0	3.9	4.2
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				10.2	0.0	12.7	4.3	4.4	0.0	0.0	13.9	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				48.4	0.0	65.4	61.4	14.5	0.0	0.0	24.5	24.9
LnGrp LOS				D	A	E	E	B	A	A	C	C
Approach Vol, veh/h					720			633			1290	
Approach Delay, s/veh					57.1			24.3			24.7	
Approach LOS					E			C			C	

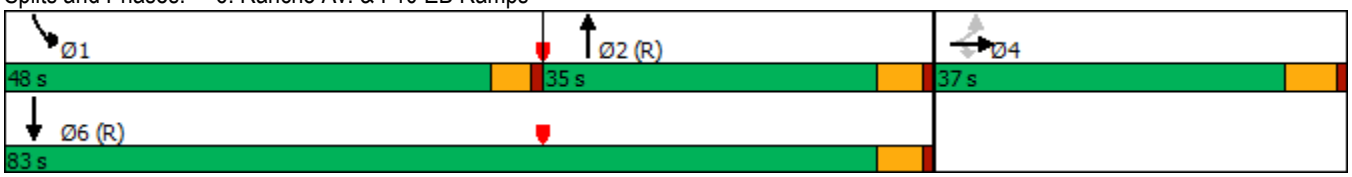
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		84.1			15.1	69.0		35.9				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		12.3			10.7	34.5		28.7				
Green Ext Time (p_c), s		3.7			0.1	9.1		1.4				

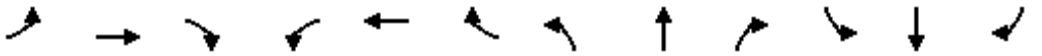
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	1	372	421	431	773
Future Volume (vph)	1	372	421	431	773
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	22.3	22.3	46.8	35.5	86.8
Actuated g/C Ratio	0.19	0.19	0.39	0.30	0.72
v/c Ratio	0.55	0.87	0.50	0.88	0.32
Control Delay	49.0	42.4	29.2	54.2	9.1
Queue Delay	0.0	0.0	0.0	28.0	0.9
Total Delay	49.0	42.4	29.2	82.1	10.0
LOS	D	D	C	F	A
Approach Delay	44.5		29.2		35.8
Approach LOS	D		C		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: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 36.0	Intersection LOS: D
Intersection Capacity Utilization 74.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	1	372	0	0	0	0	421	207	431	773	0
Future Volume (veh/h)	168	1	372	0	0	0	0	421	207	431	773	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	183	1	322				0	458	182	468	840	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	397	2	355				0	964	380	487	2486	0
Arrive On Green	0.22	0.22	0.22				0.00	0.38	0.38	0.54	1.00	0.00
Sat Flow, veh/h	1800	10	1610				0	2624	997	1810	3705	0
Grp Volume(v), veh/h	184	0	322				0	326	314	468	840	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1805	1721	1810	1805	0
Q Serve(g_s), s	10.6	0.0	23.4				0.0	16.4	16.6	29.7	0.0	0.0
Cycle Q Clear(g_c), s	10.6	0.0	23.4				0.0	16.4	16.6	29.7	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.58	1.00		0.00
Lane Grp Cap(c), veh/h	399	0	355				0	688	656	487	2486	0
V/C Ratio(X)	0.46	0.00	0.91				0.00	0.47	0.48	0.96	0.34	0.00
Avail Cap(c_a), veh/h	471	0	419				0	688	656	654	2486	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	1.00	1.00	0.60	0.60	0.00
Uniform Delay (d), s/veh	40.6	0.0	45.6				0.0	28.0	28.1	27.1	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	20.9				0.0	2.3	2.5	14.3	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
%ile BackOfQ(50%),veh/ln	4.7	0.0	11.1				0.0	7.4	7.2	10.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	66.5				0.0	30.4	30.6	41.4	0.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		506						640			1308	
Approach Delay, s/veh		57.4						30.5			15.0	
Approach LOS		E						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	36.9	50.8		32.3		87.7
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9
Max Q Clear Time (g_c+I1), s	31.7	18.6		25.4		2.0
Green Ext Time (p_c), s	0.6	3.0		1.1		7.0

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

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	78	383	49	110	1390
Future Vol, veh/h	20	78	383	49	110	1390
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	85	416	53	120	1511

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2194	235	0	0	469	0
Stage 1	443	-	-	-	-	-
Stage 2	1751	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	45	773	-	-	1103	-
Stage 1	620	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	40	773	-	-	1103	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	138	-	-	-	-	-

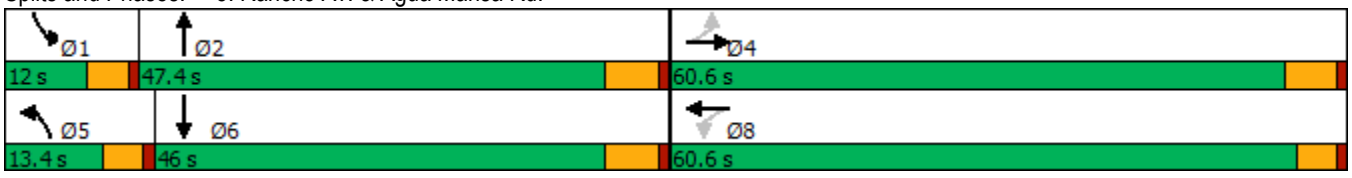
Approach	WB	NB	SB
HCM Control Delay, s	16	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	129	773	1103	-
HCM Lane V/C Ratio	-	-	0.169	0.11	0.108	-
HCM Control Delay (s)	-	-	38.5	10.2	8.7	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.4	0.4	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	227	22	5	39	109	475	40	987
Future Volume (vph)	227	22	5	39	109	475	40	987
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)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8
Total Split (s)	60.6	60.6	60.6	60.6	13.4	47.4	12.0	46.0
Total Split (%)	50.5%	50.5%	50.5%	50.5%	11.2%	39.5%	10.0%	38.3%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8		4.6	4.6	5.8	4.6	5.8
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)		27.4		28.6	8.9	47.3	6.4	40.5
Actuated g/C Ratio		0.29		0.31	0.10	0.51	0.07	0.44
v/c Ratio		0.81		0.11	0.73	0.29	0.37	1.22
Control Delay		44.0		17.6	69.2	16.4	53.0	130.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		44.0		17.6	69.2	16.4	53.0	130.0
LOS		D		B	E	B	D	F
Approach Delay		44.0		17.6		26.1		128.3
Approach LOS		D		B		C		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.1	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.22	
Intersection Signal Delay: 94.4	Intersection LOS: F
Intersection Capacity Utilization 96.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	22	70	5	39	15	109	475	7	40	987	772
Future Volume (veh/h)	227	22	70	5	39	15	109	475	7	40	987	772
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	247	24	66	5	42	14	118	516	7	43	1073	672
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	357	28	76	60	354	110	147	1870	25	64	1017	597
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.09	0.51	0.51	0.04	0.46	0.46
Sat Flow, veh/h	1083	105	289	58	1349	419	1714	3647	49	1714	2189	1285
Grp Volume(v), veh/h	337	0	0	61	0	0	118	255	268	43	872	873
Grp Sat Flow(s),veh/h/ln	1478	0	0	1826	0	0	1714	1805	1891	1714	1805	1669
Q Serve(g_s), s	16.5	0.0	0.0	0.0	0.0	0.0	5.8	6.9	7.0	2.1	40.2	40.2
Cycle Q Clear(g_c), s	18.7	0.0	0.0	2.2	0.0	0.0	5.8	6.9	7.0	2.1	40.2	40.2
Prop In Lane	0.73		0.20	0.08		0.23	1.00		0.03	1.00		0.77
Lane Grp Cap(c), veh/h	460	0	0	525	0	0	147	926	970	64	839	775
V/C Ratio(X)	0.73	0.00	0.00	0.12	0.00	0.00	0.80	0.28	0.28	0.67	1.04	1.13
Avail Cap(c_a), veh/h	994	0	0	1203	0	0	174	926	970	147	839	775
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	30.2	0.0	0.0	24.3	0.0	0.0	38.9	12.0	12.0	41.1	23.2	23.2
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.1	0.0	0.0	17.2	0.2	0.2	4.5	41.9	72.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.0	1.0	0.0	0.0	3.0	2.5	2.6	0.9	24.3	29.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	0.0	0.0	24.4	0.0	0.0	56.0	12.1	12.1	45.7	65.1	96.1
LnGrp LOS	C	A	A	C	A	A	E	B	B	D	F	F
Approach Vol, veh/h		337			61			641			1788	
Approach Delay, s/veh		32.4			24.4			20.2			79.8	
Approach LOS		C			C			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	50.2		28.5	12.0	46.0		28.5				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	41.6		54.8	8.8	40.2		* 56				
Max Q Clear Time (g_c+I1), s	4.1	9.0		20.7	7.8	42.2		4.2				
Green Ext Time (p_c), s	0.0	2.9		2.0	0.0	0.0		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		59.4
HCM 6th LOS		E

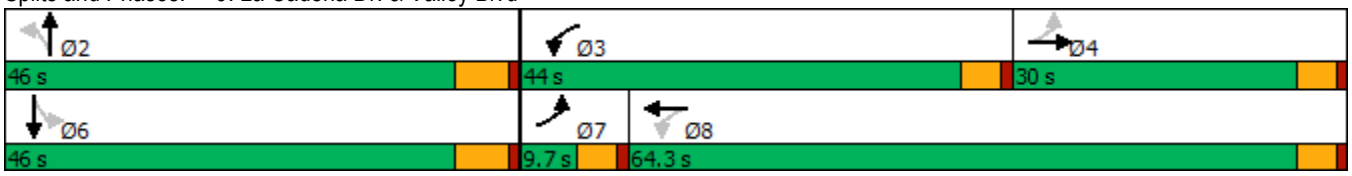
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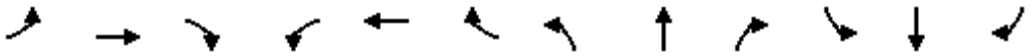
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	35	455	522	301	182	243	35	382
Future Volume (vph)	35	455	522	301	182	243	35	382
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	9.7	30.0	44.0	64.3	46.0	46.0	46.0	46.0
Total Split (%)	8.1%	25.0%	36.7%	53.6%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	29.6	24.4	63.2	58.0	32.6	32.6	32.6	32.6
Actuated g/C Ratio	0.28	0.23	0.59	0.54	0.31	0.31	0.31	0.31
v/c Ratio	0.12	0.86	0.93	0.17	0.88	0.47	0.22	0.41
Control Delay	18.1	50.4	52.0	14.3	72.6	17.0	32.6	30.3
Queue Delay	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	50.4	53.9	14.3	72.6	17.0	32.6	30.3
LOS	B	D	D	B	E	B	C	C
Approach Delay		48.7		39.1		31.4		30.5
Approach LOS		D		D		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 38.1	Intersection LOS: D
Intersection Capacity Utilization 90.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	455	200	522	301	11	182	243	278	35	382	28
Future Volume (veh/h)	35	455	200	522	301	11	182	243	278	35	382	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	38	495	163	567	327	12	198	264	231	38	415	30
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	345	582	190	598	1691	62	300	637	538	271	1172	84
Arrive On Green	0.03	0.22	0.22	0.29	0.48	0.48	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1714	2673	875	1714	3552	130	909	1856	1567	868	3415	246
Grp Volume(v), veh/h	38	333	325	567	166	173	198	257	238	38	219	226
Grp Sat Flow(s),veh/h/ln	1714	1805	1743	1714	1805	1877	909	1805	1618	868	1805	1856
Q Serve(g_s), s	1.7	17.9	18.1	26.6	5.4	5.4	21.1	11.0	11.5	3.6	9.2	9.2
Cycle Q Clear(g_c), s	1.7	17.9	18.1	26.6	5.4	5.4	30.3	11.0	11.5	15.0	9.2	9.2
Prop In Lane	1.00		0.50	1.00		0.07	1.00		0.97	1.00		0.13
Lane Grp Cap(c), veh/h	345	393	379	598	859	893	300	620	555	271	620	637
V/C Ratio(X)	0.11	0.85	0.86	0.95	0.19	0.19	0.66	0.41	0.43	0.14	0.35	0.36
Avail Cap(c_a), veh/h	376	453	438	768	1065	1108	350	717	643	318	717	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	38.0	38.0	24.0	15.3	15.3	36.2	25.4	25.6	31.4	24.8	24.8
Incr Delay (d2), s/veh	0.1	12.7	13.8	16.5	0.1	0.1	3.6	0.4	0.5	0.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	9.2	9.1	13.0	2.2	2.3	4.7	4.5	4.2	0.7	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	50.6	51.9	40.6	15.4	15.4	39.8	25.9	26.1	31.6	25.2	25.2
LnGrp LOS	C	D	D	D	B	B	D	C	C	C	C	C
Approach Vol, veh/h		696			906			693			483	
Approach Delay, s/veh		50.0			31.1			29.9			25.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		40.5	34.0	26.6		40.5	7.9	52.7				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		40.2	39.4	25.4		40.2	5.1	59.7				
Max Q Clear Time (g_c+I1), s		32.3	28.6	20.1		17.0	3.7	7.4				
Green Ext Time (p_c), s		2.4	0.8	1.9		2.5	0.0	2.2				

Intersection Summary												
HCM 6th Ctrl Delay			34.6									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	176	612	956	221
Future Vol, veh/h	0	0	176	612	956	221
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	191	665	1039	240

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1874	640	1279	0	-	0
Stage 1	1159	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	65	423	550	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	29	423	550	-	-	-
Mov Cap-2 Maneuver	29	-	-	-	-	-
Stage 1	119	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	550	-	-	-	-
HCM Lane V/C Ratio	0.348	-	-	-	-
HCM Control Delay (s)	15	2.6	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	1.5	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	61	16	68	20	17	19	22	734	9	603
Future Volume (vph)	61	16	68	20	17	19	22	734	9	603
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.0	4.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	76.0	76.0	76.0	76.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.0	10.0		10.0	10.0	19.5	19.5	19.2	19.2
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.55	0.55	0.54	0.54
v/c Ratio		0.21	0.15		0.09	0.04	0.06	0.41	0.03	0.36
Control Delay		12.4	4.8		11.2	5.1	6.4	7.4	6.2	7.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.4	4.8		11.2	5.1	6.4	7.4	6.2	7.2
LOS		B	A		B	A	A	A	A	A
Approach Delay		8.8			9.1			7.3		7.2
Approach LOS		A			A			A		A

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 35.5		
Natural Cycle: 50		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.41		
Intersection Signal Delay: 7.5	Intersection LOS: A	
Intersection Capacity Utilization 49.7%	ICU Level of Service A	
Analysis Period (min) 15		

Splits and Phases: 11: La Cadena Dr. & N St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	16	68	20	17	19	22	734	7	9	603	36
Future Volume (veh/h)	61	16	68	20	17	19	22	734	7	9	603	36
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	66	17	74	22	18	21	24	798	8	10	655	39
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	494	106	429	357	244	429	409	1456	15	373	1377	82
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1100	397	1610	688	914	1610	722	3662	37	650	3462	206
Grp Volume(v), veh/h	83	0	74	40	0	21	24	393	413	10	341	353
Grp Sat Flow(s),veh/h/ln	1497	0	1610	1602	0	1610	722	1805	1893	650	1805	1863
Q Serve(g_s), s	0.7	0.0	1.1	0.0	0.0	0.3	0.8	5.4	5.4	0.4	4.5	4.5
Cycle Q Clear(g_c), s	1.3	0.0	1.1	0.5	0.0	0.3	5.3	5.4	5.4	5.8	4.5	4.5
Prop In Lane	0.80		1.00	0.55		1.00	1.00		0.02	1.00		0.11
Lane Grp Cap(c), veh/h	600	0	429	601	0	429	409	718	753	373	718	741
V/C Ratio(X)	0.14	0.00	0.17	0.07	0.00	0.05	0.06	0.55	0.55	0.03	0.48	0.48
Avail Cap(c_a), veh/h	2010	0	1972	2071	0	1972	1698	3939	4132	1526	3917	4042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.1	0.0	9.1	8.8	0.0	8.8	9.2	7.5	7.5	9.7	7.2	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.7	0.6	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.2	0.0	0.1	0.1	1.0	1.1	0.0	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.2	0.0	9.3	8.9	0.0	8.8	9.2	8.1	8.1	9.7	7.7	7.7
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		157			61			830			704	
Approach Delay, s/veh		9.2			8.9			8.1			7.7	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.0		13.2		19.0		13.2				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 70		39.4		69.8		39.4				
Max Q Clear Time (g_c+I1), s		7.4		3.3		7.8		2.5				
Green Ext Time (p_c), s		5.4		0.7		4.2		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			8.1									
HCM 6th LOS			A									

Notes

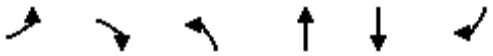
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	11	657	455	669	704
Future Volume (vph)	11	657	455	669	704
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	12.4	12.4	33.1	65.3	27.4
Actuated g/C Ratio	0.14	0.14	0.37	0.72	0.30
v/c Ratio	0.70	0.71	0.82	0.29	0.76
Control Delay	14.1	13.4	40.9	4.7	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	13.4	40.9	4.7	34.5
LOS	B	B	D	A	C
Approach Delay	13.8			19.3	34.5
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 90.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 81.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	657	455	669	704	28
Future Volume (veh/h)	11	657	455	669	704	28
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	564	464	683	718	29
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	364	648	494	2096	874	35
Arrive On Green	0.00	0.22	0.32	0.65	0.27	0.27
Sat Flow, veh/h	1629	2898	1543	3335	3268	129
Grp Volume(v), veh/h	0	564	464	683	366	381
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1687
Q Serve(g_s), s	0.0	17.1	26.7	8.6	19.3	19.3
Cycle Q Clear(g_c), s	0.0	17.1	26.7	8.6	19.3	19.3
Prop In Lane	1.00	1.00	1.00			0.08
Lane Grp Cap(c), veh/h	364	648	494	2096	446	463
V/C Ratio(X)	0.00	0.87	0.94	0.33	0.82	0.82
Avail Cap(c_a), veh/h	450	801	666	2949	691	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	34.2	30.2	7.3	31.0	31.0
Incr Delay (d2), s/veh	0.0	8.8	15.8	0.1	4.6	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.8	11.1	2.3	7.5	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	42.9	45.9	7.4	35.6	35.5
LnGrp LOS	A	D	D	A	D	D
Approach Vol, veh/h	564			1147	747	
Approach Delay, s/veh	42.9			23.0	35.6	
Approach LOS	D			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.1		26.2	33.8	31.2
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		10.6		19.1	28.7	21.3
Green Ext Time (p_c), s		4.6		1.3	0.5	3.8

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

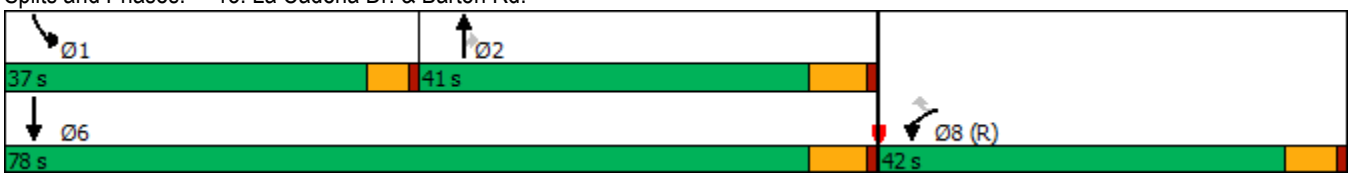
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	323	361	765	397	567	1390
Future Volume (vph)	323	361	765	397	567	1390
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	38.2	38.2	32.8	32.8	32.4	69.8
Actuated g/C Ratio	0.32	0.32	0.27	0.27	0.27	0.58
v/c Ratio	0.63	0.63	0.82	0.56	1.31	0.70
Control Delay	41.9	27.0	48.6	6.3	190.0	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	27.0	48.6	6.3	190.0	19.8
LOS	D	C	D	A	F	B
Approach Delay	34.1		34.2			69.1
Approach LOS	C		C			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay: 52.1	Intersection LOS: D
Intersection Capacity Utilization 87.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	323	361	765	397	567	1390
Future Volume (veh/h)	323	361	765	397	567	1390
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	344	0	814	385	603	1479
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	517		974	434	463	2087
Arrive On Green	0.30	0.00	0.27	0.27	0.27	0.58
Sat Flow, veh/h	1714	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	344	0	814	385	603	1479
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1610	1714	1805
Q Serve(g_s), s	21.0	0.0	25.5	27.5	32.4	35.1
Cycle Q Clear(g_c), s	21.0	0.0	25.5	27.5	32.4	35.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	517		974	434	463	2087
V/C Ratio(X)	0.67		0.84	0.89	1.30	0.71
Avail Cap(c_a), veh/h	517		1047	467	463	2160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.52	0.52	0.59	0.59
Uniform Delay (d), s/veh	36.6	0.0	41.3	42.0	43.8	18.1
Incr Delay (d2), s/veh	6.6	0.0	3.1	10.1	145.5	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	9.6	0.0	11.2	11.6	31.7	13.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.2	0.0	44.4	52.2	189.3	18.7
LnGrp LOS	D		D	D	F	B
Approach Vol, veh/h	344	A	1199			2082
Approach Delay, s/veh	43.2		46.9			68.1
Approach LOS	D		D			E

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	38.6			75.6	42.0
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8			71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	29.5			37.1	23.0
Green Ext Time (p_c), s	0.0	2.8			13.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	58.7
HCM 6th LOS	E

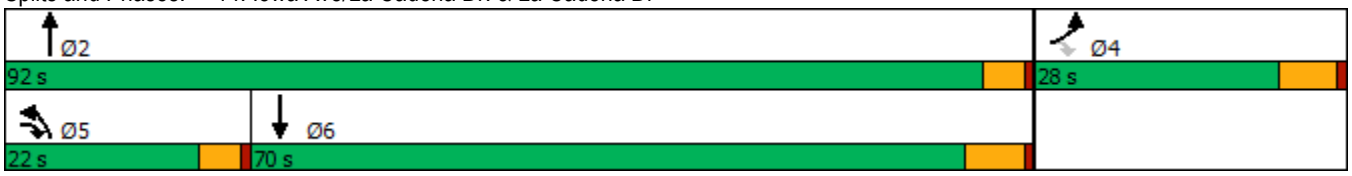
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	395	217	233	787	716	1187
Future Volume (vph)	395	217	233	787	716	1187
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	22.1	45.8	17.4	68.1	44.4	101.2
Actuated g/C Ratio	0.22	0.45	0.17	0.67	0.44	1.00
v/c Ratio	1.09	0.31	0.82	0.63	0.89	0.45
Control Delay	112.7	21.8	65.2	11.7	38.9	0.6
Queue Delay	0.0	0.0	0.0	1.0	0.0	0.0
Total Delay	112.7	21.8	65.2	12.6	38.9	0.6
LOS	F	C	E	B	D	A
Approach Delay	80.4			24.6	15.0	
Approach LOS	F			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 88.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	395	217	233	787	716	1187
Future Volume (veh/h)	395	217	233	787	716	1187
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	407	198	240	811	738	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	394	625	272	1216	822	
Arrive On Green	0.23	0.23	0.16	0.64	0.43	0.00
Sat Flow, veh/h	1714	1610	1714	1900	1900	2685
Grp Volume(v), veh/h	407	198	240	811	738	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1900	1900	1342
Q Serve(g_s), s	21.8	8.1	13.0	25.5	34.2	0.0
Cycle Q Clear(g_c), s	21.8	8.1	13.0	25.5	34.2	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	394	625	272	1216	822	
V/C Ratio(X)	1.03	0.32	0.88	0.67	0.90	
Avail Cap(c_a), veh/h	394	625	314	1749	1277	
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	0.00
Uniform Delay (d), s/veh	36.6	20.3	39.1	10.7	25.0	0.0
Incr Delay (d2), s/veh	54.4	0.3	20.3	0.6	5.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	8.5	6.7	8.3	14.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	91.0	20.6	59.4	11.4	30.7	0.0
LnGrp LOS	F	C	E	B	C	
Approach Vol, veh/h	605			1051	738	A
Approach Delay, s/veh	68.0			22.4	30.7	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		67.0		28.0	19.7	47.3
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		27.5		23.8	15.0	36.2
Green Ext Time (p_c), s		6.2		0.0	0.1	4.9

Intersection Summary		
HCM 6th Ctrl Delay		36.5
HCM 6th LOS		D

Notes

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

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

Intersection	
Intersection Delay, s/veh	144.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	20	33	0	0	0	11	513	0	617	699	54
Future Vol, veh/h	86	20	33	0	0	0	11	513	0	617	699	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	93	22	36	0	0	0	12	558	0	671	760	59
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15.3	14.9	206.6
HCM LOS	C	B	F

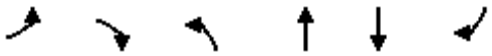
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	62%	100%	0%
Vol Thru, %	0%	100%	100%	14%	0%	93%
Vol Right, %	0%	0%	0%	24%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	257	257	139	617	753
LT Vol	11	0	0	86	617	0
Through Vol	0	257	257	20	0	699
RT Vol	0	0	0	33	0	54
Lane Flow Rate	12	279	279	151	671	818
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.024	0.517	0.386	0.336	1.302	1.462
Departure Headway (Hd)	7.991	7.484	5.758	8.421	6.988	6.43
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	451	485	630	429	523	573
Service Time	5.691	5.184	3.458	6.121	4.7	4.142
HCM Lane V/C Ratio	0.027	0.575	0.443	0.352	1.283	1.428
HCM Control Delay	10.9	17.9	12	15.3	171	235.7
HCM Lane LOS	B	C	B	C	F	F
HCM 95th-tile Q	0.1	2.9	1.8	1.5	28.3	39.9

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	123	805	897	933
Future Volume (vph)	123	805	897	933
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.8	61.8
Actuated g/C Ratio	0.09	0.09	0.17	0.56
v/c Ratio	0.81	1.97	2.96	0.94
Control Delay	85.0	464.6	909.6	38.0
Queue Delay	0.0	0.0	0.0	49.2
Total Delay	85.0	464.6	909.6	87.1
LOS	F	F	F	F
Approach Delay	413.7		909.6	87.1
Approach LOS	F		F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.96	
Intersection Signal Delay: 464.6	Intersection LOS: F
Intersection Capacity Utilization 109.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	123	805	0	897	933	0
Future Volume (veh/h)	123	805	0	897	933	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	134	724	0	965	1003	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	309	275	0	1173	1173	0
Arrive On Green	0.17	0.17	0.00	0.62	0.62	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	134	724	0	965	1003	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	3.9	10.0	0.0	23.1	25.0	0.0
Cycle Q Clear(g_c), s	3.9	10.0	0.0	23.1	25.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	309	275	0	1173	1173	0
V/C Ratio(X)	0.43	2.63	0.00	0.82	0.86	0.00
Avail Cap(c_a), veh/h	309	275	0	1173	2363	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.7	24.3	0.0	8.7	9.1	0.0
Incr Delay (d2), s/veh	1.0	744.7	0.0	4.9	1.9	0.0
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	60.5	0.0	6.4	5.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.7	768.9	0.0	13.6	11.0	0.0
LnGrp LOS	C	F	A	B	B	A
Approach Vol, veh/h	858			965	1003	
Approach Delay, s/veh	652.4			13.6	11.0	
Approach LOS	F			B	B	

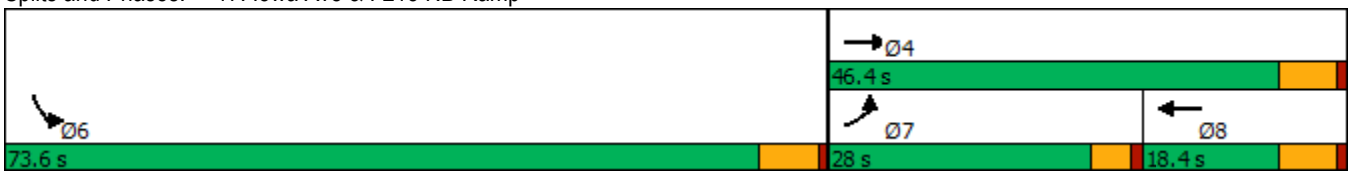
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.3		16.2		42.3
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		25.1		12.0		27.0
Green Ext Time (p_c), s		0.0		0.0		9.1

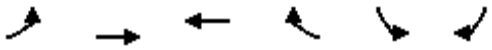
Intersection Summary		
HCM 6th Ctrl Delay	206.6	
HCM 6th LOS	F	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	512	877	97	266
Future Volume (vph)	512	877	97	266
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.57	1.48	1.78	1.69
Control Delay	303.3	256.9	388.6	336.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	303.3	256.9	388.6	336.3
LOS	F	F	F	F
Approach Delay		274.0	388.6	336.3
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.78	
Intersection Signal Delay: 319.3	Intersection LOS: F
Intersection Capacity Utilization 176.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	512	877	97	385	266	1472
Future Volume (veh/h)	512	877	97	385	266	1472
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	551	943	104	355	286	1309
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	353	636	38	131	165	757
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	378	1290	294	1347
Grp Volume(v), veh/h	551	943	0	459	1596	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1668	1643	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.77	0.18	0.82
Lane Grp Cap(c), veh/h	353	637	0	170	923	0
V/C Ratio(X)	1.56	1.48	0.00	2.71	1.73	0.00
Avail Cap(c_a), veh/h	353	637	0	170	923	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	266.2	225.1	0.0	784.6	332.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.6	58.2	0.0	42.1	108.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	314.5	265.0	0.0	838.5	359.2	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1494	459		1596	
Approach Delay, s/veh		283.2	838.5		359.2	
Approach LOS		F	F		F	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			46.4		73.6	28.0	18.4
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			40.2		67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s			42.2		69.4	25.4	14.2
Green Ext Time (p_c), s			0.0		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	389.2
HCM 6th LOS	F

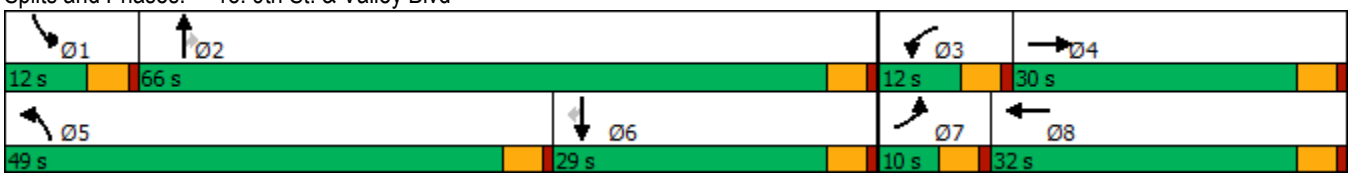
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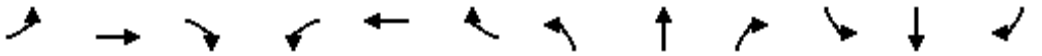
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	2	261	22	388	413	182	67	27	139	95
Future Volume (vph)	2	261	22	388	413	182	67	27	139	95
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	26.6	9.6	26.6	9.6	22.6	22.6	9.6	22.6	22.6
Total Split (s)	10.0	30.0	12.0	32.0	49.0	66.0	66.0	12.0	29.0	29.0
Total Split (%)	8.3%	25.0%	10.0%	26.7%	40.8%	55.0%	55.0%	10.0%	24.2%	24.2%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	5.6	17.0	6.3	19.1	25.0	40.2	40.2	6.4	13.5	13.5
Actuated g/C Ratio	0.08	0.23	0.08	0.26	0.34	0.54	0.54	0.09	0.18	0.18
v/c Ratio	0.02	0.64	0.16	0.46	0.76	0.19	0.08	0.19	0.42	0.25
Control Delay	46.0	21.4	45.2	26.7	32.9	13.0	1.8	45.2	37.4	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	21.4	45.2	26.7	32.9	13.0	1.8	45.2	37.4	4.2
LOS	D	C	D	C	C	B	A	D	D	A
Approach Delay		21.5		27.7		24.3			26.1	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 24.4	Intersection LOS: C
Intersection Capacity Utilization 63.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	261	308	22	388	15	413	182	67	27	139	95
Future Volume (veh/h)	2	261	308	22	388	15	413	182	67	27	139	95
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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	2	275	324	23	408	16	435	192	71	28	146	100
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	5	470	420	45	1006	39	486	769	651	52	287	244
Arrive On Green	0.00	0.26	0.26	0.03	0.28	0.28	0.28	0.40	0.40	0.03	0.15	0.15
Sat Flow, veh/h	1714	1805	1610	1714	3541	139	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	2	275	324	23	208	216	435	192	71	28	146	100
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1875	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	0.1	8.8	12.3	0.9	6.1	6.2	16.1	4.4	1.8	1.1	4.7	3.7
Cycle Q Clear(g_c), s	0.1	8.8	12.3	0.9	6.1	6.2	16.1	4.4	1.8	1.1	4.7	3.7
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	5	470	420	45	513	532	486	769	651	52	287	244
V/C Ratio(X)	0.43	0.58	0.77	0.51	0.40	0.41	0.89	0.25	0.11	0.54	0.51	0.41
Avail Cap(c_a), veh/h	140	694	619	192	748	777	1152	1765	1496	192	701	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	21.3	22.6	31.8	19.1	19.2	22.7	13.0	12.3	31.6	25.8	25.4
Incr Delay (d2), s/veh	21.3	1.2	3.6	3.4	0.5	0.5	2.4	0.2	0.1	3.2	1.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	4.7	0.4	2.5	2.6	6.3	1.8	0.6	0.5	2.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.2	22.5	26.2	35.2	19.7	19.7	25.1	13.2	12.3	34.8	27.2	26.5
LnGrp LOS	D	C	C	D	B	B	C	B	B	C	C	C
Approach Vol, veh/h		601			447			698			274	
Approach Delay, s/veh		24.6			20.5			20.5			27.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	31.3	6.3	21.8	23.3	14.6	4.8	23.4
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	61.4	7.4	25.4	44.4	24.4	5.4	27.4
Max Q Clear Time (g_c+I1), s	3.1	6.4	2.9	14.3	18.1	6.7	2.1	8.2
Green Ext Time (p_c), s	0.0	1.4	0.0	2.9	0.6	1.0	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	480	194	0	0	469
Future Vol, veh/h	4	480	194	0	0	469
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	522	211	0	0	510

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	721	211	0	-	-	-
Stage 1	211	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	397	834	-	0	0	-
Stage 1	829	-	-	0	0	-
Stage 2	607	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	397	834	-	-	-	-
Mov Cap-2 Maneuver	491	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	607	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	829	-
HCM Lane V/C Ratio	-	0.635	-
HCM Control Delay (s)	-	16.6	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.6	-

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	195	4	0	0	474	0
Future Vol, veh/h	195	4	0	0	474	0
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	212	4	0	0	515	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11	16.8
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	199	474
LT Vol	195	474
Through Vol	4	0
RT Vol	0	0
Lane Flow Rate	216	515
Geometry Grp	1	1
Degree of Util (X)	0.322	0.671
Departure Headway (Hd)	5.358	4.691
Convergence, Y/N	Yes	Yes
Cap	668	768
Service Time	3.417	2.734
HCM Lane V/C Ratio	0.323	0.671
HCM Control Delay	11	16.8
HCM Lane LOS	B	C
HCM 95th-tile Q	1.4	5.2

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1145	1435	56	698
Demand Flow Rate, veh/h	1145	1435	56	698
Vehicles Circulating, veh/h	466	221	1524	797
Vehicles Exiting, veh/h	1029	1359	87	859
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.3	11.5	11.5	15.2
Approach LOS	B	B	B	C

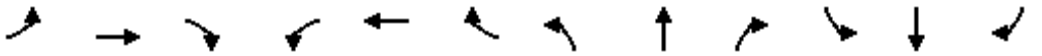
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.606	0.394
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	538	607	674	761	56	423	275
Cap Entry Lane, veh/h	879	956	1102	1177	389	648	721
Entry HV Adj Factor	1.000	1.000	1.001	0.999	1.000	1.000	1.000
Flow Entry, veh/h	538	607	674	761	56	423	275
Cap Entry, veh/h	880	955	1102	1176	389	648	721
V/C Ratio	0.612	0.635	0.612	0.647	0.144	0.652	0.381
Control Delay, s/veh	13.4	13.3	11.3	11.7	11.5	18.6	9.9
LOS	B	B	B	B	B	C	A
95th %tile Queue, veh	4	5	4	5	0	5	2

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	292	919	1196	726	125	0	484
Future Volume (vph)	292	919	1196	726	125	0	484
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	22.0	94.0	72.0	72.0	26.0	26.0	26.0
Total Split (%)	18.3%	78.3%	60.0%	60.0%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.8	76.4	53.8	53.8	14.9	13.5	13.5
Actuated g/C Ratio	0.18	0.76	0.53	0.53	0.15	0.13	0.13
v/c Ratio	1.00	0.37	0.68	0.73	0.52	0.72	0.72
Control Delay	94.7	4.7	19.1	9.3	49.7	26.4	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.7	4.7	19.1	9.3	49.7	26.4	26.4
LOS	F	A	B	A	D	C	C
Approach Delay		26.4	15.4			31.2	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	919	0	0	1196	726	125	0	484	0	0	0
Future Volume (veh/h)	292	919	0	0	1196	726	125	0	484	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	317	999	0	0	1300	642	136	0	434			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	318	2671	0	0	1869	812	295	0	526			
Arrive On Green	0.18	0.74	0.00	0.00	0.52	0.52	0.16	0.00	0.16			
Sat Flow, veh/h	1810	3705	0	0	3705	1568	1810	0	3220			
Grp Volume(v), veh/h	317	999	0	0	1300	642	136	0	434			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1568	1810	0	1610			
Q Serve(g_s), s	17.3	9.9	0.0	0.0	26.9	33.1	6.7	0.0	12.9			
Cycle Q Clear(g_c), s	17.3	9.9	0.0	0.0	26.9	33.1	6.7	0.0	12.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	318	2671	0	0	1869	812	295	0	526			
V/C Ratio(X)	1.00	0.37	0.00	0.00	0.70	0.79	0.46	0.00	0.83			
Avail Cap(c_a), veh/h	318	3241	0	0	2439	1059	393	0	699			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.8	4.6	0.0	0.0	18.0	19.5	37.5	0.0	40.1			
Incr Delay (d2), s/veh	49.6	0.1	0.0	0.0	0.6	3.1	1.1	0.0	6.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	11.9	2.8	0.0	0.0	10.5	11.7	2.9	0.0	5.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.4	4.7	0.0	0.0	18.6	22.6	38.6	0.0	46.2			
LnGrp LOS	F	A	A	A	B	C	D	A	D			
Approach Vol, veh/h		1316			1942			570				
Approach Delay, s/veh		25.4			19.9			44.4				
Approach LOS		C			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		78.4			22.0	56.4		20.7				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		88.9			17.4	66.9		21.5				
Max Q Clear Time (g_c+I1), s		11.9			19.3	35.1		14.9				
Green Ext Time (p_c), s		9.0			0.0	16.1		1.3				

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

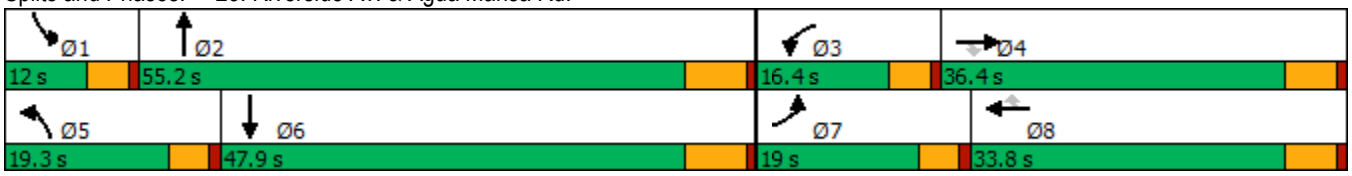
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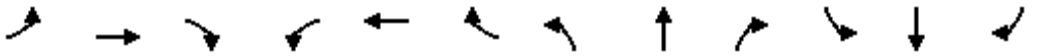
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	278	229	114	183	367	131	229	1135	128	1534
Future Volume (vph)	278	229	114	183	367	131	229	1135	128	1534
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.8	33.8	9.6	29.5	9.6	31.5
Total Split (s)	19.0	36.4	36.4	16.4	33.8	33.8	19.3	55.2	12.0	47.9
Total Split (%)	15.8%	30.3%	30.3%	13.7%	28.2%	28.2%	16.1%	46.0%	10.0%	39.9%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	5.8	4.6	5.8	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.4	29.2	29.2	11.8	26.6	26.6	14.7	48.7	7.4	41.4
Actuated g/C Ratio	0.11	0.25	0.25	0.10	0.22	0.22	0.12	0.41	0.06	0.35
v/c Ratio	1.44	0.52	0.24	1.08	0.91	0.29	1.08	0.87	1.21	1.60
Control Delay	262.0	43.0	3.4	139.8	71.0	5.7	131.6	40.0	196.8	301.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	262.0	43.0	3.4	139.8	71.0	5.7	131.6	40.0	196.8	301.6
LOS	F	D	A	F	E	A	F	D	F	F
Approach Delay		133.8			76.9			54.5		294.9
Approach LOS		F			E			D		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.60	
Intersection Signal Delay: 169.5	Intersection LOS: F
Intersection Capacity Utilization 119.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	229	114	183	367	131	229	1135	82	128	1534	343
Future Volume (veh/h)	278	229	114	183	367	131	229	1135	82	128	1534	343
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	293	241	83	193	386	119	241	1195	79	135	1615	323
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	205	463	392	181	421	356	225	1416	94	113	1056	204
Arrive On Green	0.11	0.24	0.24	0.10	0.22	0.22	0.12	0.41	0.41	0.06	0.35	0.35
Sat Flow, veh/h	1810	1900	1608	1810	1900	1608	1810	3437	227	1810	3016	583
Grp Volume(v), veh/h	293	241	83	193	386	119	241	627	647	135	945	993
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1608	1810	1805	1859	1810	1805	1794
Q Serve(g_s), s	13.4	13.0	4.9	11.8	23.5	7.4	14.7	37.0	37.1	7.4	41.4	41.4
Cycle Q Clear(g_c), s	13.4	13.0	4.9	11.8	23.5	7.4	14.7	37.0	37.1	7.4	41.4	41.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.33
Lane Grp Cap(c), veh/h	205	463	392	181	421	356	225	744	766	113	632	628
V/C Ratio(X)	1.43	0.52	0.21	1.07	0.92	0.33	1.07	0.84	0.84	1.19	1.49	1.58
Avail Cap(c_a), veh/h	205	492	416	181	450	381	225	744	766	113	632	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	38.7	35.7	53.2	44.9	38.7	51.7	31.3	31.3	55.4	38.4	38.4
Incr Delay (d2), s/veh	218.4	0.9	0.3	86.2	22.8	0.5	80.0	8.7	8.6	144.9	230.5	268.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	6.0	1.9	9.5	13.3	2.9	11.4	16.5	17.0	7.8	57.3	63.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	270.8	39.6	35.9	139.4	67.8	39.2	131.7	40.0	39.9	200.3	268.9	307.2
LnGrp LOS	F	D	D	F	E	D	F	D	D	F	F	F
Approach Vol, veh/h		617			698			1515			2073	
Approach Delay, s/veh		148.9			82.7			54.6			282.8	
Approach LOS		F			F			D			F	

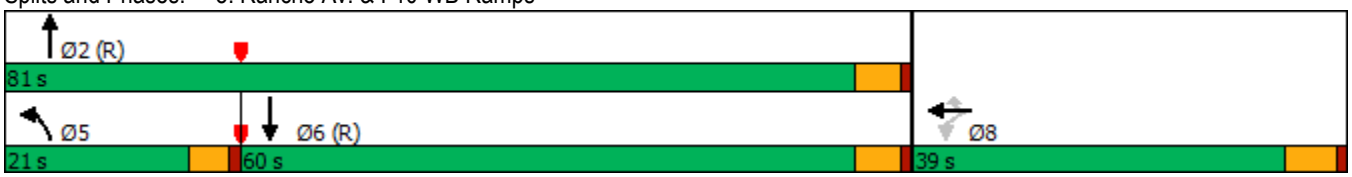
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	55.2	16.4	34.6	19.3	47.9	19.0	32.0
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	7.4	48.7	11.8	30.6	14.7	41.4	14.4	28.0
Max Q Clear Time (g_c+I1), s	9.4	39.1	13.8	15.0	16.7	43.4	15.4	25.5
Green Ext Time (p_c), s	0.0	5.0	0.0	1.3	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	166.9
HCM 6th LOS	F

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	1	527	153	1069	853
Future Volume (vph)	1	527	153	1069	853
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	33.2	33.2	13.8	75.9	57.6
Actuated g/C Ratio	0.28	0.28	0.12	0.63	0.48
v/c Ratio	0.37	1.02	0.75	0.48	0.66
Control Delay	37.6	79.1	71.0	10.1	25.6
Queue Delay	0.9	0.0	0.0	1.5	0.4
Total Delay	38.5	79.1	71.0	11.6	26.0
LOS	D	E	E	B	C
Approach Delay	68.7			19.0	26.0
Approach LOS	E			B	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: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 33.2	Intersection LOS: C
Intersection Capacity Utilization 99.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	181	1	527	153	1069	0	0	853	247
Future Volume (veh/h)	0	0	0	181	1	527	153	1069	0	0	853	247
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	0	1900	1900
Adj Flow Rate, veh/h				185	1	436	156	1091	0	0	870	175
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				498	3	445	183	2283	0	0	1479	297
Arrive On Green				0.28	0.28	0.28	0.13	0.84	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1800	10	1610	1810	3705	0	0	3089	602
Grp Volume(v), veh/h				186	0	436	156	1091	0	0	524	521
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1792
Q Serve(g_s), s				9.9	0.0	32.2	10.1	9.6	0.0	0.0	24.9	24.9
Cycle Q Clear(g_c), s				9.9	0.0	32.2	10.1	9.6	0.0	0.0	24.9	24.9
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				501	0	445	183	2283	0	0	892	885
V/C Ratio(X)				0.37	0.00	0.98	0.85	0.48	0.00	0.00	0.59	0.59
Avail Cap(c_a), veh/h				501	0	445	249	2283	0	0	892	885
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.0	0.0	43.0	51.1	4.3	0.0	0.0	21.7	21.7
Incr Delay (d2), s/veh				0.5	0.0	37.0	1.6	0.1	0.0	0.0	2.8	2.9
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				4.3	0.0	16.8	4.5	2.5	0.0	0.0	10.9	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				35.4	0.0	80.0	52.6	4.3	0.0	0.0	24.5	24.5
LnGrp LOS				D	A	F	D	A	A	A	C	C
Approach Vol, veh/h					622			1247			1045	
Approach Delay, s/veh					66.7			10.4			24.5	
Approach LOS					E			B			C	

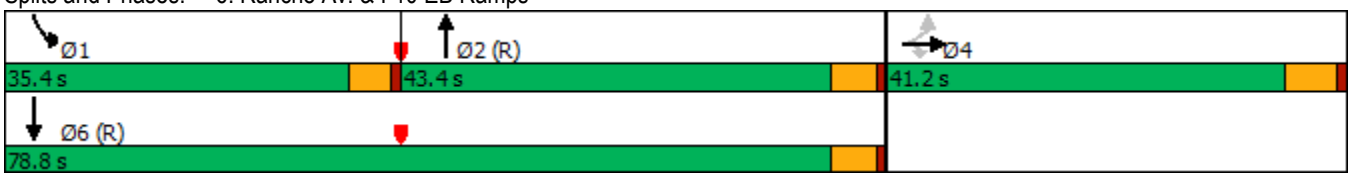
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	81.0		16.6	64.4		39.0						
Change Period (Y+Rc), s	5.1		4.5	5.1		5.8						
Max Green Setting (Gmax), s	75.9		16.5	54.9		33.2						
Max Q Clear Time (g_c+I1), s	11.6		12.1	26.9		34.2						
Green Ext Time (p_c), s	10.3		0.1	7.7		0.0						

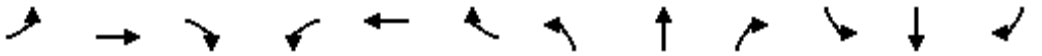
Intersection Summary		
HCM 6th Ctrl Delay	27.5	
HCM 6th LOS	C	

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	7	421	719	443	591
Future Volume (vph)	7	421	719	443	591
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	41.2	41.2	43.4	35.4	78.8
Total Split (%)	34.3%	34.3%	36.2%	29.5%	65.7%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	35.4	35.4	38.3	30.8	73.7
Actuated g/C Ratio	0.30	0.30	0.32	0.26	0.61
v/c Ratio	1.01	0.67	1.04	1.01	0.28
Control Delay	83.8	20.5	74.4	101.2	10.5
Queue Delay	0.0	0.0	0.0	34.2	0.5
Total Delay	83.8	20.5	74.4	135.4	11.1
LOS	F	C	E	F	B
Approach Delay	55.2		74.4		64.3
Approach LOS	E		E		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: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 65.3	Intersection LOS: E
Intersection Capacity Utilization 99.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	505	7	421	0	0	0	0	719	429	443	591	0
Future Volume (veh/h)	505	7	421	0	0	0	0	719	429	443	591	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	532	7	280				0	757	289	466	622	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	527	7	475				0	815	311	464	2217	0
Arrive On Green	0.30	0.30	0.30				0.00	0.32	0.32	0.51	1.00	0.00
Sat Flow, veh/h	1787	24	1610				0	2650	975	1810	3705	0
Grp Volume(v), veh/h	539	0	280				0	535	511	466	622	0
Grp Sat Flow(s),veh/h/ln	1811	0	1610				0	1805	1725	1810	1805	0
Q Serve(g_s), s	35.4	0.0	17.8				0.0	34.4	34.4	30.8	0.0	0.0
Cycle Q Clear(g_c), s	35.4	0.0	17.8				0.0	34.4	34.4	30.8	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.57	1.00		0.00
Lane Grp Cap(c), veh/h	534	0	475				0	576	550	464	2217	0
V/C Ratio(X)	1.01	0.00	0.59				0.00	0.93	0.93	1.00	0.28	0.00
Avail Cap(c_a), veh/h	534	0	475				0	576	550	464	2217	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	1.00	1.00	0.70	0.70	0.00
Uniform Delay (d), s/veh	42.3	0.0	36.1				0.0	39.5	39.5	29.2	0.0	0.0
Incr Delay (d2), s/veh	41.2	0.0	1.9				0.0	23.4	24.3	35.8	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	21.2	0.0	7.0				0.0	18.6	17.9	14.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	0.0	38.0				0.0	63.0	63.8	65.0	0.2	0.0
LnGrp LOS	F	A	D				A	E	E	F	A	A
Approach Vol, veh/h		819						1046			1088	
Approach Delay, s/veh		68.0						63.4			27.9	
Approach LOS		E						E			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	35.4	43.4		41.2		78.8						
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1						
Max Green Setting (Gmax), s	30.8	38.3		35.4		73.7						
Max Q Clear Time (g_c+I1), s	32.8	36.4		37.4		2.0						
Green Ext Time (p_c), s	0.0	1.2		0.0		4.7						

Intersection Summary			
HCM 6th Ctrl Delay			51.6
HCM 6th LOS			D

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	47	678	156	147	1128
Future Vol, veh/h	14	47	678	156	147	1128
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	51	737	170	160	1226

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2368	454	0	0	907	0
Stage 1	822	-	-	-	-	-
Stage 2	1546	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	34	559	-	-	759	-
Stage 1	397	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	27	559	-	-	759	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	155	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.2	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	137	559	759	-
HCM Lane V/C Ratio	-	-	0.111	0.091	0.211	-
HCM Control Delay (s)	-	-	34.5	12.1	11	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.8	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	567	114	5	32	85	607	16	941
Future Volume (vph)	567	114	5	32	85	607	16	941
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)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8		4.6	4.6	5.8	4.6	5.8
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)		31.5		32.7	8.1	49.9	5.8	41.3
Actuated g/C Ratio		0.32		0.34	0.08	0.51	0.06	0.42
v/c Ratio		1.91		0.08	0.63	0.35	0.17	0.82
Control Delay		439.2		21.0	65.7	15.1	50.8	28.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		439.2		21.0	65.7	15.1	50.8	28.7
LOS		F		C	E	B	D	C
Approach Delay		439.2		21.0		21.3		29.0
Approach LOS		F		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.3	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.91	
Intersection Signal Delay: 150.7	Intersection LOS: F
Intersection Capacity Utilization 104.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	567	114	149	5	32	12	85	607	3	16	941	220
Future Volume (veh/h)	567	114	149	5	32	12	85	607	3	16	941	220
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	603	121	149	5	34	11	90	646	2	17	1001	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	452	76	94	83	489	148	114	1550	5	33	1276	89
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.07	0.42	0.42	0.02	0.37	0.37
Sat Flow, veh/h	1030	207	255	97	1325	401	1714	3692	11	1714	3423	239
Grp Volume(v), veh/h	873	0	0	50	0	0	90	316	332	17	528	543
Grp Sat Flow(s),veh/h/ln	1491	0	0	1823	0	0	1714	1805	1898	1714	1805	1857
Q Serve(g_s), s	29.7	0.0	0.0	0.0	0.0	0.0	4.4	10.4	10.4	0.8	21.9	21.9
Cycle Q Clear(g_c), s	31.2	0.0	0.0	1.5	0.0	0.0	4.4	10.4	10.4	0.8	21.9	21.9
Prop In Lane	0.69		0.17	0.10		0.22	1.00		0.01	1.00		0.13
Lane Grp Cap(c), veh/h	622	0	0	720	0	0	114	758	797	33	673	693
V/C Ratio(X)	1.40	0.00	0.00	0.07	0.00	0.00	0.79	0.42	0.42	0.51	0.78	0.78
Avail Cap(c_a), veh/h	622	0	0	744	0	0	178	1392	1464	150	1362	1401
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	28.3	0.0	0.0	17.3	0.0	0.0	38.9	17.2	17.2	41.1	23.5	23.5
Incr Delay (d2), s/veh	190.9	0.0	0.0	0.0	0.0	0.0	5.0	0.4	0.3	4.4	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	45.0	0.0	0.0	0.6	0.0	0.0	1.9	3.9	4.1	0.4	8.7	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	219.2	0.0	0.0	17.3	0.0	0.0	43.9	17.6	17.6	45.5	25.5	25.5
LnGrp LOS	F	A	A	B	A	A	D	B	B	D	C	C
Approach Vol, veh/h		873			50			738			1088	
Approach Delay, s/veh		219.2			17.3			20.8			25.8	
Approach LOS		F			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	41.3		37.0	10.2	37.3		37.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	2.8	12.4		33.2	6.4	23.9		3.5				
Green Ext Time (p_c), s	0.0	3.9		0.0	0.0	7.6		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		85.7
HCM 6th LOS		F

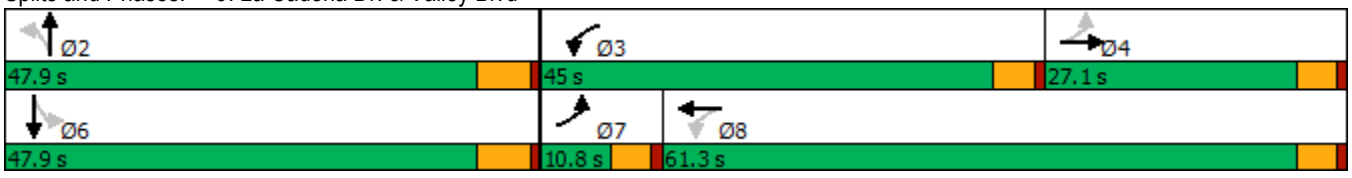
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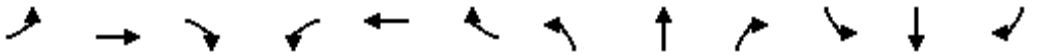
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	71	460	593	290	200	454	40	470
Future Volume (vph)	71	460	593	290	200	454	40	470
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	10.8	27.1	45.0	61.3	47.9	47.9	47.9	47.9
Total Split (%)	9.0%	22.6%	37.5%	51.1%	39.9%	39.9%	39.9%	39.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	28.4	22.5	67.0	58.5	40.7	40.7	40.7	40.7
Actuated g/C Ratio	0.24	0.19	0.57	0.50	0.34	0.34	0.34	0.34
v/c Ratio	0.27	0.96	0.98	0.18	0.97	0.70	0.47	0.44
Control Delay	21.5	70.2	63.3	17.3	92.5	28.6	50.6	30.6
Queue Delay	0.0	0.0	26.5	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	70.2	89.9	17.3	92.5	28.6	50.6	30.6
LOS	C	E	F	B	F	C	D	C
Approach Delay		65.3		65.0		40.7		32.1
Approach LOS		E		E		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.1	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 51.4	Intersection LOS: D
Intersection Capacity Utilization 103.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	460	169	593	290	20	200	454	399	40	470	43
Future Volume (veh/h)	71	460	169	593	290	20	200	454	399	40	470	43
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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	75	484	131	624	305	21	211	478	288	42	495	45
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	332	528	142	644	1620	111	261	768	460	175	1184	107
Arrive On Green	0.05	0.19	0.19	0.33	0.47	0.47	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1714	2812	756	1714	3428	235	833	2170	1301	675	3347	303
Grp Volume(v), veh/h	75	310	305	624	160	166	211	397	369	42	266	274
Grp Sat Flow(s),veh/h/ln	1714	1805	1764	1714	1805	1858	833	1805	1666	675	1805	1845
Q Serve(g_s), s	4.2	20.0	20.2	37.4	6.1	6.2	28.7	21.7	21.9	6.5	13.3	13.4
Cycle Q Clear(g_c), s	4.2	20.0	20.2	37.4	6.1	6.2	42.1	21.7	21.9	28.4	13.3	13.4
Prop In Lane	1.00		0.43	1.00		0.13	1.00		0.78	1.00		0.16
Lane Grp Cap(c), veh/h	332	339	331	644	853	878	261	639	589	175	639	653
V/C Ratio(X)	0.23	0.91	0.92	0.97	0.19	0.19	0.81	0.62	0.63	0.24	0.42	0.42
Avail Cap(c_a), veh/h	340	341	334	656	860	885	261	639	589	175	639	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	47.4	47.5	30.2	18.2	18.2	45.8	31.9	31.9	43.7	29.1	29.2
Incr Delay (d2), s/veh	0.1	27.8	30.0	27.0	0.1	0.1	16.8	1.9	2.1	0.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.6	11.6	19.8	2.6	2.7	7.3	9.4	8.8	1.1	5.6	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	75.2	77.5	57.2	18.3	18.3	62.7	33.7	34.0	44.4	29.6	29.6
LnGrp LOS	D	E	E	E	B	B	E	C	C	D	C	C
Approach Vol, veh/h		690			950			977			582	
Approach Delay, s/veh		72.0			43.9			40.1			30.7	
Approach LOS		E			D			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.9	44.1	26.9		47.9	10.2	60.8				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		42.1	40.4	22.5		42.1	6.2	56.7				
Max Q Clear Time (g_c+I1), s		44.1	39.4	22.2		30.4	6.2	8.2				
Green Ext Time (p_c), s		0.0	0.2	0.1		2.5	0.0	2.1				

Intersection Summary												
HCM 6th Ctrl Delay			46.4									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	209	945	1117	194
Future Vol, veh/h	0	0	209	945	1117	194
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	222	1005	1188	206

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2238	697	1394	0	-	0
Stage 1	1291	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	37	388	497	-	-	-
Stage 1	226	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	388	497	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	342	-	-	-	-	-

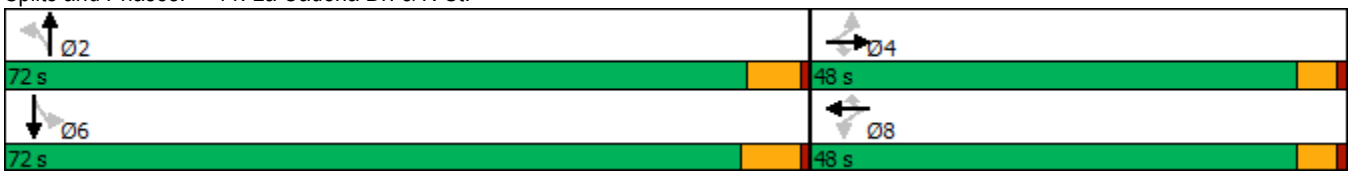
Approach	EB	NB	SB
HCM Control Delay, s	0	8.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	497	-	-	-	-
HCM Lane V/C Ratio	0.447	-	-	-	-
HCM Control Delay (s)	18	6.2	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	2.3	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	103	30	48	22	31	16	28	749	27	790
Future Volume (vph)	103	30	48	22	31	16	28	749	27	790
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		11.2	11.2		11.2	11.2	20.6	20.6	20.2	20.2
Actuated g/C Ratio		0.26	0.26		0.26	0.26	0.49	0.49	0.48	0.48
v/c Ratio		0.37	0.11		0.13	0.04	0.11	0.45	0.10	0.53
Control Delay		16.0	5.5		12.8	4.6	7.7	8.3	7.5	9.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		16.0	5.5		12.8	4.6	7.7	8.3	7.5	9.1
LOS		B	A		B	A	A	A	A	A
Approach Delay		13.2			10.8			8.3		9.1
Approach LOS		B			B			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 42.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 53.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	30	48	22	31	16	28	749	10	27	790	70
Future Volume (veh/h)	103	30	48	22	31	16	28	749	10	27	790	70
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	107	31	50	23	32	17	29	780	10	28	823	73
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	164	33	666	116	125	666	247	1355	17	278	1245	110
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	90	79	1610	35	303	1610	598	3650	47	660	3354	297
Grp Volume(v), veh/h	138	0	50	55	0	17	29	386	404	28	443	453
Grp Sat Flow(s),veh/h/ln	169	0	1610	339	0	1610	598	1805	1892	660	1805	1846
Q Serve(g_s), s	1.6	0.0	0.9	0.6	0.0	0.3	2.1	8.6	8.6	1.8	10.3	10.3
Cycle Q Clear(g_c), s	20.7	0.0	0.9	20.2	0.0	0.3	12.1	8.6	8.6	10.2	10.3	10.3
Prop In Lane	0.78		1.00	0.42		1.00	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	197	0	666	242	0	666	247	670	702	278	670	686
V/C Ratio(X)	0.70	0.00	0.08	0.23	0.00	0.03	0.12	0.58	0.58	0.10	0.66	0.66
Avail Cap(c_a), veh/h	861	0	1393	972	0	1393	814	2382	2497	899	2368	2422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	8.9	11.8	0.0	8.7	18.0	12.6	12.6	16.6	13.1	13.1
Incr Delay (d2), s/veh	4.5	0.0	0.0	0.5	0.0	0.0	0.2	0.8	0.7	0.2	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.3	0.3	0.0	0.1	0.3	2.7	2.8	0.2	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	0.0	9.0	12.3	0.0	8.7	18.3	13.4	13.4	16.8	14.3	14.2
LnGrp LOS	C	A	A	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		188			72			819			924	
Approach Delay, s/veh		21.5			11.5			13.5			14.3	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.2		26.4		25.2		26.4				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 66		43.4		65.8		43.4				
Max Q Clear Time (g_c+I1), s		14.1		22.7		12.3		22.2				
Green Ext Time (p_c), s		5.4		0.9		6.1		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		14.6
HCM 6th LOS		B

Notes

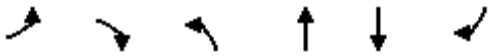
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	11	762	503	697	852
Future Volume (vph)	11	762	503	697	852
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	13.0	13.0	39.8	77.4	33.1
Actuated g/C Ratio	0.13	0.13	0.39	0.75	0.32
v/c Ratio	0.76	0.76	0.87	0.29	0.84
Control Delay	15.3	14.6	48.0	4.7	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	14.6	48.0	4.7	41.2
LOS	B	B	D	A	D
Approach Delay	15.0			22.8	41.2
Approach LOS	B			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 26.2	Intersection LOS: C
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	762	503	697	852	3
Future Volume (veh/h)	11	762	503	697	852	3
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	679	519	719	878	3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	356	633	527	2201	982	3
Arrive On Green	0.00	0.22	0.34	0.68	0.30	0.30
Sat Flow, veh/h	1629	2898	1543	3335	3407	11
Grp Volume(v), veh/h	0	679	519	719	429	452
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1708
Q Serve(g_s), s	0.0	25.2	38.5	10.6	29.2	29.2
Cycle Q Clear(g_c), s	0.0	25.2	38.5	10.6	29.2	29.2
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	356	633	527	2201	480	505
V/C Ratio(X)	0.00	1.07	0.98	0.33	0.89	0.89
Avail Cap(c_a), veh/h	356	633	527	2333	547	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	45.1	37.6	7.7	38.9	38.9
Incr Delay (d2), s/veh	0.0	56.6	35.0	0.1	15.7	15.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.0	18.7	3.0	13.0	13.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	101.6	72.6	7.8	54.6	54.0
LnGrp LOS	A	F	E	A	D	D
Approach Vol, veh/h	679			1238	881	
Approach Delay, s/veh	101.6			35.0	54.3	
Approach LOS	F			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		84.3		31.0	44.0	40.3
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		12.6		27.2	40.5	31.2
Green Ext Time (p_c), s		5.0		0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E

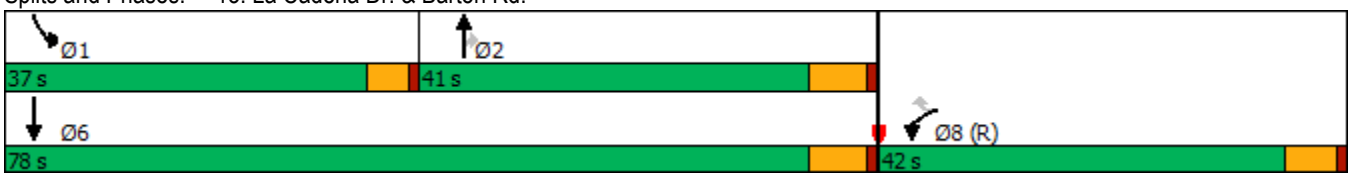
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	514	508	1042	322	489	1358
Future Volume (vph)	514	508	1042	322	489	1358
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	36.2	36.2	34.8	34.8	32.4	71.8
Actuated g/C Ratio	0.30	0.30	0.29	0.29	0.27	0.60
v/c Ratio	1.03	0.91	1.03	0.50	1.09	0.65
Control Delay	88.9	52.1	76.9	10.1	111.1	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.9	52.1	76.9	10.1	111.1	17.6
LOS	F	D	E	B	F	B
Approach Delay	70.6		61.2			42.3
Approach LOS	E		E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 55.2	Intersection LOS: E
Intersection Capacity Utilization 101.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	514	508	1042	322	489	1358
Future Volume (veh/h)	514	508	1042	322	489	1358
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	530	0	1074	296	504	1400
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	517		1047	467	463	2160
Arrive On Green	0.30	0.00	0.29	0.29	0.27	0.60
Sat Flow, veh/h	1714	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	530	0	1074	296	504	1400
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1610	1714	1805
Q Serve(g_s), s	36.2	0.0	34.8	19.2	32.4	30.5
Cycle Q Clear(g_c), s	36.2	0.0	34.8	19.2	32.4	30.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	517		1047	467	463	2160
V/C Ratio(X)	1.02		1.03	0.63	1.09	0.65
Avail Cap(c_a), veh/h	517		1047	467	463	2160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.47	0.47
Uniform Delay (d), s/veh	41.9	0.0	42.6	37.1	43.8	15.8
Incr Delay (d2), s/veh	46.0	0.0	16.1	0.3	56.0	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	21.5	0.0	17.0	7.2	20.2	11.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	87.9	0.0	58.7	37.3	99.8	16.1
LnGrp LOS	F		F	D	F	B
Approach Vol, veh/h	530	A	1370			1904
Approach Delay, s/veh	87.9		54.1			38.3
Approach LOS	F		D			D

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	37.0	41.0				78.0	42.0
Change Period (Y+Rc), s	4.6	6.2				6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8				71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	36.8				32.5	38.2
Green Ext Time (p_c), s	0.0	0.0				12.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

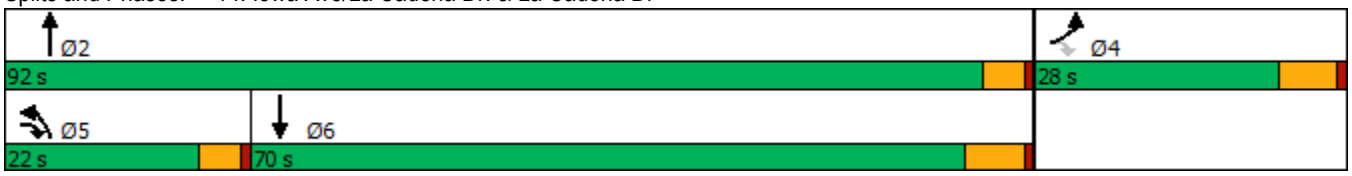
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	640	264	292	962	481	1405
Future Volume (vph)	640	264	292	962	481	1405
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	22.1	46.0	17.6	52.5	28.5	85.5
Actuated g/C Ratio	0.26	0.54	0.21	0.61	0.33	1.00
v/c Ratio	1.49	0.31	0.86	0.85	0.78	0.54
Control Delay	261.7	14.5	58.7	21.4	34.4	0.8
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	261.7	14.5	58.7	21.8	34.4	0.8
LOS	F	B	E	C	C	A
Approach Delay	189.6			30.4	9.3	
Approach LOS	F			C	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 85.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.49	
Intersection Signal Delay: 56.2	Intersection LOS: E
Intersection Capacity Utilization 97.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	640	264	292	962	481	1405
Future Volume (veh/h)	640	264	292	962	481	1405
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	660	246	301	992	496	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	453	741	336	1112	634	
Arrive On Green	0.26	0.26	0.20	0.59	0.33	0.00
Sat Flow, veh/h	1714	1610	1714	1900	1900	2685
Grp Volume(v), veh/h	660	246	301	992	496	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1900	1900	1342
Q Serve(g_s), s	21.8	8.0	14.1	37.4	19.4	0.0
Cycle Q Clear(g_c), s	21.8	8.0	14.1	37.4	19.4	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	453	741	336	1112	634	
V/C Ratio(X)	1.46	0.33	0.90	0.89	0.78	
Avail Cap(c_a), veh/h	453	741	362	2013	1470	
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	0.00
Uniform Delay (d), s/veh	30.3	14.2	32.3	14.8	24.8	0.0
Incr Delay (d2), s/veh	217.5	0.3	21.7	2.7	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	35.4	8.7	7.4	12.8	8.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	247.9	14.4	54.0	17.6	27.0	0.0
LnGrp LOS	F	B	D	B	C	
Approach Vol, veh/h	906			1293	496	A
Approach Delay, s/veh	184.5			26.1	27.0	
Approach LOS	F			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		54.5		28.0	20.8	33.7
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		39.4		23.8	16.1	21.4
Green Ext Time (p_c), s		8.9		0.0	0.1	3.0

Intersection Summary		
HCM 6th Ctrl Delay		79.5
HCM 6th LOS		E

Notes

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

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

Intersection	
Intersection Delay, s/veh	288.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	11	20	0	0	0	32	845	7	595	964	88
Future Vol, veh/h	59	11	20	0	0	0	32	845	7	595	964	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	12	22	0	0	0	35	918	8	647	1048	96
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15.7	73.9	418.4
HCM LOS	C	F	F

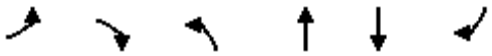
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	66%	100%	0%
Vol Thru, %	0%	100%	98%	12%	0%	92%
Vol Right, %	0%	0%	2%	22%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	563	289	90	595	1052
LT Vol	32	0	0	59	595	0
Through Vol	0	563	282	11	0	964
RT Vol	0	0	7	20	0	88
Lane Flow Rate	35	612	314	98	647	1143
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.068	1.111	0.568	0.234	1.33	2.173
Departure Headway (Hd)	8.693	8.188	8.171	10.003	7.632	7.067
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	415	447	446	361	479	526
Service Time	6.393	5.888	5.871	7.703	5.332	4.767
HCM Lane V/C Ratio	0.084	1.369	0.704	0.271	1.351	2.173
HCM Control Delay	12	104.5	21.1	15.7	185	550.4
HCM Lane LOS	B	F	C	C	F	F
HCM 95th-tile Q	0.2	16.9	3.4	0.9	27.9	79.9

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	162	711	1092	744
Future Volume (vph)	162	711	1092	744
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.9	41.2
Actuated g/C Ratio	0.11	0.11	0.21	0.46
v/c Ratio	0.81	1.39	2.80	0.87
Control Delay	71.6	204.2	835.5	33.0
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	71.6	204.2	835.5	33.3
LOS	E	F	F	C
Approach Delay	179.6		835.5	33.3
Approach LOS	F		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.80	
Intersection Signal Delay: 403.9	Intersection LOS: F
Intersection Capacity Utilization 93.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	162	711	0	1092	744	0
Future Volume (veh/h)	162	711	0	1092	744	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	167	597	0	1126	767	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	401	357	0	957	957	0
Arrive On Green	0.22	0.22	0.00	0.50	0.50	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	167	597	0	1126	767	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	3.6	10.0	0.0	22.8	15.2	0.0
Cycle Q Clear(g_c), s	3.6	10.0	0.0	22.8	15.2	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	401	357	0	957	957	0
V/C Ratio(X)	0.42	1.67	0.00	1.18	0.80	0.00
Avail Cap(c_a), veh/h	401	357	0	957	3063	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.1	17.6	0.0	11.2	9.3	0.0
Incr Delay (d2), s/veh	0.7	315.4	0.0	90.3	1.6	0.0
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	34.5	0.0	28.7	3.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.8	333.0	0.0	101.5	10.9	0.0
LnGrp LOS	B	F	A	F	B	A
Approach Vol, veh/h	764			1126	767	
Approach Delay, s/veh	263.7			101.5	10.9	
Approach LOS	F			F	B	

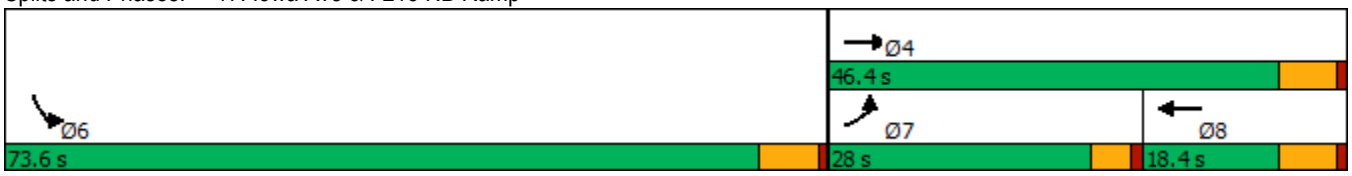
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		29.0		16.2		29.0
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		24.8		12.0		17.2
Green Ext Time (p_c), s		0.0		0.0		5.6

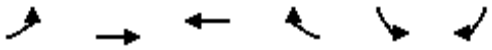
Intersection Summary		
HCM 6th Ctrl Delay	122.0	
HCM 6th LOS	F	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	583	1003	75	315
Future Volume (vph)	583	1003	75	315
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.70	1.61	1.60	1.41
Control Delay	356.2	310.6	305.6	213.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	356.2	310.6	305.6	213.0
LOS	F	F	F	F
Approach Delay		327.4	305.6	213.0
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.70	
Intersection Signal Delay: 278.0	Intersection LOS: F
Intersection Capacity Utilization 169.6%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	583	1003	75	509	315	1140
Future Volume (veh/h)	583	1003	75	509	315	1140
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	595	1023	77	463	321	903
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	353	636	24	143	244	687
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	235	1411	435	1222
Grp Volume(v), veh/h	595	1023	0	540	1225	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1646	1658	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.86	0.26	0.74
Lane Grp Cap(c), veh/h	353	637	0	167	931	0
V/C Ratio(X)	1.69	1.61	0.00	3.23	1.32	0.00
Avail Cap(c_a), veh/h	353	637	0	167	931	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	320.9	280.5	0.0	1017.5	149.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	41.9	68.0	0.0	52.3	61.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	369.2	320.4	0.0	1071.4	175.8	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1618	540		1225	
Approach Delay, s/veh		338.4	1071.4		175.8	
Approach LOS		F	F		F	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	46.4	73.6	28.0	18.4
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	40.2	67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s	42.2	69.4	25.4	14.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	396.5
HCM 6th LOS	F

Notes

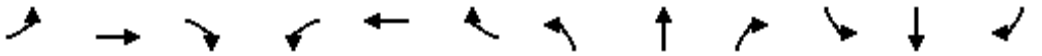
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	32	456	46	437	414	268	106	33	120	80
Future Volume (vph)	32	456	46	437	414	268	106	33	120	80
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.6	26.6	8.6	26.6	8.6	22.6	22.6	8.6	22.6	22.6
Total Split (s)	12.0	35.0	15.0	38.0	43.0	58.0	58.0	12.0	27.0	27.0
Total Split (%)	10.0%	29.2%	12.5%	31.7%	35.8%	48.3%	48.3%	10.0%	22.5%	22.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	6.4	23.4	7.4	24.2	27.5	38.9	38.9	6.5	12.0	12.0
Actuated g/C Ratio	0.08	0.28	0.09	0.29	0.32	0.46	0.46	0.08	0.14	0.14
v/c Ratio	0.26	0.68	0.32	0.47	0.78	0.32	0.14	0.26	0.46	0.24
Control Delay	51.5	31.7	50.5	28.8	39.4	20.0	4.6	51.7	45.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	31.7	50.5	28.8	39.4	20.0	4.6	51.7	45.8	2.5
LOS	D	C	D	C	D	C	A	D	D	A
Approach Delay		32.6		30.7		28.2			31.8	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 64.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	456	192	46	437	27	414	268	106	33	120	80
Future Volume (veh/h)	32	456	192	46	437	27	414	268	106	33	120	80
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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	33	475	200	48	455	28	431	279	110	34	125	83
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	48	676	283	62	971	60	486	690	584	49	206	174
Arrive On Green	0.03	0.27	0.27	0.04	0.28	0.28	0.28	0.36	0.36	0.03	0.11	0.11
Sat Flow, veh/h	1714	2481	1038	1714	3455	212	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	33	345	330	48	237	246	431	279	110	34	125	83
Grp Sat Flow(s),veh/h/ln	1714	1805	1713	1714	1805	1862	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	1.2	10.6	10.7	1.7	6.7	6.7	14.8	6.7	2.9	1.2	3.9	3.0
Cycle Q Clear(g_c), s	1.2	10.6	10.7	1.7	6.7	6.7	14.8	6.7	2.9	1.2	3.9	3.0
Prop In Lane	1.00		0.61	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	492	467	62	507	523	486	690	584	49	206	174
V/C Ratio(X)	0.69	0.70	0.71	0.77	0.47	0.47	0.89	0.40	0.19	0.69	0.61	0.48
Avail Cap(c_a), veh/h	206	893	847	290	981	1012	1071	1651	1399	206	692	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	20.1	20.1	29.4	18.3	18.3	21.1	14.6	13.4	29.6	26.2	25.8
Incr Delay (d2), s/veh	6.3	1.8	2.0	7.2	0.7	0.7	2.2	0.4	0.2	6.3	2.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.3	4.2	0.8	2.7	2.8	5.7	2.7	1.0	0.6	1.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	21.9	22.1	36.6	19.0	19.0	23.3	15.0	13.5	35.9	29.0	27.8
LnGrp LOS	D	C	C	D	B	B	C	B	B	D	C	C
Approach Vol, veh/h		708			531			820			242	
Approach Delay, s/veh		22.7			20.6			19.2			29.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	26.9	6.8	21.4	22.0	11.3	6.3	21.9
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	53.4	10.4	30.4	38.4	22.4	7.4	33.4
Max Q Clear Time (g_c+I1), s	3.2	8.7	3.7	12.7	16.8	5.9	3.2	8.7
Green Ext Time (p_c), s	0.0	2.2	0.0	4.1	0.6	0.8	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	454	338	0	0	362
Future Vol, veh/h	6	454	338	0	0	362
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	488	363	0	0	389

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	752	363	0	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	381	686	-	0	0	-
Stage 1	708	-	-	0	0	-
Stage 2	689	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	381	686	-	-	-	-
Mov Cap-2 Maneuver	493	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	683	-
HCM Lane V/C Ratio	-	0.724	-
HCM Control Delay (s)	-	22.8	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	6.2	-

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	342	2	0	0	372	0
Future Vol, veh/h	342	2	0	0	372	0
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	372	2	0	0	404	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	14.1	14.8
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	344	372
LT Vol	342	372
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	374	404
Geometry Grp	1	1
Degree of Util (X)	0.535	0.571
Departure Headway (Hd)	5.15	5.083
Convergence, Y/N	Yes	Yes
Cap	695	704
Service Time	3.223	3.153
HCM Lane V/C Ratio	0.538	0.574
HCM Control Delay	14.1	14.8
HCM Lane LOS	B	B
HCM 95th-tile Q	3.2	3.6

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1070	1290	83	882
Demand Flow Rate, veh/h	1070	1290	83	882
Vehicles Circulating, veh/h	571	168	1576	849
Vehicles Exiting, veh/h	1160	1491	65	609
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.8	9.2	13.6	24.7
Approach LOS	B	A	B	C

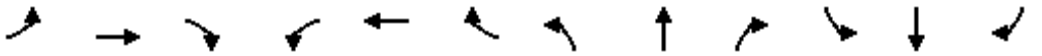
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.585	0.415
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	503	567	606	684	83	516	366
Cap Entry Lane, veh/h	798	874	1157	1231	372	618	690
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	503	567	606	684	83	516	366
Cap Entry, veh/h	798	874	1157	1231	372	618	690
V/C Ratio	0.630	0.649	0.524	0.556	0.223	0.835	0.530
Control Delay, s/veh	15.0	14.6	9.1	9.3	13.6	32.6	13.6
LOS	C	B	A	A	B	D	B
95th %tile Queue, veh	5	5	3	4	1	9	3

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	267	1150	1064	479	160	0	644
Future Volume (vph)	267	1150	1064	479	160	0	644
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	28.0	80.0	52.0	52.0	40.0	40.0	40.0
Total Split (%)	23.3%	66.7%	43.3%	43.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.3	67.8	42.8	42.8	35.8	34.5	34.5
Actuated g/C Ratio	0.18	0.60	0.38	0.38	0.32	0.30	0.30
v/c Ratio	0.85	0.55	0.80	0.64	1.13	0.63	0.63
Control Delay	69.7	14.4	36.9	15.2	116.4	32.3	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	14.4	36.9	15.2	116.4	32.3	32.3
LOS	E	B	D	B	F	C	C
Approach Delay		24.8	30.2			73.6	
Approach LOS		C	C			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.2	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 41.4	Intersection LOS: D
Intersection Capacity Utilization 71.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	1150	0	0	1064	479	160	0	644	0	0	0
Future Volume (veh/h)	267	1150	0	0	1064	479	160	0	644	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	275	1186	0	0	1097	416	640	0	551			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.25	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	306	2100	0	0	1334	578	596	0	1061			
Arrive On Green	0.17	0.58	0.00	0.00	0.37	0.37	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1564	1810	0	3220			
Grp Volume(v), veh/h	275	1186	0	0	1097	416	640	0	551			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1564	1810	0	1610			
Q Serve(g_s), s	16.0	22.1	0.0	0.0	29.7	24.6	35.5	0.0	14.9			
Cycle Q Clear(g_c), s	16.0	22.1	0.0	0.0	29.7	24.6	35.5	0.0	14.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	306	2100	0	0	1334	578	596	0	1061			
V/C Ratio(X)	0.90	0.56	0.00	0.00	0.82	0.72	1.07	0.00	0.52			
Avail Cap(c_a), veh/h	393	2508	0	0	1571	680	596	0	1061			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.9	14.1	0.0	0.0	30.8	29.2	36.1	0.0	29.2			
Incr Delay (d2), s/veh	16.9	0.2	0.0	0.0	3.2	3.1	58.3	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	8.5	8.4	0.0	0.0	13.0	9.4	24.3	0.0	5.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	14.3	0.0	0.0	33.9	32.2	94.5	0.0	29.7			
LnGrp LOS	E	B	A	A	C	C	F	A	C			
Approach Vol, veh/h		1461			1513			1191				
Approach Delay, s/veh		23.0			33.5			64.5				
Approach LOS		C			C			E				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		67.8			22.8	44.9		40.0				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		74.9			23.4	46.9		35.5				
Max Q Clear Time (g_c+I1), s		24.1			18.0	31.7		37.5				
Green Ext Time (p_c), s		11.5			0.2	8.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			38.7									
HCM 6th LOS			D									

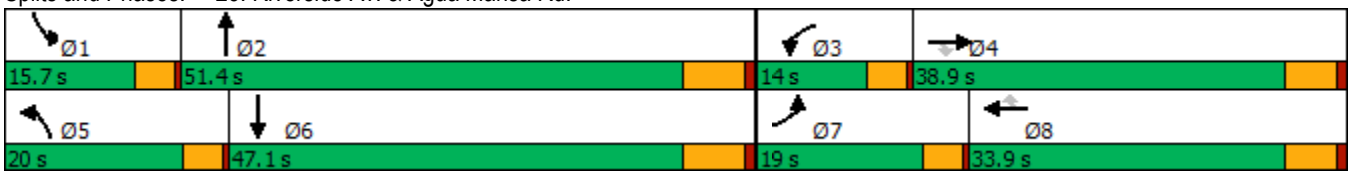
Notes

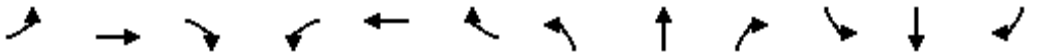
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	327	570	374	127	325	151	229	1356	123	1125
Future Volume (vph)	327	570	374	127	325	151	229	1356	123	1125
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.1	34.8	34.8	9.1	33.8	33.8	9.1	29.5	9.1	31.5
Total Split (s)	19.0	38.9	38.9	14.0	33.9	33.9	20.0	51.4	15.7	47.1
Total Split (%)	15.8%	32.4%	32.4%	11.7%	28.3%	28.3%	16.7%	42.8%	13.1%	39.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	5.8	4.1	5.8	5.8	4.1	6.5	4.1	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	14.9	33.1	33.1	9.9	28.1	28.1	15.9	45.7	10.8	40.6
Actuated g/C Ratio	0.12	0.28	0.28	0.08	0.23	0.23	0.13	0.38	0.09	0.34
v/c Ratio	1.52	1.13	0.64	0.89	0.76	0.30	1.00	1.19	0.79	1.18
Control Delay	292.7	121.7	20.2	104.7	55.4	5.1	110.7	125.3	84.6	126.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	292.7	121.7	20.2	104.7	55.4	5.1	110.7	125.3	84.6	126.3
LOS	F	F	C	F	E	A	F	F	F	F
Approach Delay		135.9			53.2			123.4		122.9
Approach LOS		F			D			F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.52	
Intersection Signal Delay: 118.1	Intersection LOS: F
Intersection Capacity Utilization 105.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	327	570	374	127	325	151	229	1356	188	123	1125	235
Future Volume (veh/h)	327	570	374	127	325	151	229	1356	188	123	1125	235
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	341	594	265	132	339	145	239	1412	181	128	1172	206
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	225	524	444	149	445	377	240	1242	158	154	1039	182
Arrive On Green	0.12	0.28	0.28	0.08	0.23	0.23	0.13	0.39	0.39	0.09	0.34	0.34
Sat Flow, veh/h	1810	1900	1608	1810	1900	1610	1810	3222	409	1810	3071	537
Grp Volume(v), veh/h	341	594	265	132	339	145	239	786	807	128	686	692
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1610	1810	1805	1826	1810	1805	1802
Q Serve(g_s), s	14.9	33.1	17.1	8.7	20.0	9.1	15.8	46.3	46.3	8.4	40.6	40.6
Cycle Q Clear(g_c), s	14.9	33.1	17.1	8.7	20.0	9.1	15.8	46.3	46.3	8.4	40.6	40.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		0.30
Lane Grp Cap(c), veh/h	225	524	444	149	445	377	240	696	704	154	611	610
V/C Ratio(X)	1.52	1.13	0.60	0.88	0.76	0.38	1.00	1.13	1.15	0.83	1.12	1.13
Avail Cap(c_a), veh/h	225	524	444	149	445	377	240	696	704	175	611	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	43.5	37.7	54.5	42.8	38.7	52.0	36.9	36.9	54.0	39.7	39.7
Incr Delay (d2), s/veh	254.5	81.5	2.2	40.7	7.6	0.6	57.2	75.3	82.1	22.3	75.5	79.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.5	26.8	6.8	5.5	10.0	3.6	10.7	33.2	34.9	4.6	29.5	30.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	307.0	125.0	39.9	95.2	50.4	39.3	109.2	112.2	118.9	76.4	115.2	119.0
LnGrp LOS	F	F	D	F	D	D	F	F	F	E	F	F
Approach Vol, veh/h		1200			616			1832			1506	
Approach Delay, s/veh		157.9			57.4			114.8			113.7	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	52.8	14.0	38.9	20.0	47.1	19.0	33.9
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	11.6	44.9	9.9	33.1	15.9	40.6	14.9	28.1
Max Q Clear Time (g_c+I1), s	10.4	48.3	10.7	35.1	17.8	42.6	16.9	22.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	117.6
HCM 6th LOS	F

APPENDIX 6.2:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Volume Development
AM Peak Hour

1: Driveway 1 & Agua Mansa Rd.

	PHF:								Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	2	0	2	0	0	0	0	328	3	3	935	0	1,273

2: Driveway 2 & Agua Mansa Rd.

	PHF:			7:45 AM					Count Date:	1/0/1900			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	1	0	4	0	0	0	0	324	6	24	937	0	1,296

3: Driveway 3 & Agua Mansa Rd.

	PHF:			7:45 AM					Count Date:	1/0/1900			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	4	0	20	0	0	0	0	321	7	28	957	0	1,337

4: Driveway 4 & Agua Mansa Rd.

	PHF:	0.884		7:45 AM					Count Date:	1/0/1900			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	3	0	14	0	0	0	0	336	5	28	983	0	1,369

5: Rancho Av. & I-10 WB Ramps

	PHF:	0.928		7:00 AM					Count Date:	7/27/2016			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**132**	**467**	**0**	**0**	**881**	**397**	**0**	**0**	**0**	**326**	**0**	**444**	2,648

Volume Development
AM Peak Hour

6: Rancho Av. & I-10 EB Ramps

	PHF:	0.883		7:15 AM					Count Date:	7/27/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**0**	**431**	**207**	**431**	**776**	**0**	**168**	**1**	**398**	**0**	**0**	**0**	2,412

7: Rancho Av. & W. N St.

	PHF:	0.836		7:00 AM					Count Date:	2/12/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	394	49	110	1,418	0	0	0	0	20	0	78	2,069

8: Rancho Av. & Agua Mansa Rd.

	PHF:	0.887		7:00 AM					Count Date:	2/14/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**170**	**475**	**7**	**40**	**987**	**801**	**237**	**22**	**91**	**5**	**39**	**15**	2,888

9: La Cadena Dr. & Valley Bl.

	PHF:	0.906		7:45 AM					Count Date:	10/29/2013		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	182	244	287	35	386	28	35	455	200	539	301	11	2,702

10: La Cadena Bl & I-10 WB On Ramp

	PHF:	0.881		7:15 AM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**176**	**620**	**0**	**0**	**979**	**221**	**0**	**0**	**0**	**0**	**0**	**0**	1,996

Volume Development
AM Peak Hour

11: La Cadena Dr. & W N St

	PHF:	0.868		7:00 AM					Count Date:	2/4/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	22	744	7	9	624	36	61	16	68	20	17	19	1,643

12: La Cadena Dr. & Rancho Av.

	PHF:	0.980		7:00 AM					Count Date:	2/2/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**494**	**669**	**0**	**0**	**704**	**47**	**19**	**0**	**671**	**0**	**0**	**0**	2,604

13: La Cadena Dr. & Barton Rd.

	PHF:	0.942		7:00 AM					Count Date:	5/23/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**0**	**790**	**397**	**572**	**1,399**	**0**	**0**	**0**	**0**	**323**	**0**	**375**	3,857

14: Iowa Av. & La Cadena Dr.

	PHF:	0.967		7:00 AM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**233**	**809**	**0**	**0**	**717**	**1,195**	**398**	**0**	**217**	**0**	**0**	**0**	3,569

15: La Cadena Dr. & I-215 SB On-Ramp

	PHF:	0.889		7:00 AM					Count Date:	12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	11	517	0	628	700	54	86	20	33	0	0	0	2,048

Volume Development
AM Peak Hour

16: Iowa Av. & I-215 SB Off-Ramp

	PHF:	0.926		7:00 AM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	919	0	0	934	0	123	0	805	0	0	0	2,781

17: Iowa Av. & I-215 NB Ramps

	PHF:	0.931		7:00 AM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	0	0	266	0	1,473	515	877	0	0	97	404	3,632

18: 9th St & Valley Bl

	PHF:	0.953		7:00 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	430	182	67	27	139	95	2	261	317	22	388	15	1,947

19: 9th St. & I-10 WB Off Ramp

	PHF:	0.903		7:15 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	1	194	0	0	478	1	1	0	1	4	2	497	1,180

20: 9th St & I-10 EB Ramps

	PHF:	0.817		7:15 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	0	0	483	0	0	195	4	0	0	0	0	682

21: I-215 SB Ramps & Barton Rd.

	PHF:	0.915							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	0	14	362	28	253	209	838	13	40	706	587	3,048

22: I-215 NB Ramps & Barton Rd.

	PHF:	0.907							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	130	0	484	0	0	0	292	920	0	0	1,203	726	3,756

23: Riverside Av. & Agua Mansa Rd.

	PHF:	0.946							Count Date:		12/5/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	229	1,135	82	128	1,534	343	278	229	114	183	367	131	4,754

Volume Development
PM Peak Hour

1: Driveway 1 & Agua Mansa Rd.

	PHF:								Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	3	0	3	0	0	0	0	841	2	2	352	0	1,203

2: Driveway 2 & Agua Mansa Rd.

	PHF:								Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	6	0	26	0	0	0	0	842	2	9	347	0	1,232

3: Driveway 3 & Agua Mansa Rd.

	PHF:			4:45 PM					Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	8	0	32	0	0	0	0	864	4	18	349	0	1,275

4: Driveway 4 & Agua Mansa Rd.

	PHF:			4:30 PM					Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	6	0	31	0	0	0	0	894	3	15	361	0	1,310

5: Rancho Av. & I-10 WB Ramps

	PHF:	0.979		5:00 PM					Count Date:	7/27/2016			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**181**	**1,073**	**0**	**0**	**854**	**247**	**0**	**0**	**0**	**181**	**1**	**527**	3,064

Volume Development
PM Peak Hour

6: Rancho Av. & I-10 EB Ramps

	PHF:	0.948		4:45 PM					Count Date:	7/27/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**0**	**750**	**429**	**443**	**592**	**0**	**505**	**7**	**432**	**0**	**0**	**0**	3,158

7: Rancho Av. & W. N St.

	PHF:	0.909		4:30 PM					Count Date:	2/12/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	709	156	147	1,142	0	0	0	0	14	0	47	2,215

8: Rancho Av. & Agua Mansa Rd.

	PHF:	0.945		4:30 PM					Count Date:	2/14/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**111**	**607**	**3**	**16**	**941**	**233**	**598**	**114**	**213**	**5**	**32**	**12**	2,885

9: La Cadena Dr. & Valley Bl.

	PHF:	0.951		4:30 PM					Count Date:	1/29/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	200	458	418	40	471	43	71	460	169	603	290	20	3,244

10: La Cadena Bl & I-10 WB On Ramp

	PHF:	0.939		4:45 PM					Count Date:	10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**209**	**969**	**0**	**0**	**1,127**	**194**	**0**	**0**	**0**	**0**	**0**	**0**	2,500

Volume Development
PM Peak Hour

11: La Cadena Dr. & W N St

	PHF:	0.965		4:45 PM					Count Date:		2/4/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	28	772	10	27	801	70	103	30	48	22	31	16	1,958

12: La Cadena Dr. & Rancho Av.

	PHF:	0.966		4:15 PM					Count Date:		2/2/2016		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**519**	**697**	**0**	**0**	**852**	**13**	**35**	**0**	**802**	**0**	**0**	**0**	2,917

13: La Cadena Dr. & Barton Rd.

	PHF:	0.973		4:30 AM					Count Date:		5/23/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**0**	**1,053**	**322**	**503**	**1,384**	**0**	**0**	**0**	**0**	**514**	**0**	**514**	4,289

14: Iowa Av. & La Cadena Dr.

	PHF:	0.962		4:30 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	**292**	**971**	**0**	**0**	**485**	**1,427**	**641**	**0**	**264**	**0**	**0**	**0**	4,079

15: La Cadena Dr. & I-215 SB On-Ramp

	PHF:	0.919		4:15 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	32	846	7	612	968	88	59	11	20	0	0	0	2,644

Volume Development
PM Peak Hour

16: Iowa Av. & I-215 SB Off-Ramp

	PHF:	0.968		4:00 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	1,101	0	0	748	0	162	0	711	0	0	0	2,722

17: Iowa Av. & I-215 NB Ramps

	PHF:	0.981		4:00 PM					Count Date:		12/12/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	0	0	315	0	1,144	584	1,003	0	0	75	517	3,637

18: 9th St & Valley Bl

	PHF:	0.956		4:45 PM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	424	268	106	33	120	80	32	456	211	46	437	27	2,241

19: 9th St. & I-10 WB Off Ramp

	PHF:	0.933		4:15 AM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	4	338	0	0	381	5	1	0	4	6	2	464	1,204

20: 9th St & I-10 EB Ramps

	PHF:	0.888		4:00 PM					Count Date:		10/16/2018		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	0	0	0	391	0	0	342	2	0	0	0	0	735

21: I-215 SB Ramps & Barton Rd.

	PHF:	0.948							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	3	0	76	487	3	348	163	861	7	52	758	422	3,181

22: I-215 NB Ramps & Barton Rd.

	PHF:	0.973							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	164	0	644	0	0	0	267	1,158	0	0	1,067	479	3,780

23: Riverside Av. & Agua Mansa Rd.

	PHF:	0.959							Count Date:		12/5/2019		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	229	1,356	188	123	1,125	235	327	570	374	127	325	151	5,129

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	328	3	3	935	2	2
Future Vol, veh/h	328	3	3	935	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	357	3	3	1016	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	360	0	1381	359
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	1022	-
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	-	-	1210	-	160	690
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	350	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1210	-	160	690
Mov Cap-2 Maneuver	-	-	-	-	275	-
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	349	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	393	-	-	1210	-
HCM Lane V/C Ratio	0.011	-	-	0.003	-
HCM Control Delay (s)	14.3	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	6	24	937	1	4
Future Vol, veh/h	324	6	24	937	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	352	7	26	1018	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	359	0	1426	356
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	1070	-
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	-	-	1211	-	151	693
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	332	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1211	-	148	693
Mov Cap-2 Maneuver	-	-	-	-	258	-
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	325	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	1211	-
HCM Lane V/C Ratio	0.01	-	-	0.022	-
HCM Control Delay (s)	12	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	321	7	28	957	4	20
Future Vol, veh/h	321	7	28	957	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	349	8	30	1040	4	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	357	0	1453	353
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	1100	-
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	-	-	1213	-	145	695
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	322	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1213	-	141	695
Mov Cap-2 Maneuver	-	-	-	-	141	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	314	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	420	-	-	1213	-
HCM Lane V/C Ratio	0.062	-	-	0.025	-
HCM Control Delay (s)	14.1	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	321	28	957	4
Future Volume (vph)	321	28	957	4
Turn Type	NA	Prot	NA	Prot
Protected Phases	4	3	8	2
Permitted Phases				
Detector Phase	4	3	8	2
Switch Phase				
Minimum Initial (s)	10.0	5.0	10.0	10.0
Minimum Split (s)	20.8	9.6	15.8	19.6
Total Split (s)	90.4	9.6	100.0	20.0
Total Split (%)	75.3%	8.0%	83.3%	16.7%
Yellow Time (s)	4.8	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	4.6	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	None	None	None	Max
Act Effct Green (s)	41.2	5.2	44.4	15.9
Actuated g/C Ratio	0.58	0.07	0.62	0.22
v/c Ratio	0.33	0.24	0.88	0.07
Control Delay	8.9	42.0	19.9	15.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.9	42.0	19.9	15.2
LOS	A	D	B	B
Approach Delay	8.9		20.6	15.2
Approach LOS	A		C	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 17.6	Intersection LOS: B
Intersection Capacity Utilization 67.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Driveway 3 & Agua Mansa Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	321	7	28	957	4	20
Future Volume (veh/h)	321	7	28	957	4	20
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	1800	1900	1900	1900
Adj Flow Rate, veh/h	349	8	30	1040	4	22
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	984	23	54	1196	54	297
Arrive On Green	0.53	0.53	0.03	0.63	0.22	0.22
Sat Flow, veh/h	1850	42	1714	1900	244	1341
Grp Volume(v), veh/h	0	357	30	1040	27	0
Grp Sat Flow(s),veh/h/ln	0	1892	1714	1900	1646	0
Q Serve(g_s), s	0.0	7.6	1.2	31.2	0.9	0.0
Cycle Q Clear(g_c), s	0.0	7.6	1.2	31.2	0.9	0.0
Prop In Lane		0.02	1.00		0.15	0.81
Lane Grp Cap(c), veh/h	0	1006	54	1196	364	0
V/C Ratio(X)	0.00	0.35	0.55	0.87	0.07	0.00
Avail Cap(c_a), veh/h	0	2299	123	2570	364	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	33.2	10.6	21.5	0.0
Incr Delay (d2), s/veh	0.0	0.2	3.3	2.1	0.4	0.0
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	2.5	0.5	9.0	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	9.6	36.5	12.7	21.9	0.0
LnGrp LOS	A	A	D	B	C	A
Approach Vol, veh/h	357			1070	27	
Approach Delay, s/veh	9.6			13.3	21.9	
Approach LOS	A			B	C	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		20.0	6.8	42.8		49.6
Change Period (Y+Rc), s		4.6	4.6	5.8		5.8
Max Green Setting (Gmax), s		15.4	5.0	84.6		94.2
Max Q Clear Time (g_c+I1), s		2.9	3.2	9.6		33.2
Green Ext Time (p_c), s		0.0	0.0	2.1		10.6

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	336	5	28	983	3	14
Future Vol, veh/h	336	5	28	983	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	365	5	30	1068	3	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	370	0	1496	368
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	1128	-
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	-	-	1200	-	137	682
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	312	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1200	-	134	682
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	304	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.2
HCM LOS			B

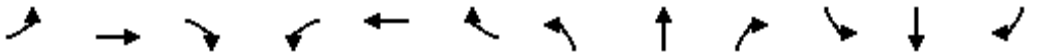
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	516	-	-	1200	-
HCM Lane V/C Ratio	0.036	-	-	0.025	-
HCM Control Delay (s)	12.2	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	0	444	132	467	881
Future Volume (vph)	0	444	132	467	881
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	28.4	28.4	13.2	80.7	63.0
Actuated g/C Ratio	0.24	0.24	0.11	0.67	0.52
v/c Ratio	0.82	0.70	0.72	0.21	0.75
Control Delay	59.1	13.8	93.9	2.2	25.6
Queue Delay	9.5	0.0	0.0	0.2	0.2
Total Delay	68.6	13.8	93.9	2.3	25.7
LOS	E	B	F	A	C
Approach Delay	37.0			22.5	25.7
Approach LOS	D			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: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 28.3	Intersection LOS: C
Intersection Capacity Utilization 75.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	326	0	444	132	467	0	0	881	397
Future Volume (veh/h)	0	0	0	326	0	444	132	467	0	0	881	397
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	0	1900	1900
Adj Flow Rate, veh/h				351	0	369	142	502	0	0	947	346
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				455	0	404	170	2375	0	0	1365	496
Arrive On Green				0.25	0.00	0.25	0.06	0.44	0.00	0.00	0.53	0.53
Sat Flow, veh/h				1810	0	1610	1810	3705	0	0	2689	941
Grp Volume(v), veh/h				351	0	369	142	502	0	0	657	636
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1731
Q Serve(g_s), s				21.6	0.0	26.7	9.3	10.3	0.0	0.0	32.5	33.0
Cycle Q Clear(g_c), s				21.6	0.0	26.7	9.3	10.3	0.0	0.0	32.5	33.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.54
Lane Grp Cap(c), veh/h				455	0	404	170	2375	0	0	950	911
V/C Ratio(X)				0.77	0.00	0.91	0.83	0.21	0.00	0.00	0.69	0.70
Avail Cap(c_a), veh/h				501	0	445	249	2375	0	0	950	911
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.84	0.84	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.7	0.0	43.6	55.3	14.4	0.0	0.0	21.2	21.3
Incr Delay (d2), s/veh				6.7	0.0	21.8	8.4	0.2	0.0	0.0	4.1	4.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.2	0.0	12.7	4.7	4.5	0.0	0.0	14.2	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				48.4	0.0	65.4	63.7	14.5	0.0	0.0	25.3	25.7
LnGrp LOS				D	A	E	E	B	A	A	C	C
Approach Vol, veh/h					720			644			1293	
Approach Delay, s/veh					57.1			25.4			25.5	
Approach LOS					E			C			C	

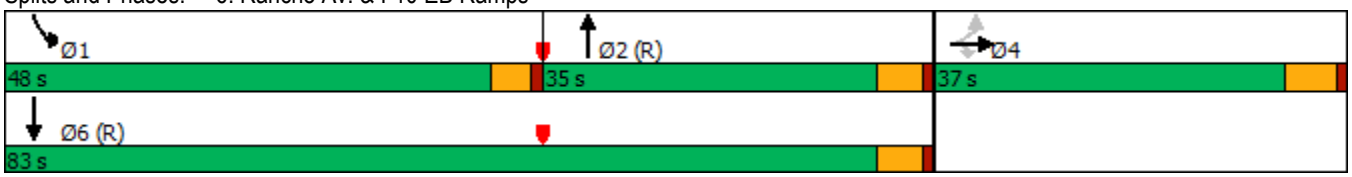
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		84.1			15.8	68.3		35.9				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		12.3			11.3	35.0		28.7				
Green Ext Time (p_c), s		3.7			0.1	9.0		1.4				

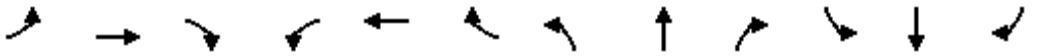
Intersection Summary												
HCM 6th Ctrl Delay			34.0									
HCM 6th LOS			C									

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	1	398	431	431	776
Future Volume (vph)	1	398	431	431	776
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	37.0	37.0	35.0	48.0	83.0
Total Split (%)	30.8%	30.8%	29.2%	40.0%	69.2%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	24.3	24.3	44.7	35.5	84.8
Actuated g/C Ratio	0.20	0.20	0.37	0.30	0.71
v/c Ratio	0.50	0.89	0.53	0.88	0.33
Control Delay	45.9	45.5	31.0	55.0	10.0
Queue Delay	0.0	0.0	0.0	35.4	1.0
Total Delay	45.9	45.5	31.0	90.4	11.0
LOS	D	D	C	F	B
Approach Delay	45.6		31.0		39.3
Approach LOS	D		C		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: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 38.6	Intersection LOS: D
Intersection Capacity Utilization 75.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	1	398	0	0	0	0	431	207	431	776	0
Future Volume (veh/h)	168	1	398	0	0	0	0	431	207	431	776	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	183	1	351				0	468	182	468	843	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	426	2	381				0	930	359	487	2429	0
Arrive On Green	0.24	0.24	0.24				0.00	0.37	0.37	0.54	1.00	0.00
Sat Flow, veh/h	1800	10	1610				0	2640	983	1810	3705	0
Grp Volume(v), veh/h	184	0	351				0	331	319	468	843	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1805	1723	1810	1805	0
Q Serve(g_s), s	10.4	0.0	25.5				0.0	17.1	17.3	29.7	0.0	0.0
Cycle Q Clear(g_c), s	10.4	0.0	25.5				0.0	17.1	17.3	29.7	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.57	1.00		0.00
Lane Grp Cap(c), veh/h	428	0	381				0	659	630	487	2429	0
V/C Ratio(X)	0.43	0.00	0.92				0.00	0.50	0.51	0.96	0.35	0.00
Avail Cap(c_a), veh/h	471	0	419				0	659	630	654	2429	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	1.00	1.00	0.59	0.59	0.00
Uniform Delay (d), s/veh	38.9	0.0	44.7				0.0	29.6	29.7	27.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	24.6				0.0	2.7	2.9	14.2	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
%ile BackOfQ(50%),veh/ln	4.6	0.0	12.4				0.0	7.8	7.6	10.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	69.3				0.0	32.3	32.6	41.3	0.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		535						650			1311	
Approach Delay, s/veh		59.1						32.4			14.9	
Approach LOS		E						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	36.9	48.9		34.2		85.8
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	43.4	29.9		31.2		77.9
Max Q Clear Time (g_c+I1), s	31.7	19.3		27.5		2.0
Green Ext Time (p_c), s	0.6	2.9		0.8		7.1

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

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	78	394	49	110	1418
Future Vol, veh/h	20	78	394	49	110	1418
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	85	428	53	120	1541

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2236	241	0	0	481	0
Stage 1	455	-	-	-	-	-
Stage 2	1781	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	42	766	-	-	1092	-
Stage 1	611	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	37	766	-	-	1092	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	134	-	-	-	-	-

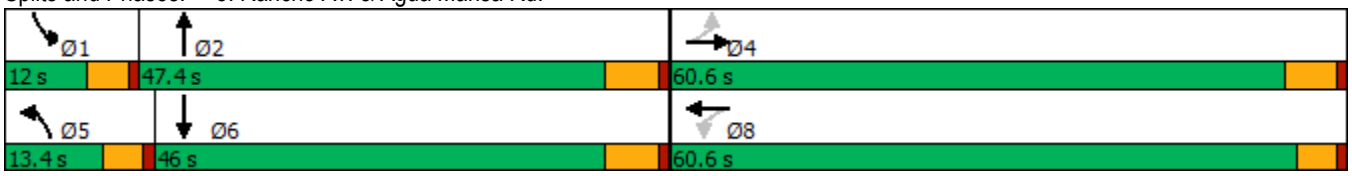
Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	125	766	1092	-
HCM Lane V/C Ratio	-	-	0.174	0.111	0.109	-
HCM Control Delay (s)	-	-	39.8	10.3	8.7	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.4	0.4	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	237	22	5	39	170	475	40	987
Future Volume (vph)	237	22	5	39	170	475	40	987
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)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8
Total Split (s)	60.6	60.6	60.6	60.6	13.4	47.4	12.0	46.0
Total Split (%)	50.5%	50.5%	50.5%	50.5%	11.2%	39.5%	10.0%	38.3%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8		4.6	4.6	5.8	4.6	5.8
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)		30.0		31.2	8.9	47.3	6.4	40.5
Actuated g/C Ratio		0.31		0.33	0.09	0.49	0.07	0.42
v/c Ratio		0.83		0.11	1.17	0.29	0.38	1.27
Control Delay		44.7		17.0	165.6	17.7	55.1	151.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		44.7		17.0	165.6	17.7	55.1	151.5
LOS		D		B	F	B	E	F
Approach Delay		44.7		17.0		56.3		149.5
Approach LOS		D		B		E		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.7	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 113.1	Intersection LOS: F
Intersection Capacity Utilization 102.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	22	91	5	39	15	170	475	7	40	987	801
Future Volume (veh/h)	237	22	91	5	39	15	170	475	7	40	987	801
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	258	24	89	5	42	14	185	516	7	43	1073	704
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	360	27	101	61	382	119	166	1828	25	62	951	579
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.10	0.50	0.50	0.04	0.44	0.44
Sat Flow, veh/h	1030	96	355	63	1341	418	1714	3647	49	1714	2155	1313
Grp Volume(v), veh/h	371	0	0	61	0	0	185	255	268	43	885	892
Grp Sat Flow(s),veh/h/ln	1481	0	0	1823	0	0	1714	1805	1891	1714	1805	1664
Q Serve(g_s), s	19.4	0.0	0.0	0.0	0.0	0.0	8.8	7.5	7.5	2.3	40.2	40.2
Cycle Q Clear(g_c), s	21.7	0.0	0.0	2.3	0.0	0.0	8.8	7.5	7.5	2.3	40.2	40.2
Prop In Lane	0.70		0.24	0.08		0.23	1.00		0.03	1.00		0.79
Lane Grp Cap(c), veh/h	488	0	0	561	0	0	166	905	948	62	796	734
V/C Ratio(X)	0.76	0.00	0.00	0.11	0.00	0.00	1.12	0.28	0.28	0.69	1.11	1.21
Avail Cap(c_a), veh/h	947	0	0	1142	0	0	166	905	948	139	796	734
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	30.8	0.0	0.0	24.1	0.0	0.0	41.2	13.2	13.2	43.4	25.5	25.5
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.1	0.0	0.0	104.9	0.2	0.2	5.0	67.1	109.0
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	7.5	0.0	0.0	1.0	0.0	0.0	8.4	2.7	2.9	1.0	29.9	36.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	0.0	0.0	24.2	0.0	0.0	146.1	13.4	13.4	48.4	92.6	134.5
LnGrp LOS	C	A	A	C	A	A	F	B	B	D	F	F
Approach Vol, veh/h		371			61			708			1820	
Approach Delay, s/veh		33.3			24.2			48.0			112.1	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	51.5		31.7	13.4	46.0		31.7				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	41.6		54.8	8.8	40.2		* 56				
Max Q Clear Time (g_c+I1), s	4.3	9.5		23.7	10.8	42.2		4.3				
Green Ext Time (p_c), s	0.0	2.9		2.3	0.0	0.0		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		85.1
HCM 6th LOS		F

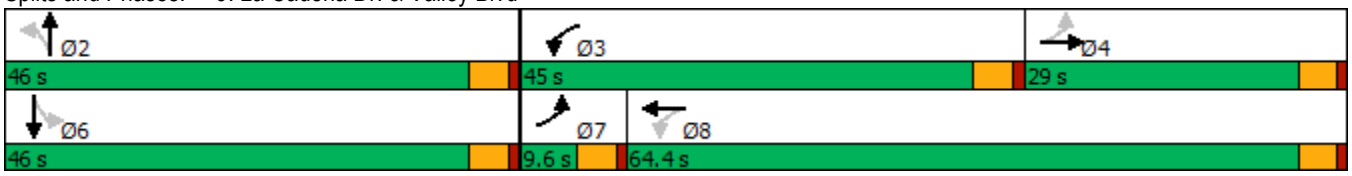
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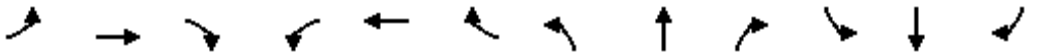
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	35	455	539	301	182	244	35	386
Future Volume (vph)	35	455	539	301	182	244	35	386
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.5	19.5	9.5	19.5	19.5	19.5	19.5	19.5
Total Split (s)	9.6	29.0	45.0	64.4	46.0	46.0	46.0	46.0
Total Split (%)	8.0%	24.2%	37.5%	53.7%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	29.5	24.4	66.5	60.9	41.6	41.6	41.6	41.6
Actuated g/C Ratio	0.25	0.21	0.57	0.52	0.36	0.36	0.36	0.36
v/c Ratio	0.14	0.94	0.97	0.18	0.76	0.43	0.19	0.35
Control Delay	19.0	63.7	60.6	15.6	55.4	16.1	30.6	28.9
Queue Delay	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	63.7	74.6	15.6	55.4	16.1	30.6	28.9
LOS	B	E	E	B	E	B	C	C
Approach Delay		61.4		53.0		26.1		29.1
Approach LOS		E		D		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 44.1	Intersection LOS: D
Intersection Capacity Utilization 89.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	455	200	539	301	11	182	244	287	35	386	28
Future Volume (veh/h)	35	455	200	539	301	11	182	244	287	35	386	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	38	495	163	586	327	12	198	265	241	38	420	30
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	323	551	180	612	1722	63	313	665	584	281	1249	89
Arrive On Green	0.03	0.21	0.21	0.31	0.48	0.48	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1714	2673	875	1714	3552	130	905	1820	1598	860	3418	243
Grp Volume(v), veh/h	38	333	325	586	166	173	198	263	243	38	221	229
Grp Sat Flow(s),veh/h/ln	1714	1805	1743	1714	1805	1877	905	1805	1612	860	1805	1856
Q Serve(g_s), s	2.0	20.4	20.6	32.5	5.9	5.9	23.0	12.3	12.8	3.9	10.1	10.1
Cycle Q Clear(g_c), s	2.0	20.4	20.6	32.5	5.9	5.9	33.1	12.3	12.8	16.7	10.1	10.1
Prop In Lane	1.00		0.50	1.00		0.07	1.00		0.99	1.00		0.13
Lane Grp Cap(c), veh/h	323	372	359	612	875	910	313	660	589	281	660	678
V/C Ratio(X)	0.12	0.90	0.90	0.96	0.19	0.19	0.63	0.40	0.41	0.14	0.34	0.34
Avail Cap(c_a), veh/h	347	389	376	693	952	990	313	660	589	281	660	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	43.9	44.0	28.6	16.6	16.6	38.1	26.8	26.9	33.2	26.1	26.1
Incr Delay (d2), s/veh	0.1	21.9	23.8	22.0	0.1	0.1	9.3	1.8	2.1	1.0	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	11.3	11.2	16.6	2.5	2.6	5.7	5.4	5.1	0.9	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	65.8	67.8	50.6	16.7	16.7	47.4	28.5	29.0	34.2	27.4	27.4
LnGrp LOS	C	E	E	D	B	B	D	C	C	C	C	C
Approach Vol, veh/h		696			925			704			488	
Approach Delay, s/veh		65.0			38.2			34.0			27.9	
Approach LOS		E			D			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		46.0	39.6	27.9		46.0	8.0	59.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		41.5	40.5	24.5		41.5	5.1	59.9				
Max Q Clear Time (g_c+I1), s		35.1	34.5	22.6		18.7	4.0	7.9				
Green Ext Time (p_c), s		2.1	0.6	0.8		2.6	0.0	2.2				

Intersection Summary												
HCM 6th Ctrl Delay			42.0									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	176	620	979	221
Future Vol, veh/h	0	0	176	620	979	221
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	191	674	1064	240

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1903	652	1304	0	-	0
Stage 1	1184	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	62	415	538	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	27	415	538	-	-	-
Mov Cap-2 Maneuver	27	-	-	-	-	-
Stage 1	111	-	-	-	-	-
Stage 2	449	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	5.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	538	-	-	-	-
HCM Lane V/C Ratio	0.356	-	-	-	-
HCM Control Delay (s)	15.3	2.8	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	1.6	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	61	16	68	20	17	19	22	744	9	624
Future Volume (vph)	61	16	68	20	17	19	22	744	9	624
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.0	4.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	76.0	76.0	76.0	76.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.1	10.1		10.1	10.1	19.9	19.9	19.6	19.6
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.55	0.55	0.55	0.55
v/c Ratio		0.21	0.15		0.09	0.04	0.06	0.41	0.03	0.37
Control Delay		12.7	4.9		11.5	5.2	6.3	7.3	6.1	7.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.7	4.9		11.5	5.2	6.3	7.3	6.1	7.2
LOS		B	A		B	A	A	A	A	A
Approach Delay		9.0			9.3			7.3		7.2
Approach LOS		A			A			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 35.9	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 7.5	Intersection LOS: A
Intersection Capacity Utilization 50.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	16	68	20	17	19	22	744	7	9	624	36
Future Volume (veh/h)	61	16	68	20	17	19	22	744	7	9	624	36
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	66	17	74	22	18	21	24	809	8	10	678	39
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	490	105	427	354	242	427	404	1474	15	372	1396	80
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1100	397	1610	689	913	1610	707	3662	36	644	3470	199
Grp Volume(v), veh/h	83	0	74	40	0	21	24	399	418	10	352	365
Grp Sat Flow(s),veh/h/ln	1497	0	1610	1602	0	1610	707	1805	1893	644	1805	1864
Q Serve(g_s), s	0.8	0.0	1.1	0.0	0.0	0.3	0.8	5.5	5.5	0.4	4.7	4.7
Cycle Q Clear(g_c), s	1.3	0.0	1.1	0.5	0.0	0.3	5.6	5.5	5.5	5.9	4.7	4.7
Prop In Lane	0.80		1.00	0.55		1.00	1.00		0.02	1.00		0.11
Lane Grp Cap(c), veh/h	596	0	427	596	0	427	404	726	762	372	726	750
V/C Ratio(X)	0.14	0.00	0.17	0.07	0.00	0.05	0.06	0.55	0.55	0.03	0.49	0.49
Avail Cap(c_a), veh/h	1991	0	1954	2053	0	1954	1648	3904	4095	1497	3881	4008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	9.2	9.0	0.0	8.9	9.3	7.4	7.4	9.7	7.2	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.6	0.6	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.2	0.0	0.1	0.1	1.1	1.1	0.0	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	0.0	9.4	9.0	0.0	8.9	9.3	8.1	8.1	9.7	7.7	7.7
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		157			61			841			727	
Approach Delay, s/veh		9.3			9.0			8.1			7.7	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.3		13.2		19.3		13.2				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 70		39.4		69.8		39.4				
Max Q Clear Time (g_c+I1), s		7.6		3.3		7.9		2.5				
Green Ext Time (p_c), s		5.5		0.7		4.4		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		8.1
HCM 6th LOS		A

Notes

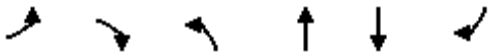
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	19	671	494	669	704
Future Volume (vph)	19	671	494	669	704
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	12.6	12.6	39.0	72.4	28.7
Actuated g/C Ratio	0.13	0.13	0.40	0.74	0.30
v/c Ratio	0.74	0.72	0.82	0.28	0.80
Control Delay	15.8	13.9	40.4	4.6	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	13.9	40.4	4.6	38.7
LOS	B	B	D	A	D
Approach Delay	14.9			19.8	38.7
Approach LOS	B			B	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	19	671	494	669	704	47
Future Volume (veh/h)	19	671	494	669	704	47
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	588	504	683	718	48
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	365	649	528	2145	846	57
Arrive On Green	0.00	0.22	0.34	0.66	0.27	0.27
Sat Flow, veh/h	1629	2898	1543	3335	3176	207
Grp Volume(v), veh/h	0	588	504	683	377	389
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1673
Q Serve(g_s), s	0.0	20.4	33.0	9.4	22.7	22.8
Cycle Q Clear(g_c), s	0.0	20.4	33.0	9.4	22.7	22.8
Prop In Lane	1.00	1.00	1.00			0.12
Lane Grp Cap(c), veh/h	365	649	528	2145	444	458
V/C Ratio(X)	0.00	0.91	0.95	0.32	0.85	0.85
Avail Cap(c_a), veh/h	397	706	587	2599	609	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	39.1	33.3	7.6	35.6	35.6
Incr Delay (d2), s/veh	0.0	14.7	24.3	0.1	8.2	8.0
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	1.3	14.9	2.6	9.4	9.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	53.8	57.5	7.7	43.7	43.6
LnGrp LOS	A	D	E	A	D	D
Approach Vol, veh/h	588			1187	766	
Approach Delay, s/veh	53.8			28.8	43.7	
Approach LOS	D			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		74.5		29.0	40.0	34.5
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		11.4		22.4	35.0	24.8
Green Ext Time (p_c), s		4.6		0.7	0.4	3.5

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	323	375	790	397	572	1399
Future Volume (vph)	323	375	790	397	572	1399
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	37.9	37.9	33.1	33.1	32.4	70.1
Actuated g/C Ratio	0.32	0.32	0.28	0.28	0.27	0.58
v/c Ratio	0.64	0.65	0.84	0.56	1.32	0.71
Control Delay	42.2	27.9	49.7	6.3	195.2	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	27.9	49.7	6.3	195.2	19.7
LOS	D	C	D	A	F	B
Approach Delay	34.5		35.1			70.7
Approach LOS	C		D			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.32	
Intersection Signal Delay: 53.2	Intersection LOS: D
Intersection Capacity Utilization 88.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	323	375	790	397	572	1399
Future Volume (veh/h)	323	375	790	397	572	1399
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	344	0	840	385	609	1488
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	517		976	435	463	2089
Arrive On Green	0.30	0.00	0.27	0.27	0.27	0.58
Sat Flow, veh/h	1714	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	344	0	840	385	609	1488
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1610	1714	1805
Q Serve(g_s), s	21.0	0.0	26.6	27.5	32.4	35.5
Cycle Q Clear(g_c), s	21.0	0.0	26.6	27.5	32.4	35.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	517		976	435	463	2089
V/C Ratio(X)	0.67		0.86	0.88	1.32	0.71
Avail Cap(c_a), veh/h	517		1047	467	463	2160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.50	0.50	0.54	0.54
Uniform Delay (d), s/veh	36.6	0.0	41.6	42.0	43.8	18.1
Incr Delay (d2), s/veh	6.6	0.0	3.7	9.7	150.4	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	9.6	0.0	11.7	11.6	32.4	13.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.2	0.0	45.4	51.7	194.2	18.7
LnGrp LOS	D		D	D	F	B
Approach Vol, veh/h	344		1225			2097
Approach Delay, s/veh	43.2		47.4			69.7
Approach LOS	D		D			E

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	38.6			75.6	42.0
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8			71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	29.5			37.5	23.0
Green Ext Time (p_c), s	0.0	2.9			13.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	59.7
HCM 6th LOS	E

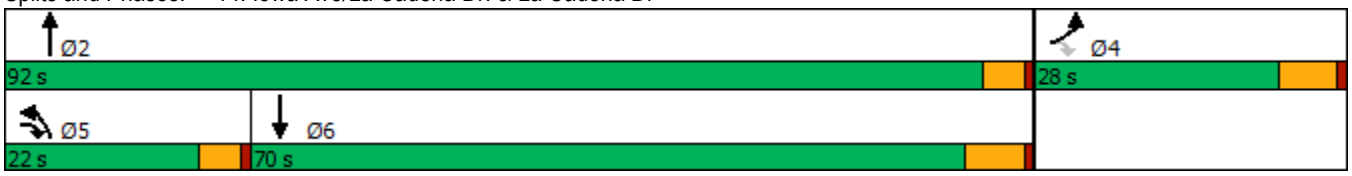
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	398	217	233	809	717	1195
Future Volume (vph)	398	217	233	809	717	1195
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	22.1	45.8	17.4	68.2	44.5	101.3
Actuated g/C Ratio	0.22	0.45	0.17	0.67	0.44	1.00
v/c Ratio	1.10	0.31	0.82	0.65	0.89	0.46
Control Delay	115.6	21.8	65.3	12.1	38.9	0.6
Queue Delay	0.0	0.0	0.0	1.0	0.0	0.0
Total Delay	115.6	21.8	65.3	13.1	38.9	0.6
LOS	F	C	E	B	D	A
Approach Delay	82.5			24.8	14.9	
Approach LOS	F			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 29.4	Intersection LOS: C
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	398	217	233	809	717	1195
Future Volume (veh/h)	398	217	233	809	717	1195
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	410	198	240	834	739	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	393	625	272	1216	823	
Arrive On Green	0.23	0.23	0.16	0.64	0.43	0.00
Sat Flow, veh/h	1714	1610	1714	1900	1900	2685
Grp Volume(v), veh/h	410	198	240	834	739	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1900	1900	1342
Q Serve(g_s), s	21.8	8.2	13.0	26.8	34.3	0.0
Cycle Q Clear(g_c), s	21.8	8.2	13.0	26.8	34.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	393	625	272	1216	823	
V/C Ratio(X)	1.04	0.32	0.88	0.69	0.90	
Avail Cap(c_a), veh/h	393	625	314	1747	1275	
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	0.00
Uniform Delay (d), s/veh	36.6	20.3	39.1	11.0	25.0	0.0
Incr Delay (d2), s/veh	57.0	0.3	20.4	0.7	5.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	8.5	6.7	8.7	14.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	93.6	20.6	59.5	11.7	30.8	0.0
LnGrp LOS	F	C	E	B	C	
Approach Vol, veh/h	608			1074	739	
Approach Delay, s/veh	69.9			22.4	30.8	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		67.1		28.0	19.7	47.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		28.8		23.8	15.0	36.3
Green Ext Time (p_c), s		6.5		0.0	0.1	4.9

Intersection Summary		
HCM 6th Ctrl Delay		36.9
HCM 6th LOS		D

Notes

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

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

Intersection	
Intersection Delay, s/veh	147.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	20	33	0	0	0	11	517	0	628	700	54
Future Vol, veh/h	86	20	33	0	0	0	11	517	0	628	700	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	93	22	36	0	0	0	12	562	0	683	761	59
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15.3	15	212
HCM LOS	C	B	F

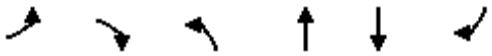
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	62%	100%	0%
Vol Thru, %	0%	100%	100%	14%	0%	93%
Vol Right, %	0%	0%	0%	24%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	259	259	139	628	754
LT Vol	11	0	0	86	628	0
Through Vol	0	259	259	20	0	700
RT Vol	0	0	0	33	0	54
Lane Flow Rate	12	281	281	151	683	820
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.024	0.521	0.389	0.336	1.327	1.466
Departure Headway (Hd)	8.018	7.51	5.784	8.436	6.996	6.439
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	449	483	627	429	526	574
Service Time	5.718	5.21	3.484	6.136	4.708	4.15
HCM Lane V/C Ratio	0.027	0.582	0.448	0.352	1.298	1.429
HCM Control Delay	10.9	18.1	12.1	15.3	181.3	237.5
HCM Lane LOS	B	C	B	C	F	F
HCM 95th-tile Q	0.1	3	1.8	1.5	29.6	40.2

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	123	805	919	934
Future Volume (vph)	123	805	919	934
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.8	61.9
Actuated g/C Ratio	0.09	0.09	0.17	0.56
v/c Ratio	0.81	1.97	3.04	0.94
Control Delay	85.0	465.0	942.6	38.0
Queue Delay	0.0	0.0	0.0	49.2
Total Delay	85.0	465.0	942.6	87.3
LOS	F	F	F	F
Approach Delay	414.1		942.6	87.3
Approach LOS	F		F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.04	
Intersection Signal Delay: 478.9	Intersection LOS: F
Intersection Capacity Utilization 109.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	123	805	0	919	934	0
Future Volume (veh/h)	123	805	0	919	934	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	134	724	0	988	1004	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	309	275	0	1174	1174	0
Arrive On Green	0.17	0.17	0.00	0.62	0.62	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	134	724	0	988	1004	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	3.9	10.0	0.0	24.3	25.1	0.0
Cycle Q Clear(g_c), s	3.9	10.0	0.0	24.3	25.1	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	309	275	0	1174	1174	0
V/C Ratio(X)	0.43	2.63	0.00	0.84	0.86	0.00
Avail Cap(c_a), veh/h	309	275	0	1174	2360	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.8	24.3	0.0	8.9	9.1	0.0
Incr Delay (d2), s/veh	1.0	746.1	0.0	5.7	1.9	0.0
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	60.5	0.0	6.9	5.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.7	770.4	0.0	14.6	11.0	0.0
LnGrp LOS	C	F	A	B	B	A
Approach Vol, veh/h	858			988	1004	
Approach Delay, s/veh	653.6			14.6	11.0	
Approach LOS	F			B	B	

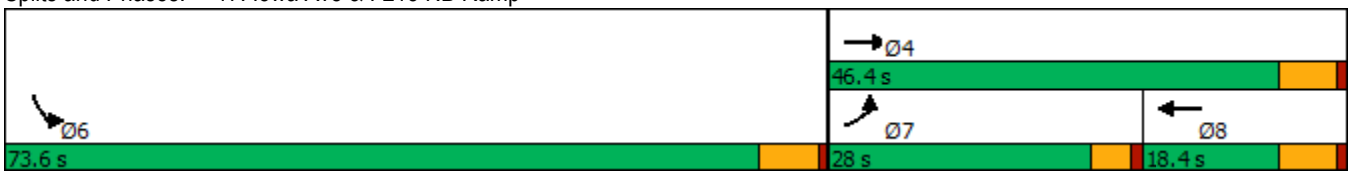
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.4		16.2		42.4
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		26.3		12.0		27.1
Green Ext Time (p_c), s		0.0		0.0		9.1

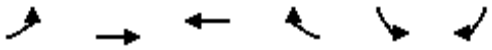
Intersection Summary		
HCM 6th Ctrl Delay	205.7	
HCM 6th LOS	F	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	515	877	97	266
Future Volume (vph)	515	877	97	266
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.58	1.48	1.82	1.69
Control Delay	306.9	256.9	404.5	336.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	306.9	256.9	404.5	336.7
LOS	F	F	F	F
Approach Delay		275.4	404.5	336.7
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.82	
Intersection Signal Delay: 322.5	Intersection LOS: F
Intersection Capacity Utilization 178.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	515	877	97	404	266	1473
Future Volume (veh/h)	515	877	97	404	266	1473
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	554	943	104	375	286	1310
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	353	636	37	133	165	757
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	362	1304	294	1348
Grp Volume(v), veh/h	554	943	0	479	1597	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1665	1643	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.78	0.18	0.82
Lane Grp Cap(c), veh/h	353	637	0	169	923	0
V/C Ratio(X)	1.57	1.48	0.00	2.83	1.73	0.00
Avail Cap(c_a), veh/h	353	637	0	169	923	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	269.9	225.1	0.0	839.3	333.4	0.0
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	58.2	0.0	44.6	108.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	318.2	265.0	0.0	893.2	359.7	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1497	479		1597	
Approach Delay, s/veh		284.7	893.2		359.7	
Approach LOS		F	F		F	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			46.4		73.6	28.0	18.4
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			40.2		67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s			42.2		69.4	25.4	14.2
Green Ext Time (p_c), s			0.0		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	399.8
HCM 6th LOS	F

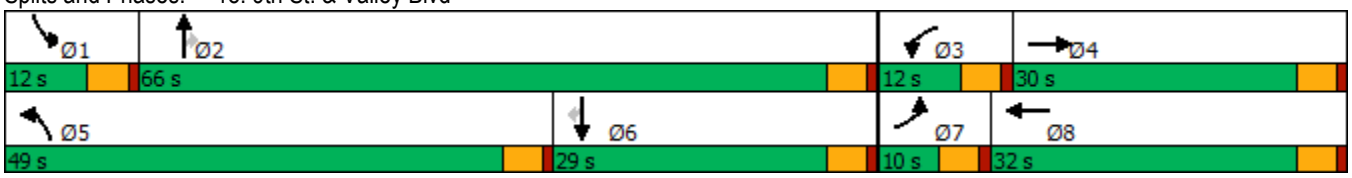
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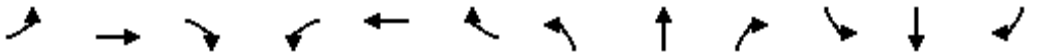
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	2	261	22	388	430	182	67	27	139	95
Future Volume (vph)	2	261	22	388	430	182	67	27	139	95
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	26.6	9.6	26.6	9.6	22.6	22.6	9.6	22.6	22.6
Total Split (s)	10.0	30.0	12.0	32.0	49.0	66.0	66.0	12.0	29.0	29.0
Total Split (%)	8.3%	25.0%	10.0%	26.7%	40.8%	55.0%	55.0%	10.0%	24.2%	24.2%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	5.6	17.2	6.3	19.3	26.2	41.5	41.5	6.4	13.6	13.6
Actuated g/C Ratio	0.07	0.23	0.08	0.25	0.35	0.55	0.55	0.08	0.18	0.18
v/c Ratio	0.02	0.65	0.16	0.46	0.77	0.18	0.08	0.19	0.43	0.25
Control Delay	47.0	21.9	46.3	27.4	33.3	12.8	1.7	46.3	38.4	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	21.9	46.3	27.4	33.3	12.8	1.7	46.3	38.4	4.3
LOS	D	C	D	C	C	B	A	D	D	A
Approach Delay		22.0		28.4		24.7			26.7	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 75.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 25.0	Intersection LOS: C
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	261	317	22	388	15	430	182	67	27	139	95
Future Volume (veh/h)	2	261	317	22	388	15	430	182	67	27	139	95
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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	2	275	334	23	408	16	453	192	71	28	146	100
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	5	476	425	44	1017	40	503	779	660	52	279	236
Arrive On Green	0.00	0.26	0.26	0.03	0.29	0.29	0.29	0.41	0.41	0.03	0.15	0.15
Sat Flow, veh/h	1714	1805	1610	1714	3541	139	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	2	275	334	23	208	216	453	192	71	28	146	100
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1875	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	0.1	9.0	13.1	0.9	6.3	6.3	17.3	4.5	1.9	1.1	4.8	3.8
Cycle Q Clear(g_c), s	0.1	9.0	13.1	0.9	6.3	6.3	17.3	4.5	1.9	1.1	4.8	3.8
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	5	476	425	44	518	538	503	779	660	52	279	236
V/C Ratio(X)	0.43	0.58	0.79	0.52	0.40	0.40	0.90	0.25	0.11	0.54	0.52	0.42
Avail Cap(c_a), veh/h	136	673	601	186	726	755	1118	1713	1452	186	681	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	21.8	23.3	32.7	19.6	19.6	23.1	13.2	12.4	32.6	26.8	26.4
Incr Delay (d2), s/veh	21.4	1.1	4.5	3.4	0.5	0.5	2.5	0.2	0.1	3.2	1.5	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.7	5.2	0.4	2.6	2.7	6.8	1.8	0.6	0.5	2.2	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	22.9	27.8	36.2	20.1	20.1	25.6	13.4	12.5	35.8	28.4	27.6
LnGrp LOS	E	C	C	D	C	C	C	B	B	D	C	C
Approach Vol, veh/h		611			447			716			274	
Approach Delay, s/veh		25.7			20.9			21.0			28.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	32.5	6.4	22.6	24.6	14.6	4.8	24.1
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	61.4	7.4	25.4	44.4	24.4	5.4	27.4
Max Q Clear Time (g_c+I1), s	3.1	6.5	2.9	15.1	19.3	6.8	2.1	8.3
Green Ext Time (p_c), s	0.0	1.4	0.0	2.8	0.7	1.0	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	497	194	0	0	478
Future Vol, veh/h	4	497	194	0	0	478
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	540	211	0	0	520

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	731	211	0	-	-	-
Stage 1	211	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	392	834	-	0	0	-
Stage 1	829	-	-	0	0	-
Stage 2	601	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	392	834	-	-	-	-
Mov Cap-2 Maneuver	487	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	601	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	829	-
HCM Lane V/C Ratio	-	0.657	-
HCM Control Delay (s)	-	17.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	5	-

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	195	4	0	0	483	0
Future Vol, veh/h	195	4	0	0	483	0
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	212	4	0	0	525	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11	17.3
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	199	483
LT Vol	195	483
Through Vol	4	0
RT Vol	0	0
Lane Flow Rate	216	525
Geometry Grp	1	1
Degree of Util (X)	0.323	0.684
Departure Headway (Hd)	5.382	4.693
Convergence, Y/N	Yes	Yes
Cap	664	767
Service Time	3.443	2.736
HCM Lane V/C Ratio	0.325	0.684
HCM Control Delay	11	17.3
HCM Lane LOS	B	C
HCM 95th-tile Q	1.4	5.5

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1152	1448	56	698
Demand Flow Rate, veh/h	1152	1448	56	698
Vehicles Circulating, veh/h	466	227	1531	810
Vehicles Exiting, veh/h	1042	1360	87	865
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.4	11.8	11.6	15.6
Approach LOS	B	B	B	C

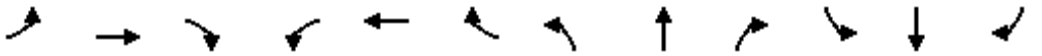
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.606	0.394
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	541	611	681	767	56	423	275
Cap Entry Lane, veh/h	879	956	1095	1171	386	641	713
Entry HV Adj Factor	1.001	0.999	0.999	1.001	1.000	1.000	1.000
Flow Entry, veh/h	541	611	681	767	56	423	275
Cap Entry, veh/h	880	955	1095	1172	386	641	713
V/C Ratio	0.615	0.639	0.622	0.655	0.145	0.660	0.386
Control Delay, s/veh	13.5	13.4	11.6	12.0	11.6	19.1	10.1
LOS	B	B	B	B	B	C	B
95th %tile Queue, veh	4	5	5	5	1	5	2

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	292	920	1203	726	130	0	484
Future Volume (vph)	292	920	1203	726	130	0	484
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	22.0	94.0	72.0	72.0	26.0	26.0	26.0
Total Split (%)	18.3%	78.3%	60.0%	60.0%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.8	77.0	54.5	54.5	15.0	13.6	13.6
Actuated g/C Ratio	0.17	0.76	0.54	0.54	0.15	0.13	0.13
v/c Ratio	1.00	0.37	0.68	0.73	0.54	0.72	0.72
Control Delay	97.1	4.8	19.1	9.3	50.6	26.5	26.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	4.8	19.1	9.3	50.6	26.5	26.5
LOS	F	A	B	A	D	C	C
Approach Delay		27.0	15.4			31.6	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 21.8	Intersection LOS: C
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	920	0	0	1203	726	130	0	484	0	0	0
Future Volume (veh/h)	292	920	0	0	1203	726	130	0	484	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	317	1000	0	0	1308	642	141	0	434			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	317	2671	0	0	1870	812	295	0	526			
Arrive On Green	0.18	0.74	0.00	0.00	0.52	0.52	0.16	0.00	0.16			
Sat Flow, veh/h	1810	3705	0	0	3705	1568	1810	0	3220			
Grp Volume(v), veh/h	317	1000	0	0	1308	642	141	0	434			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1568	1810	0	1610			
Q Serve(g_s), s	17.4	9.9	0.0	0.0	27.2	33.1	7.0	0.0	12.9			
Cycle Q Clear(g_c), s	17.4	9.9	0.0	0.0	27.2	33.1	7.0	0.0	12.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	317	2671	0	0	1870	812	295	0	526			
V/C Ratio(X)	1.00	0.37	0.00	0.00	0.70	0.79	0.48	0.00	0.83			
Avail Cap(c_a), veh/h	317	3236	0	0	2435	1058	392	0	698			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.9	4.6	0.0	0.0	18.1	19.5	37.7	0.0	40.1			
Incr Delay (d2), s/veh	50.1	0.1	0.0	0.0	0.6	3.1	1.2	0.0	6.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	11.9	2.8	0.0	0.0	10.6	11.7	3.1	0.0	5.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	4.7	0.0	0.0	18.7	22.6	38.8	0.0	46.2			
LnGrp LOS	F	A	A	A	B	C	D	A	D			
Approach Vol, veh/h		1317			1950			575				
Approach Delay, s/veh		25.5			20.0			44.4				
Approach LOS		C			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		78.5			22.0	56.5		20.7				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		88.9			17.4	66.9		21.5				
Max Q Clear Time (g_c+I1), s		11.9			19.4	35.1		14.9				
Green Ext Time (p_c), s		9.0			0.0	16.2		1.3				
Intersection Summary												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			C									

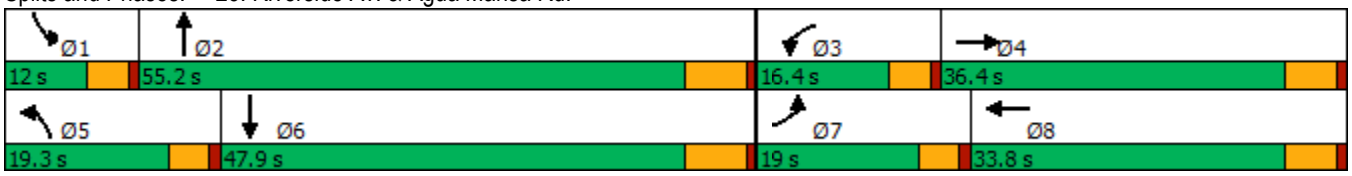
Notes

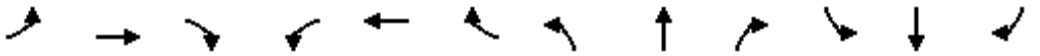
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	278	229	183	367	229	1135	128	1534
Future Volume (vph)	278	229	183	367	229	1135	128	1534
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	9.6	33.8	9.6	29.5	9.6	31.5
Total Split (s)	19.0	36.4	16.4	33.8	19.3	55.2	12.0	47.9
Total Split (%)	15.8%	30.3%	13.7%	28.2%	16.1%	46.0%	10.0%	39.9%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.4	24.0	11.8	21.4	14.7	48.8	7.4	41.5
Actuated g/C Ratio	0.12	0.21	0.10	0.19	0.13	0.43	0.07	0.37
v/c Ratio	1.38	0.47	1.03	0.77	1.03	0.83	1.15	1.53
Control Delay	234.8	33.1	124.6	48.3	116.6	35.1	176.8	269.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	234.8	33.1	124.6	48.3	116.6	35.1	176.8	269.8
LOS	F	C	F	D	F	D	F	F
Approach Delay		123.4		68.8		48.1		263.9
Approach LOS		F		E		D		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.53	
Intersection Signal Delay: 151.9	Intersection LOS: F
Intersection Capacity Utilization 114.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	229	114	183	367	131	229	1135	82	128	1534	343
Future Volume (veh/h)	278	229	114	183	367	131	229	1135	82	128	1534	343
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	293	241	83	193	386	119	241	1195	79	135	1615	323
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	217	530	178	191	480	146	238	1499	99	120	1118	216
Arrive On Green	0.12	0.20	0.20	0.11	0.18	0.18	0.13	0.44	0.44	0.07	0.37	0.37
Sat Flow, veh/h	1810	2653	890	1810	2724	830	1810	3437	227	1810	3016	583
Grp Volume(v), veh/h	293	162	162	193	254	251	241	627	647	135	945	993
Grp Sat Flow(s),veh/h/ln	1810	1805	1738	1810	1805	1749	1810	1805	1859	1810	1805	1794
Q Serve(g_s), s	13.4	8.8	9.2	11.8	15.1	15.4	14.7	33.5	33.6	7.4	41.4	41.4
Cycle Q Clear(g_c), s	13.4	8.8	9.2	11.8	15.1	15.4	14.7	33.5	33.6	7.4	41.4	41.4
Prop In Lane	1.00		0.51	1.00		0.47	1.00		0.12	1.00		0.33
Lane Grp Cap(c), veh/h	217	360	347	191	318	308	238	787	811	120	669	665
V/C Ratio(X)	1.35	0.45	0.47	1.01	0.80	0.81	1.01	0.80	0.80	1.13	1.41	1.49
Avail Cap(c_a), veh/h	217	494	476	191	452	438	238	787	811	120	669	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	39.3	39.5	49.9	44.1	44.2	48.5	27.2	27.2	52.1	35.1	35.1
Incr Delay (d2), s/veh	184.6	0.9	1.0	67.6	6.5	7.7	61.4	5.7	5.7	120.1	194.2	230.0
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	17.0	3.9	3.9	8.8	7.1	7.1	10.4	14.2	14.7	7.2	52.6	58.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	233.8	40.2	40.4	117.5	50.6	51.9	109.9	33.0	32.9	172.2	229.3	265.2
LnGrp LOS	F	D	D	F	D	D	F	C	C	F	F	F
Approach Vol, veh/h		617			698			1515			2073	
Approach Delay, s/veh		132.2			69.6			45.2			242.8	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	55.2	16.4	28.1	19.3	47.9	19.0	25.5
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	7.4	48.7	11.8	30.6	14.7	41.4	14.4	28.0
Max Q Clear Time (g_c+I1), s	9.4	35.6	13.8	11.2	16.7	43.4	15.4	17.4
Green Ext Time (p_c), s	0.0	6.0	0.0	1.6	0.0	0.0	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	143.1
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	841	2	2	352	3	3
Future Vol, veh/h	841	2	2	352	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	914	2	2	383	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	916	0	1302	915
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	387	-
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	-	-	753	-	179	333
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	753	-	178	333
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	-	-	753	-
HCM Lane V/C Ratio	0.021	-	-	0.003	-
HCM Control Delay (s)	16.6	-	-	9.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	842	2	9	347	6	26
Future Vol, veh/h	842	2	9	347	6	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	915	2	10	377	7	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	917	0	1313	916
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	397	-
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	-	-	752	-	176	333
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	752	-	174	333
Mov Cap-2 Maneuver	-	-	-	-	298	-
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	674	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	326	-	-	752	-
HCM Lane V/C Ratio	0.107	-	-	0.013	-
HCM Control Delay (s)	17.4	-	-	9.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	864	4	18	349	8	32
Future Vol, veh/h	864	4	18	349	8	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	939	4	20	379	9	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	943	0	1360	941
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	419	-
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	-	-	736	-	165	322
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	736	-	161	322
Mov Cap-2 Maneuver	-	-	-	-	161	-
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	650	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	21
HCM LOS			C

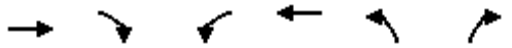
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	268	-	-	736	-
HCM Lane V/C Ratio	0.162	-	-	0.027	-
HCM Control Delay (s)	21	-	-	10	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	864	18	349	8
Future Volume (vph)	864	18	349	8
Turn Type	NA	Prot	NA	Prot
Protected Phases	4	3	8	2
Permitted Phases				
Detector Phase	4	3	8	2
Switch Phase				
Minimum Initial (s)	10.0	5.0	10.0	10.0
Minimum Split (s)	20.8	9.6	15.8	19.6
Total Split (s)	90.0	9.6	99.6	20.4
Total Split (%)	75.0%	8.0%	83.0%	17.0%
Yellow Time (s)	4.8	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	4.6	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	None	None	None	Max
Act Effct Green (s)	42.0	5.4	44.9	17.1
Actuated g/C Ratio	0.57	0.07	0.61	0.23
v/c Ratio	0.87	0.16	0.33	0.11
Control Delay	22.4	45.0	6.5	16.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.4	45.0	6.5	16.2
LOS	C	D	A	B
Approach Delay	22.4		8.5	16.2
Approach LOS	C		A	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 73.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 62.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Driveway 3 & Agua Mansa Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	864	4	18	349	8	32
Future Volume (veh/h)	864	4	18	349	8	32
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	1800	1900	1900	1900
Adj Flow Rate, veh/h	939	4	20	379	9	35
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	1072	5	39	1237	70	270
Arrive On Green	0.57	0.57	0.02	0.65	0.21	0.21
Sat Flow, veh/h	1890	8	1714	1900	330	1285
Grp Volume(v), veh/h	0	943	20	379	45	0
Grp Sat Flow(s),veh/h/ln	0	1899	1714	1900	1652	0
Q Serve(g_s), s	0.0	32.1	0.9	6.5	1.7	0.0
Cycle Q Clear(g_c), s	0.0	32.1	0.9	6.5	1.7	0.0
Prop In Lane		0.00	1.00		0.20	0.78
Lane Grp Cap(c), veh/h	0	1077	39	1237	348	0
V/C Ratio(X)	0.00	0.88	0.51	0.31	0.13	0.00
Avail Cap(c_a), veh/h	0	2129	114	2374	348	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.0	36.3	5.7	24.1	0.0
Incr Delay (d2), s/veh	0.0	2.4	3.9	0.1	0.8	0.0
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	11.0	0.4	1.8	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	16.4	40.1	5.8	24.8	0.0
LnGrp LOS	A	B	D	A	C	A
Approach Vol, veh/h	943			399	45	
Approach Delay, s/veh	16.4			7.6	24.8	
Approach LOS	B			A	C	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		20.4	6.3	48.4		54.7
Change Period (Y+Rc), s		4.6	4.6	5.8		5.8
Max Green Setting (Gmax), s		15.8	5.0	84.2		93.8
Max Q Clear Time (g_c+I1), s		3.7	2.9	34.1		8.5
Green Ext Time (p_c), s		0.1	0.0	8.5		2.2

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

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	894	3	15	361	6	31
Future Vol, veh/h	894	3	15	361	6	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	972	3	16	392	7	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	975	0	1398	974
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	424	-
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	-	-	716	-	157	308
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	716	-	154	308
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	649	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	18.7
HCM LOS			C

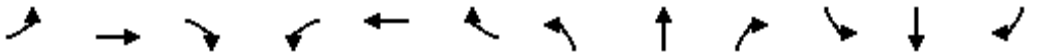
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	303	-	-	716	-
HCM Lane V/C Ratio	0.133	-	-	0.023	-
HCM Control Delay (s)	18.7	-	-	10.1	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	1	527	181	1073	854
Future Volume (vph)	1	527	181	1073	854
Turn Type	NA	Perm	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)	15.8	15.8	9.5	22.1	15.1
Total Split (s)	39.0	39.0	21.0	81.0	60.0
Total Split (%)	32.5%	32.5%	17.5%	67.5%	50.0%
Yellow Time (s)	4.8	4.8	3.5	4.1	4.1
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)	5.8	5.8	4.5	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	33.2	33.2	15.0	75.9	56.4
Actuated g/C Ratio	0.28	0.28	0.12	0.63	0.47
v/c Ratio	0.37	1.02	0.82	0.48	0.68
Control Delay	37.6	79.7	64.9	13.3	26.5
Queue Delay	1.4	0.0	0.0	2.0	0.4
Total Delay	39.0	79.7	64.9	15.3	27.0
LOS	D	E	E	B	C
Approach Delay	69.2			22.5	27.0
Approach LOS	E			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: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 34.9	Intersection LOS: C
Intersection Capacity Utilization 100.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 5: Rancho Av. & I-10 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	181	1	527	181	1073	0	0	854	247
Future Volume (veh/h)	0	0	0	181	1	527	181	1073	0	0	854	247
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	0	1900	1900
Adj Flow Rate, veh/h				185	1	451	185	1095	0	0	871	175
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				498	3	445	209	2283	0	0	1435	288
Arrive On Green				0.28	0.28	0.28	0.23	1.00	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1800	10	1610	1810	3705	0	0	3090	602
Grp Volume(v), veh/h				186	0	451	185	1095	0	0	525	521
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1792
Q Serve(g_s), s				9.9	0.0	33.2	11.9	0.0	0.0	0.0	25.6	25.6
Cycle Q Clear(g_c), s				9.9	0.0	33.2	11.9	0.0	0.0	0.0	25.6	25.6
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				501	0	445	209	2283	0	0	865	859
V/C Ratio(X)				0.37	0.00	1.01	0.88	0.48	0.00	0.00	0.61	0.61
Avail Cap(c_a), veh/h				501	0	445	249	2283	0	0	865	859
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.0	0.0	43.4	45.3	0.0	0.0	0.0	22.9	22.9
Incr Delay (d2), s/veh				0.5	0.0	45.8	2.9	0.1	0.0	0.0	3.2	3.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.3	0.0	18.3	4.8	0.0	0.0	0.0	11.3	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				35.4	0.0	89.2	48.3	0.1	0.0	0.0	26.1	26.1
LnGrp LOS				D	A	F	D	A	A	A	C	C
Approach Vol, veh/h					637			1280			1046	
Approach Delay, s/veh					73.5			7.0			26.1	
Approach LOS					E			A			C	

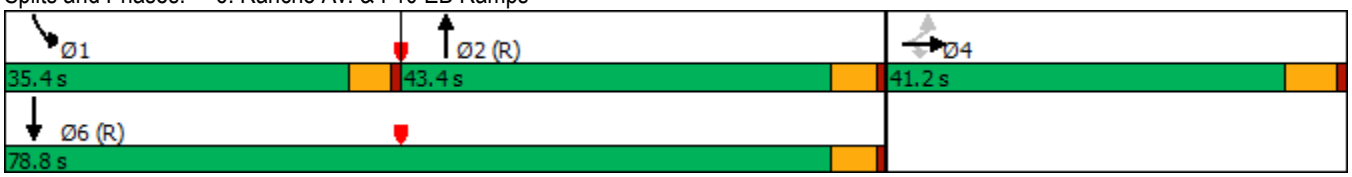
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		81.0			18.4	62.6		39.0				
Change Period (Y+Rc), s		5.1			4.5	5.1		5.8				
Max Green Setting (Gmax), s		75.9			16.5	54.9		33.2				
Max Q Clear Time (g_c+I1), s		2.0			13.9	27.6		35.2				
Green Ext Time (p_c), s		10.4			0.1	7.6		0.0				

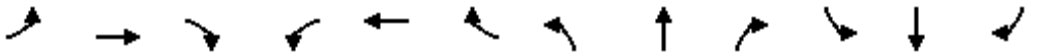
Intersection Summary		
HCM 6th Ctrl Delay	28.1	
HCM 6th LOS	C	

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	7	432	750	443	592
Future Volume (vph)	7	432	750	443	592
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	15.8	15.8	20.1	9.6	15.1
Total Split (s)	41.2	41.2	43.4	35.4	78.8
Total Split (%)	34.3%	34.3%	36.2%	29.5%	65.7%
Yellow Time (s)	4.8	4.8	4.1	3.6	4.1
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)	5.8	5.8	5.1	4.6	5.1
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	35.4	35.4	38.3	30.8	73.7
Actuated g/C Ratio	0.30	0.30	0.32	0.26	0.61
v/c Ratio	1.01	0.69	1.07	1.01	0.28
Control Delay	83.8	20.9	84.9	100.3	10.5
Queue Delay	0.0	0.0	0.0	34.2	0.6
Total Delay	83.8	20.9	84.9	134.5	11.1
LOS	F	C	F	F	B
Approach Delay	55.0		84.9		63.9
Approach LOS	E		F		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: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 69.1	Intersection LOS: E
Intersection Capacity Utilization 100.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: Rancho Av. & I-10 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	505	7	432	0	0	0	0	750	429	443	592	0
Future Volume (veh/h)	505	7	432	0	0	0	0	750	429	443	592	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	532	7	292				0	789	289	466	623	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	527	7	475				0	826	302	464	2217	0
Arrive On Green	0.30	0.30	0.30				0.00	0.32	0.32	0.51	1.00	0.00
Sat Flow, veh/h	1787	24	1610				0	2682	947	1810	3705	0
Grp Volume(v), veh/h	539	0	292				0	550	528	466	623	0
Grp Sat Flow(s),veh/h/ln	1811	0	1610				0	1805	1730	1810	1805	0
Q Serve(g_s), s	35.4	0.0	18.7				0.0	35.8	35.9	30.8	0.0	0.0
Cycle Q Clear(g_c), s	35.4	0.0	18.7				0.0	35.8	35.9	30.8	0.0	0.0
Prop In Lane	0.99		1.00				0.00		0.55	1.00		0.00
Lane Grp Cap(c), veh/h	534	0	475				0	576	552	464	2217	0
V/C Ratio(X)	1.01	0.00	0.61				0.00	0.96	0.96	1.00	0.28	0.00
Avail Cap(c_a), veh/h	534	0	475				0	576	552	464	2217	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	1.00	1.00	0.68	0.68	0.00
Uniform Delay (d), s/veh	42.3	0.0	36.4				0.0	40.0	40.0	29.2	0.0	0.0
Incr Delay (d2), s/veh	41.2	0.0	2.4				0.0	27.9	28.9	35.3	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
%ile BackOfQ(50%),veh/ln	21.2	0.0	7.4				0.0	20.0	19.3	14.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	0.0	38.8				0.0	67.9	68.9	64.5	0.2	0.0
LnGrp LOS	F	A	D				A	E	E	F	A	A
Approach Vol, veh/h		831						1078			1089	
Approach Delay, s/veh		67.8						68.4			27.7	
Approach LOS		E						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	35.4	43.4		41.2		78.8
Change Period (Y+Rc), s	4.6	5.1		5.8		5.1
Max Green Setting (Gmax), s	30.8	38.3		35.4		73.7
Max Q Clear Time (g_c+I1), s	32.8	37.9		37.4		2.0
Green Ext Time (p_c), s	0.0	0.3		0.0		4.8

Intersection Summary		
HCM 6th Ctrl Delay		53.4
HCM 6th LOS		D

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	47	709	156	147	1142
Future Vol, veh/h	14	47	709	156	147	1142
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	0	-	-	115	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	51	771	170	160	1241

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2417	471	0	0	941	0
Stage 1	856	-	-	-	-	-
Stage 2	1561	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	32	545	-	-	737	-
Stage 1	382	-	-	-	-	-
Stage 2	192	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	25	545	-	-	737	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	382	-	-	-	-	-
Stage 2	150	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	1.3
HCM LOS	C		

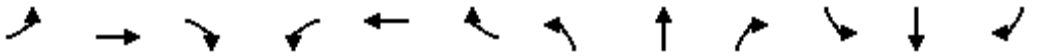
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	132	545	737	-
HCM Lane V/C Ratio	-	-	0.115	0.094	0.217	-
HCM Control Delay (s)	-	-	35.8	12.3	11.2	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.8	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	598	114	5	32	111	607	16	941
Future Volume (vph)	598	114	5	32	111	607	16	941
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)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8
Total Split (s)	37.0	37.0	37.0	37.0	13.4	71.0	12.0	69.6
Total Split (%)	30.8%	30.8%	30.8%	30.8%	11.2%	59.2%	10.0%	58.0%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.8		4.6	4.6	5.8	4.6	5.8
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)		31.4		32.6	8.9	51.6	5.8	42.3
Actuated g/C Ratio		0.32		0.33	0.09	0.52	0.06	0.43
v/c Ratio		2.14		0.09	0.77	0.35	0.17	0.82
Control Delay		541.9		21.4	78.3	14.9	51.5	29.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		541.9		21.4	78.3	14.9	51.5	29.0
LOS		F		C	E	B	D	C
Approach Delay		541.9		21.4		24.6		29.3
Approach LOS		F		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.14	
Intersection Signal Delay: 192.3	Intersection LOS: F
Intersection Capacity Utilization 112.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	598	114	213	5	32	12	111	607	3	16	941	233
Future Volume (veh/h)	598	114	213	5	32	12	111	607	3	16	941	233
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	636	121	217	5	34	11	118	646	2	17	1001	84
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	415	66	119	79	469	142	146	1628	5	33	1264	106
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.09	0.44	0.44	0.02	0.37	0.37
Sat Flow, veh/h	978	186	334	97	1320	400	1714	3692	11	1714	3371	283
Grp Volume(v), veh/h	974	0	0	50	0	0	118	316	332	17	536	549
Grp Sat Flow(s),veh/h/ln	1498	0	0	1816	0	0	1714	1805	1898	1714	1805	1849
Q Serve(g_s), s	29.6	0.0	0.0	0.0	0.0	0.0	5.9	10.4	10.4	0.9	23.2	23.2
Cycle Q Clear(g_c), s	31.2	0.0	0.0	1.6	0.0	0.0	5.9	10.4	10.4	0.9	23.2	23.2
Prop In Lane	0.65		0.22	0.10		0.22	1.00		0.01	1.00		0.15
Lane Grp Cap(c), veh/h	600	0	0	690	0	0	146	796	837	33	677	693
V/C Ratio(X)	1.62	0.00	0.00	0.07	0.00	0.00	0.81	0.40	0.40	0.51	0.79	0.79
Avail Cap(c_a), veh/h	600	0	0	713	0	0	172	1340	1409	144	1311	1343
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	29.9	0.0	0.0	18.8	0.0	0.0	39.5	16.6	16.6	42.7	24.4	24.4
Incr Delay (d2), s/veh	288.5	0.0	0.0	0.0	0.0	0.0	18.0	0.3	0.3	4.5	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	60.2	0.0	0.0	0.7	0.0	0.0	3.1	3.9	4.1	0.4	9.3	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	318.4	0.0	0.0	18.8	0.0	0.0	57.4	17.0	16.9	47.2	26.5	26.5
LnGrp LOS	F	A	A	B	A	A	E	B	B	D	C	C
Approach Vol, veh/h		974			50			766			1102	
Approach Delay, s/veh		318.4			18.8			23.2			26.8	
Approach LOS		F			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	44.5		37.0	12.1	38.7		37.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	65.2		31.2	8.8	63.8		* 32				
Max Q Clear Time (g_c+I1), s	2.9	12.4		33.2	7.9	25.2		3.6				
Green Ext Time (p_c), s	0.0	3.9		0.0	0.0	7.7		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		123.9
HCM 6th LOS		F

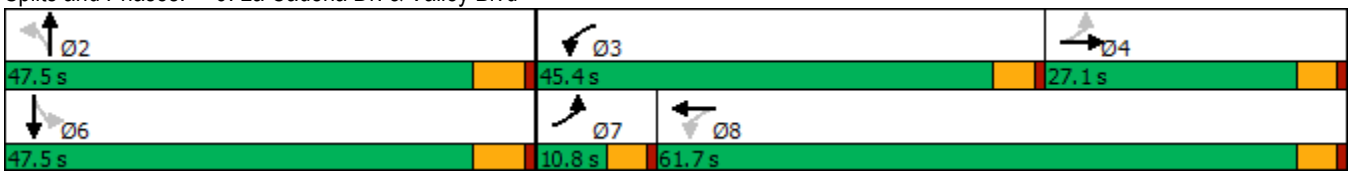
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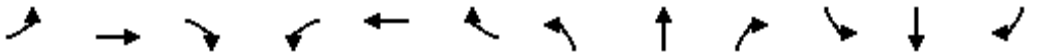
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	71	460	603	290	200	458	40	471
Future Volume (vph)	71	460	603	290	200	458	40	471
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	19.6	9.6	19.6	20.8	20.8	20.8	20.8
Total Split (s)	10.8	27.1	45.4	61.7	47.5	47.5	47.5	47.5
Total Split (%)	9.0%	22.6%	37.8%	51.4%	39.6%	39.6%	39.6%	39.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	28.4	22.5	67.9	59.4	41.0	41.0	41.0	41.0
Actuated g/C Ratio	0.24	0.19	0.57	0.50	0.34	0.34	0.34	0.34
v/c Ratio	0.27	0.97	0.99	0.18	0.98	0.72	0.52	0.44
Control Delay	21.6	72.7	64.6	17.2	96.1	29.4	57.1	31.0
Queue Delay	0.0	0.0	31.9	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	72.7	96.5	17.2	96.1	29.4	57.1	31.0
LOS	C	E	F	B	F	C	E	C
Approach Delay		67.5		69.6		41.8		32.9
Approach LOS		E		E		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.3	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 53.7	Intersection LOS: D
Intersection Capacity Utilization 105.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 9: La Cadena Dr. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	460	169	603	290	20	200	458	418	40	471	43
Future Volume (veh/h)	71	460	169	603	290	20	200	458	418	40	471	43
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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	75	484	131	635	305	21	211	482	308	42	496	45
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	332	527	142	654	1640	112	256	738	470	163	1167	106
Arrive On Green	0.05	0.19	0.19	0.34	0.48	0.48	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1714	2812	756	1714	3428	235	832	2116	1347	660	3348	303
Grp Volume(v), veh/h	75	310	305	635	160	166	211	411	379	42	267	274
Grp Sat Flow(s),veh/h/ln	1714	1805	1764	1714	1805	1858	832	1805	1658	660	1805	1845
Q Serve(g_s), s	4.2	20.1	20.4	38.4	6.1	6.1	28.1	23.0	23.1	6.9	13.5	13.6
Cycle Q Clear(g_c), s	4.2	20.1	20.4	38.4	6.1	6.1	41.7	23.0	23.1	30.0	13.5	13.6
Prop In Lane	1.00		0.43	1.00		0.13	1.00		0.81	1.00		0.16
Lane Grp Cap(c), veh/h	332	338	331	654	864	889	256	629	578	163	629	644
V/C Ratio(X)	0.23	0.91	0.92	0.97	0.19	0.19	0.82	0.65	0.66	0.26	0.42	0.43
Avail Cap(c_a), veh/h	339	340	332	659	864	889	256	629	578	163	629	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	47.6	47.7	30.3	17.8	17.9	46.8	32.8	32.9	45.5	29.8	29.8
Incr Delay (d2), s/veh	0.1	28.3	30.6	27.7	0.1	0.1	19.3	2.4	2.7	0.8	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.7	11.7	22.8	2.6	2.7	7.5	10.0	9.3	1.1	5.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	76.0	78.3	58.0	18.0	18.0	66.1	35.3	35.6	46.4	30.2	30.2
LnGrp LOS	D	E	E	E	B	B	E	D	D	D	C	C
Approach Vol, veh/h		690			961			1001			583	
Approach Delay, s/veh		72.7			44.4			41.9			31.4	
Approach LOS		E			D			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.5	45.1	27.0		47.5	10.3	61.8				
Change Period (Y+Rc), s		5.8	4.6	4.6		5.8	4.6	4.6				
Max Green Setting (Gmax), s		41.7	40.8	22.5		41.7	6.2	57.1				
Max Q Clear Time (g_c+I1), s		43.7	40.4	22.4		32.0	6.2	8.1				
Green Ext Time (p_c), s		0.0	0.1	0.1		2.3	0.0	2.1				

Intersection Summary												
HCM 6th Ctrl Delay			47.3									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	209	969	1127	194
Future Vol, veh/h	0	0	209	969	1127	194
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	222	1031	1199	206

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2262	703	1405	0	-	0
Stage 1	1302	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	35	385	492	-	-	-
Stage 1	223	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	385	492	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	337	-	-	-	-	-

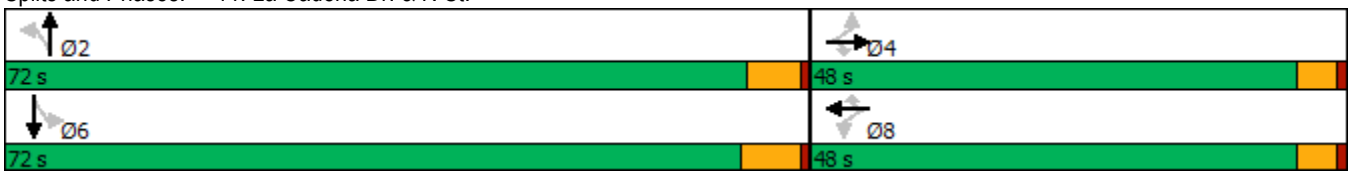
Approach	EB	NB	SB
HCM Control Delay, s	0	8.5	0
HCM LOS	A		

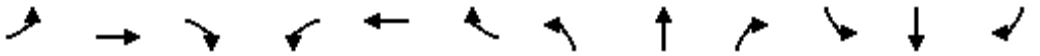
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	492	-	-	-	-
HCM Lane V/C Ratio	0.452	-	-	-	-
HCM Control Delay (s)	18.2	6.4	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	2.3	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	103	30	48	22	31	16	28	772	27	801
Future Volume (vph)	103	30	48	22	31	16	28	772	27	801
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.6	27.6	27.6	27.6	27.6	27.6	20.8	20.8	21.2	21.2
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6		4.6	4.6	5.8	5.8	6.2	6.2
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		11.2	11.2		11.2	11.2	20.7	20.7	20.2	20.2
Actuated g/C Ratio		0.26	0.26		0.26	0.26	0.49	0.49	0.48	0.48
v/c Ratio		0.37	0.11		0.13	0.04	0.12	0.46	0.10	0.53
Control Delay		16.1	5.5		12.8	4.6	7.7	8.4	7.6	9.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		16.1	5.5		12.8	4.6	7.7	8.4	7.6	9.2
LOS		B	A		B	A	A	A	A	A
Approach Delay		13.3			10.9			8.4		9.1
Approach LOS		B			B			A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 42.4	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 53.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: La Cadena Dr. & N St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	30	48	22	31	16	28	772	10	27	801	70
Future Volume (veh/h)	103	30	48	22	31	16	28	772	10	27	801	70
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	107	31	50	23	32	17	29	804	10	28	834	73
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	157	31	679	112	120	679	238	1360	17	266	1251	109
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	84	74	1610	34	286	1610	592	3651	45	646	3358	294
Grp Volume(v), veh/h	138	0	50	55	0	17	29	397	417	28	448	459
Grp Sat Flow(s),veh/h/ln	158	0	1610	319	0	1610	592	1805	1892	646	1805	1847
Q Serve(g_s), s	1.6	0.0	1.0	0.6	0.0	0.3	2.2	9.3	9.3	1.9	10.9	10.9
Cycle Q Clear(g_c), s	22.1	0.0	1.0	21.7	0.0	0.3	12.8	9.3	9.3	11.0	10.9	10.9
Prop In Lane	0.78		1.00	0.42		1.00	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	188	0	679	232	0	679	238	672	705	266	672	688
V/C Ratio(X)	0.73	0.00	0.07	0.24	0.00	0.03	0.12	0.59	0.59	0.11	0.67	0.67
Avail Cap(c_a), veh/h	784	0	1332	888	0	1332	765	2278	2387	835	2264	2317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	9.1	12.3	0.0	8.9	19.0	13.2	13.2	17.6	13.7	13.7
Incr Delay (d2), s/veh	5.4	0.0	0.0	0.5	0.0	0.0	0.2	0.8	0.8	0.2	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.3	0.3	0.0	0.1	0.3	3.0	3.1	0.2	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	0.0	9.1	12.8	0.0	8.9	19.2	14.1	14.0	17.8	14.9	14.9
LnGrp LOS	C	A	A	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		188			72			843			935	
Approach Delay, s/veh		23.0			11.9			14.2			15.0	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.2		27.9		26.2		27.9				
Change Period (Y+Rc), s		* 6.2		4.6		6.2		4.6				
Max Green Setting (Gmax), s		* 66		43.4		65.8		43.4				
Max Q Clear Time (g_c+I1), s		14.8		24.1		13.0		23.7				
Green Ext Time (p_c), s		5.6		0.8		6.2		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			15.3									
HCM 6th LOS			B									

Notes

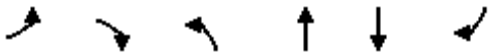
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	35	802	519	697	852
Future Volume (vph)	35	802	519	697	852
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)	15.8	15.8	9.6	16.2	39.2
Total Split (s)	31.0	31.0	44.0	89.0	45.0
Total Split (%)	25.8%	25.8%	36.7%	74.2%	37.5%
Yellow Time (s)	4.8	4.8	3.6	5.2	5.2
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)	5.8	5.8	4.6	6.2	6.2
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	13.8	13.8	39.8	77.7	33.3
Actuated g/C Ratio	0.13	0.13	0.38	0.75	0.32
v/c Ratio	0.80	0.77	0.91	0.30	0.85
Control Delay	18.6	14.3	53.2	5.0	42.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	14.3	53.2	5.0	42.5
LOS	B	B	D	A	D
Approach Delay	16.4			25.6	42.5
Approach LOS	B			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 94.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	802	519	697	852	13
Future Volume (veh/h)	35	802	519	697	852	13
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	747	535	719	878	13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	355	631	525	2205	978	14
Arrive On Green	0.00	0.22	0.34	0.68	0.30	0.30
Sat Flow, veh/h	1629	2898	1543	3335	3363	49
Grp Volume(v), veh/h	0	747	535	719	435	456
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1701
Q Serve(g_s), s	0.0	25.2	39.4	10.6	29.7	29.7
Cycle Q Clear(g_c), s	0.0	25.2	39.4	10.6	29.7	29.7
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	355	631	525	2205	485	508
V/C Ratio(X)	0.00	1.18	1.02	0.33	0.90	0.90
Avail Cap(c_a), veh/h	355	631	525	2324	545	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	45.3	38.2	7.7	38.9	38.9
Incr Delay (d2), s/veh	0.0	98.1	44.0	0.1	16.5	15.9
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	8.6	20.3	3.0	13.4	13.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	143.4	82.2	7.8	55.4	54.8
LnGrp LOS	A	F	F	A	E	D
Approach Vol, veh/h	747			1254	891	
Approach Delay, s/veh	143.4			39.5	55.1	
Approach LOS	F			D	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		84.7		31.0	44.0	40.7
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		82.8		25.2	39.4	38.8
Max Q Clear Time (g_c+I1), s		12.6		27.2	41.4	31.7
Green Ext Time (p_c), s		5.0		0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	71.1
HCM 6th LOS	E

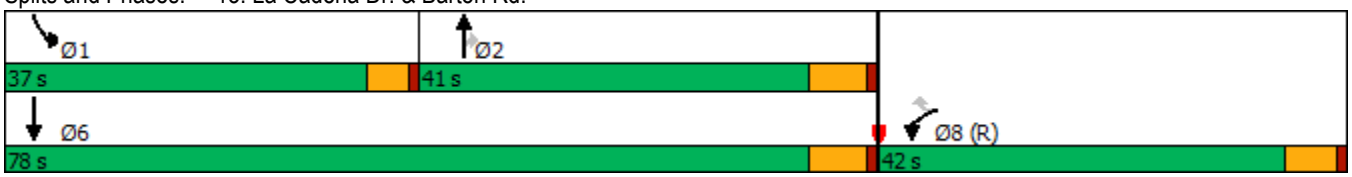
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	514	514	1053	322	503	1384
Future Volume (vph)	514	514	1053	322	503	1384
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	42.0	42.0	41.0	41.0	37.0	78.0
Total Split (%)	35.0%	35.0%	34.2%	34.2%	30.8%	65.0%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	36.2	36.2	34.8	34.8	32.4	71.8
Actuated g/C Ratio	0.30	0.30	0.29	0.29	0.27	0.60
v/c Ratio	1.03	0.92	1.04	0.50	1.13	0.66
Control Delay	88.9	53.2	80.0	10.4	121.7	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.9	53.2	80.0	10.4	121.7	17.9
LOS	F	D	F	B	F	B
Approach Delay	71.0		63.7			45.6
Approach LOS	E		E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 57.5	Intersection LOS: E
Intersection Capacity Utilization 102.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	514	514	1053	322	503	1384
Future Volume (veh/h)	514	514	1053	322	503	1384
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	530	0	1086	296	519	1427
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	517		1047	467	463	2160
Arrive On Green	0.30	0.00	0.29	0.29	0.27	0.60
Sat Flow, veh/h	1714	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	530	0	1086	296	519	1427
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1610	1714	1805
Q Serve(g_s), s	36.2	0.0	34.8	19.2	32.4	31.5
Cycle Q Clear(g_c), s	36.2	0.0	34.8	19.2	32.4	31.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	517		1047	467	463	2160
V/C Ratio(X)	1.02		1.04	0.63	1.12	0.66
Avail Cap(c_a), veh/h	517		1047	467	463	2160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.45	0.45
Uniform Delay (d), s/veh	41.9	0.0	42.6	37.1	43.8	16.0
Incr Delay (d2), s/veh	46.0	0.0	20.4	0.3	67.6	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	21.5	0.0	17.6	7.2	21.7	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	87.9	0.0	63.0	37.3	111.4	16.3
LnGrp LOS	F		F	D	F	B
Approach Vol, veh/h	530		1382			1946
Approach Delay, s/veh	87.9		57.5			41.7
Approach LOS	F		E			D

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	41.0			78.0	42.0
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	32.4	34.8			71.8	36.2
Max Q Clear Time (g_c+I1), s	34.4	36.8			33.5	38.2
Green Ext Time (p_c), s	0.0	0.0			12.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D

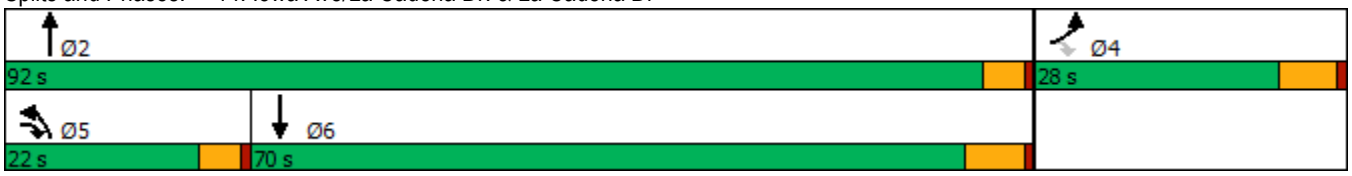
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	641	264	292	971	485	1427
Future Volume (vph)	641	264	292	971	485	1427
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	28.0	22.0	22.0	92.0	70.0	
Total Split (%)	23.3%	18.3%	18.3%	76.7%	58.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	22.1	46.1	17.7	53.2	29.2	86.3
Actuated g/C Ratio	0.26	0.53	0.21	0.62	0.34	1.00
v/c Ratio	1.51	0.32	0.86	0.85	0.78	0.55
Control Delay	267.5	15.0	60.0	21.5	33.8	0.8
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	267.5	15.0	60.0	22.0	33.8	0.8
LOS	F	B	E	C	C	A
Approach Delay	193.9			30.8	9.2	
Approach LOS	F			C	A	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 86.3		
Natural Cycle: 120		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 1.51		
Intersection Signal Delay: 56.8	Intersection LOS: E	
Intersection Capacity Utilization 97.6%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	641	264	292	971	485	1427
Future Volume (veh/h)	641	264	292	971	485	1427
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	661	246	301	1001	500	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	448	736	336	1120	644	
Arrive On Green	0.26	0.26	0.20	0.59	0.34	0.00
Sat Flow, veh/h	1714	1610	1714	1900	1900	2685
Grp Volume(v), veh/h	661	246	301	1001	500	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1900	1900	1342
Q Serve(g_s), s	21.8	8.2	14.3	38.1	19.7	0.0
Cycle Q Clear(g_c), s	21.8	8.2	14.3	38.1	19.7	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	448	736	336	1120	644	
V/C Ratio(X)	1.47	0.33	0.90	0.89	0.78	
Avail Cap(c_a), veh/h	448	736	358	1992	1454	
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	0.00
Uniform Delay (d), s/veh	30.8	14.5	32.7	14.8	24.7	0.0
Incr Delay (d2), s/veh	225.3	0.3	22.3	2.8	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.1	8.8	7.5	12.9	8.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	256.1	14.8	55.0	17.6	26.8	0.0
LnGrp LOS	F	B	D	B	C	
Approach Vol, veh/h	907			1302	500	
Approach Delay, s/veh	190.6			26.3	26.8	
Approach LOS	F			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.4		28.0	20.9	34.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 87		21.8	17.4	63.8
Max Q Clear Time (g_c+I1), s		40.1		23.8	16.3	21.7
Green Ext Time (p_c), s		9.1		0.0	0.1	3.0

Intersection Summary		
HCM 6th Ctrl Delay		81.4
HCM 6th LOS		F

Notes

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

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

Intersection	
Intersection Delay, s/veh	289.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	11	20	0	0	0	32	846	7	612	968	88
Future Vol, veh/h	59	11	20	0	0	0	32	846	7	612	968	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	12	22	0	0	0	35	920	8	665	1052	96
Number of Lanes	0	1	0	0	0	0	1	2	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	15.7	74.2	419
HCM LOS	C	F	F

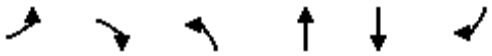
Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	66%	100%	0%
Vol Thru, %	0%	100%	98%	12%	0%	92%
Vol Right, %	0%	0%	2%	22%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	564	289	90	612	1056
LT Vol	32	0	0	59	612	0
Through Vol	0	564	282	11	0	968
RT Vol	0	0	7	20	0	88
Lane Flow Rate	35	613	314	98	665	1148
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.068	1.112	0.568	0.234	1.359	2.167
Departure Headway (Hd)	8.724	8.219	8.201	10.015	7.633	7.068
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	413	448	443	361	479	528
Service Time	6.424	5.919	5.901	7.715	5.333	4.768
HCM Lane V/C Ratio	0.085	1.368	0.709	0.271	1.388	2.174
HCM Control Delay	12.1	105	21.1	15.7	196.9	547.7
HCM Lane LOS	B	F	C	C	F	F
HCM 95th-tile Q	0.2	16.9	3.4	0.9	29.4	79.5

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	162	711	1101	748
Future Volume (vph)	162	711	1101	748
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	16.2	16.2	24.8	79.0
Total Split (%)	13.5%	13.5%	20.7%	65.8%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	10.1	10.1	18.9	41.7
Actuated g/C Ratio	0.11	0.11	0.21	0.47
v/c Ratio	0.82	1.39	2.84	0.87
Control Delay	72.6	206.4	853.0	32.7
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	72.6	206.4	853.0	33.1
LOS	E	F	F	C
Approach Delay	181.6		853.0	33.1
Approach LOS	F		F	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.84	
Intersection Signal Delay: 412.4	Intersection LOS: F
Intersection Capacity Utilization 93.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	162	711	0	1101	748	0
Future Volume (veh/h)	162	711	0	1101	748	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	167	597	0	1135	771	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	399	355	0	961	961	0
Arrive On Green	0.22	0.22	0.00	0.51	0.51	0.00
Sat Flow, veh/h	1810	1610	0	1900	1900	0
Grp Volume(v), veh/h	167	597	0	1135	771	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1900	1900	0
Q Serve(g_s), s	3.6	10.0	0.0	22.9	15.3	0.0
Cycle Q Clear(g_c), s	3.6	10.0	0.0	22.9	15.3	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	399	355	0	961	961	0
V/C Ratio(X)	0.42	1.68	0.00	1.18	0.80	0.00
Avail Cap(c_a), veh/h	399	355	0	961	3051	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.2	17.7	0.0	11.2	9.3	0.0
Incr Delay (d2), s/veh	0.7	318.4	0.0	92.2	1.6	0.0
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	34.7	0.0	29.4	3.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.9	336.1	0.0	103.4	10.9	0.0
LnGrp LOS	B	F	A	F	B	A
Approach Vol, veh/h	764			1135	771	
Approach Delay, s/veh	266.1			103.4	10.9	
Approach LOS	F			F	B	

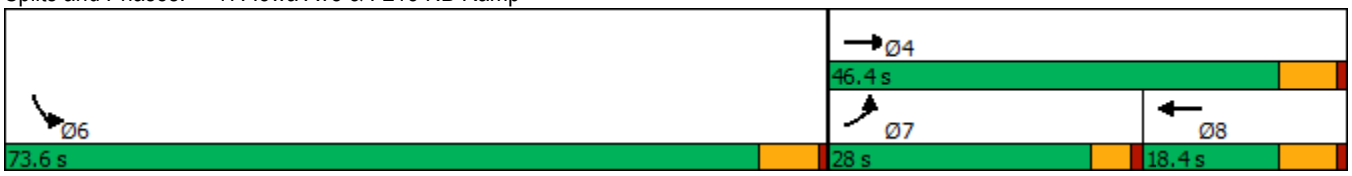
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		29.1		16.2		29.1
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		18.6		10.0		72.8
Max Q Clear Time (g_c+I1), s		24.9		12.0		17.3
Green Ext Time (p_c), s		0.0		0.0		5.6

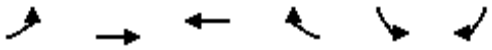
Intersection Summary		
HCM 6th Ctrl Delay	123.2	
HCM 6th LOS	F	

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	584	1003	75	315
Future Volume (vph)	584	1003	75	315
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	24.2
Total Split (s)	28.0	46.4	18.4	73.6
Total Split (%)	23.3%	38.7%	15.3%	61.3%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
Act Effct Green (s)	23.4	40.2	12.2	67.4
Actuated g/C Ratio	0.20	0.34	0.10	0.56
v/c Ratio	1.70	1.61	1.61	1.41
Control Delay	357.4	310.6	308.4	214.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	357.4	310.6	308.4	214.7
LOS	F	F	F	F
Approach Delay		327.8	308.4	214.7
Approach LOS		F	F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.70	
Intersection Signal Delay: 279.3	Intersection LOS: F
Intersection Capacity Utilization 170.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	584	1003	75	517	315	1144
Future Volume (veh/h)	584	1003	75	517	315	1144
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	596	1023	77	472	321	907
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	353	636	23	144	243	687
Arrive On Green	0.20	0.34	0.10	0.10	0.56	0.56
Sat Flow, veh/h	1810	1900	231	1415	433	1224
Grp Volume(v), veh/h	596	1023	0	549	1229	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1645	1658	0
Q Serve(g_s), s	23.4	40.2	0.0	12.2	67.4	0.0
Cycle Q Clear(g_c), s	23.4	40.2	0.0	12.2	67.4	0.0
Prop In Lane	1.00			0.86	0.26	0.74
Lane Grp Cap(c), veh/h	353	637	0	167	931	0
V/C Ratio(X)	1.69	1.61	0.00	3.28	1.32	0.00
Avail Cap(c_a), veh/h	353	637	0	167	931	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	39.9	0.0	53.9	26.3	0.0
Incr Delay (d2), s/veh	322.1	280.5	0.0	1042.1	151.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	42.1	68.0	0.0	53.5	62.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	370.4	320.4	0.0	1096.0	177.7	0.0
LnGrp LOS	F	F	A	F	F	A
Approach Vol, veh/h		1619	549		1229	
Approach Delay, s/veh		338.8	1096.0		177.7	
Approach LOS		F	F		F	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	46.4	73.6	28.0	18.4
Change Period (Y+Rc), s	6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s	40.2	67.4	23.4	12.2
Max Q Clear Time (g_c+I1), s	42.2	69.4	25.4	14.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	402.9
HCM 6th LOS	F

Notes

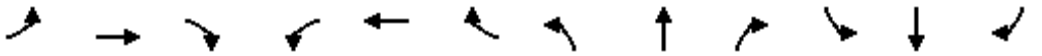
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	32	456	46	437	424	268	106	33	120	80
Future Volume (vph)	32	456	46	437	424	268	106	33	120	80
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.6	26.6	8.6	26.6	8.6	22.6	22.6	8.6	22.6	22.6
Total Split (s)	12.0	35.0	15.0	38.0	43.0	58.0	58.0	12.0	27.0	27.0
Total Split (%)	10.0%	29.2%	12.5%	31.7%	35.8%	48.3%	48.3%	10.0%	22.5%	22.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	6.4	23.9	7.4	24.7	28.4	39.7	39.7	6.4	12.0	12.0
Actuated g/C Ratio	0.07	0.28	0.09	0.29	0.33	0.46	0.46	0.07	0.14	0.14
v/c Ratio	0.26	0.70	0.33	0.47	0.79	0.32	0.14	0.27	0.47	0.24
Control Delay	52.2	32.1	51.3	29.1	39.9	20.0	4.6	52.5	46.6	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	32.1	51.3	29.1	39.9	20.0	4.6	52.5	46.6	2.5
LOS	D	C	D	C	D	C	A	D	D	A
Approach Delay		33.0		31.1		28.5			32.3	
Approach LOS		C		C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 86.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 30.9	Intersection LOS: C
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 18: 9th St. & Valley Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	456	211	46	437	27	424	268	106	33	120	80
Future Volume (veh/h)	32	456	211	46	437	27	424	268	106	33	120	80
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	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	33	475	220	48	455	28	442	279	110	34	125	83
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	48	665	306	62	986	60	495	698	592	49	203	172
Arrive On Green	0.03	0.28	0.28	0.04	0.29	0.29	0.29	0.37	0.37	0.03	0.11	0.11
Sat Flow, veh/h	1714	2401	1105	1714	3455	212	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	33	356	339	48	237	246	442	279	110	34	125	83
Grp Sat Flow(s),veh/h/ln	1714	1805	1701	1714	1805	1862	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	1.2	11.2	11.4	1.8	6.8	6.9	15.6	6.9	2.9	1.2	4.0	3.1
Cycle Q Clear(g_c), s	1.2	11.2	11.4	1.8	6.8	6.9	15.6	6.9	2.9	1.2	4.0	3.1
Prop In Lane	1.00		0.65	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	500	471	62	515	531	495	698	592	49	203	172
V/C Ratio(X)	0.69	0.71	0.72	0.78	0.46	0.46	0.89	0.40	0.19	0.70	0.61	0.48
Avail Cap(c_a), veh/h	201	868	818	282	953	983	1041	1604	1360	201	673	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	20.6	20.6	30.2	18.6	18.6	21.5	14.8	13.6	30.5	27.0	26.6
Incr Delay (d2), s/veh	6.5	1.9	2.1	7.6	0.6	0.6	2.3	0.4	0.2	6.5	3.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.6	4.4	0.8	2.7	2.8	6.0	2.8	1.0	0.6	1.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	22.5	22.7	37.8	19.2	19.2	23.9	15.2	13.7	37.0	30.0	28.7
LnGrp LOS	D	C	C	D	B	B	C	B	B	D	C	C
Approach Vol, veh/h		728			531			831			242	
Approach Delay, s/veh		23.2			20.9			19.6			30.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	27.8	6.9	22.1	22.9	11.4	6.4	22.6
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.4	53.4	10.4	30.4	38.4	22.4	7.4	33.4
Max Q Clear Time (g_c+I1), s	3.2	8.9	3.8	13.4	17.6	6.0	3.2	8.9
Green Ext Time (p_c), s	0.0	2.2	0.0	4.2	0.7	0.8	0.0	3.0

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

Intersection	
Int Delay, s/veh	9.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	464	338	0	0	381
Future Vol, veh/h	6	464	338	0	0	381
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	499	363	0	0	410

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	773	363	0	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	370	686	-	0	0	-
Stage 1	708	-	-	0	0	-
Stage 2	674	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	370	686	-	-	-	-
Mov Cap-2 Maneuver	484	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	682	-
HCM Lane V/C Ratio	-	0.741	-
HCM Control Delay (s)	-	23.8	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	6.6	-

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	342	2	0	0	391	0
Future Vol, veh/h	342	2	0	0	391	0
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	372	2	0	0	425	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	14.3	15.6
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	344	391
LT Vol	342	391
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	374	425
Geometry Grp	1	1
Degree of Util (X)	0.541	0.601
Departure Headway (Hd)	5.204	5.09
Convergence, Y/N	Yes	Yes
Cap	688	701
Service Time	3.282	3.165
HCM Lane V/C Ratio	0.544	0.606
HCM Control Delay	14.3	15.6
HCM Lane LOS	B	C
HCM 95th-tile Q	3.3	4

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1085	1297	83	882
Demand Flow Rate, veh/h	1085	1297	83	882
Vehicles Circulating, veh/h	571	175	1591	856
Vehicles Exiting, veh/h	1167	1499	65	616
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.1	9.4	13.8	25.2
Approach LOS	C	A	B	D

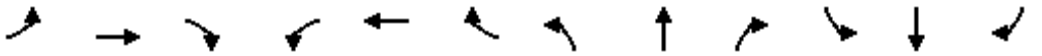
Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.585	0.415
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	510	575	610	687	83	516	366
Cap Entry Lane, veh/h	798	874	1149	1224	367	614	686
Entry HV Adj Factor	1.000	1.000	0.999	1.001	1.000	1.000	1.000
Flow Entry, veh/h	510	575	610	687	83	516	366
Cap Entry, veh/h	798	874	1148	1225	367	614	686
V/C Ratio	0.639	0.658	0.531	0.561	0.226	0.840	0.534
Control Delay, s/veh	15.3	15.0	9.3	9.4	13.8	33.3	13.8
LOS	C	B	A	A	B	D	B
95th %tile Queue, veh	5	5	3	4	1	9	3

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	267	1158	1067	479	164	0	644
Future Volume (vph)	267	1158	1067	479	164	0	644
Turn Type	Prot	NA	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	6		3	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	3	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	15.1	24.1	24.1	9.5	21.8	21.8
Total Split (s)	28.0	80.0	52.0	52.0	40.0	40.0	40.0
Total Split (%)	23.3%	66.7%	43.3%	43.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	4.1	4.1	4.1	3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.1	5.1	5.1	4.5	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.3	67.8	42.9	42.9	35.8	34.5	34.5
Actuated g/C Ratio	0.18	0.60	0.38	0.38	0.32	0.30	0.30
v/c Ratio	0.85	0.55	0.80	0.64	1.16	0.63	0.63
Control Delay	69.8	14.5	37.0	15.3	126.7	32.5	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.8	14.5	37.0	15.3	126.7	32.5	32.5
LOS	E	B	D	B	F	C	C
Approach Delay		24.8	30.2			79.3	
Approach LOS		C	C			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 43.2	Intersection LOS: D
Intersection Capacity Utilization 71.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: I-215 NB Ramps & Barton Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	1158	0	0	1067	479	164	0	644	0	0	0
Future Volume (veh/h)	267	1158	0	0	1067	479	164	0	644	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	275	1194	0	0	1100	416	656	0	551			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.25	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	306	2101	0	0	1336	579	595	0	1059			
Arrive On Green	0.17	0.58	0.00	0.00	0.37	0.37	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1564	1810	0	3220			
Grp Volume(v), veh/h	275	1194	0	0	1100	416	656	0	551			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1564	1810	0	1610			
Q Serve(g_s), s	16.1	22.3	0.0	0.0	29.8	24.6	35.5	0.0	14.9			
Cycle Q Clear(g_c), s	16.1	22.3	0.0	0.0	29.8	24.6	35.5	0.0	14.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	306	2101	0	0	1336	579	595	0	1059			
V/C Ratio(X)	0.90	0.57	0.00	0.00	0.82	0.72	1.10	0.00	0.52			
Avail Cap(c_a), veh/h	392	2506	0	0	1569	680	595	0	1059			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.9	14.1	0.0	0.0	30.8	29.2	36.2	0.0	29.3			
Incr Delay (d2), s/veh	17.0	0.2	0.0	0.0	3.2	3.0	68.0	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	8.5	8.5	0.0	0.0	13.1	9.4	25.9	0.0	5.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	14.3	0.0	0.0	34.0	32.2	104.2	0.0	29.8			
LnGrp LOS	E	B	A	A	C	C	F	A	C			
Approach Vol, veh/h		1469			1516			1207				
Approach Delay, s/veh		23.0			33.5			70.2				
Approach LOS		C			C			E				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		67.9			22.9	45.0		40.0				
Change Period (Y+Rc), s		5.1			4.6	5.1		4.5				
Max Green Setting (Gmax), s		74.9			23.4	46.9		35.5				
Max Q Clear Time (g_c+I1), s		24.3			18.1	31.8		37.5				
Green Ext Time (p_c), s		11.6			0.2	8.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			40.4									
HCM 6th LOS			D									

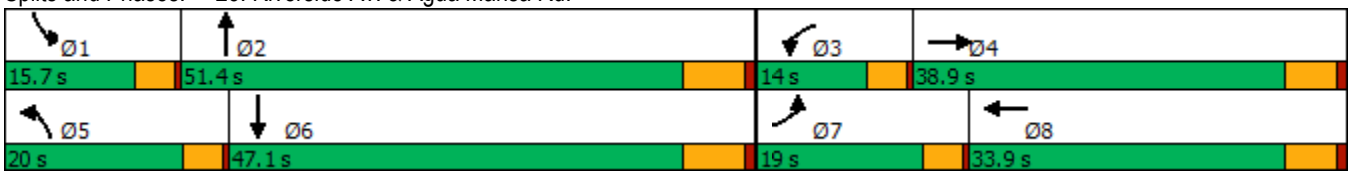
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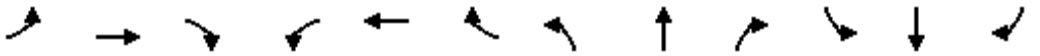
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	327	570	127	325	229	1356	123	1125
Future Volume (vph)	327	570	127	325	229	1356	123	1125
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.1	34.8	9.1	33.8	9.1	29.5	9.1	31.5
Total Split (s)	19.0	38.9	14.0	33.9	20.0	51.4	15.7	47.1
Total Split (%)	15.8%	32.4%	11.7%	28.3%	16.7%	42.8%	13.1%	39.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	4.1	5.8	4.1	6.5	4.1	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	14.9	33.1	9.9	28.1	15.9	45.7	10.8	40.6
Actuated g/C Ratio	0.12	0.28	0.08	0.23	0.13	0.38	0.09	0.34
v/c Ratio	1.52	0.96	0.89	0.58	1.00	1.19	0.79	1.18
Control Delay	292.7	57.9	104.7	38.9	110.7	125.3	84.6	125.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	292.7	57.9	104.7	38.9	110.7	125.3	84.6	125.5
LOS	F	E	F	D	F	F	F	F
Approach Delay		118.4		52.7		123.4		122.1
Approach LOS		F		D		F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.52	
Intersection Signal Delay: 113.5	Intersection LOS: F
Intersection Capacity Utilization 103.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	327	570	374	127	325	151	229	1356	188	123	1125	235
Future Volume (veh/h)	327	570	374	127	325	151	229	1356	188	123	1125	235
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	341	594	265	132	339	145	239	1412	181	128	1172	206
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	228	647	288	151	556	234	243	1261	160	154	1052	184
Arrive On Green	0.13	0.27	0.27	0.08	0.22	0.22	0.13	0.39	0.39	0.09	0.34	0.34
Sat Flow, veh/h	1810	2427	1082	1810	2477	1040	1810	3222	409	1810	3071	537
Grp Volume(v), veh/h	341	442	417	132	245	239	239	786	807	128	686	692
Grp Sat Flow(s),veh/h/ln	1810	1805	1704	1810	1805	1713	1810	1805	1826	1810	1805	1803
Q Serve(g_s), s	14.9	28.1	28.2	8.5	14.5	14.9	15.6	46.4	46.4	8.3	40.6	40.6
Cycle Q Clear(g_c), s	14.9	28.1	28.2	8.5	14.5	14.9	15.6	46.4	46.4	8.3	40.6	40.6
Prop In Lane	1.00		0.63	1.00		0.61	1.00		0.22	1.00		0.30
Lane Grp Cap(c), veh/h	228	481	454	151	405	385	243	706	715	154	618	618
V/C Ratio(X)	1.50	0.92	0.92	0.87	0.61	0.62	0.98	1.11	1.13	0.83	1.11	1.12
Avail Cap(c_a), veh/h	228	504	476	151	428	406	243	706	715	177	618	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	42.2	42.2	53.7	41.2	41.4	51.2	36.1	36.1	53.3	39.0	39.0
Incr Delay (d2), s/veh	246.1	21.3	22.4	37.8	2.2	2.7	53.1	68.9	75.3	21.6	70.2	73.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.1	14.9	14.2	5.4	6.5	6.4	10.3	32.1	33.8	4.5	28.6	29.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	297.9	63.4	64.6	91.5	43.5	44.1	104.3	104.9	111.4	74.9	109.1	112.8
LnGrp LOS	F	E	E	F	D	D	F	F	F	E	F	F
Approach Vol, veh/h		1200			616			1832			1506	
Approach Delay, s/veh		130.5			54.0			107.7			107.9	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	52.9	14.0	37.4	20.0	47.1	19.0	32.4
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	11.6	44.9	9.9	33.1	15.9	40.6	14.9	28.1
Max Q Clear Time (g_c+I1), s	10.3	48.4	10.5	30.2	17.6	42.6	16.9	16.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	0.0	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	106.6
HCM 6th LOS	F

APPENDIX 6.3:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

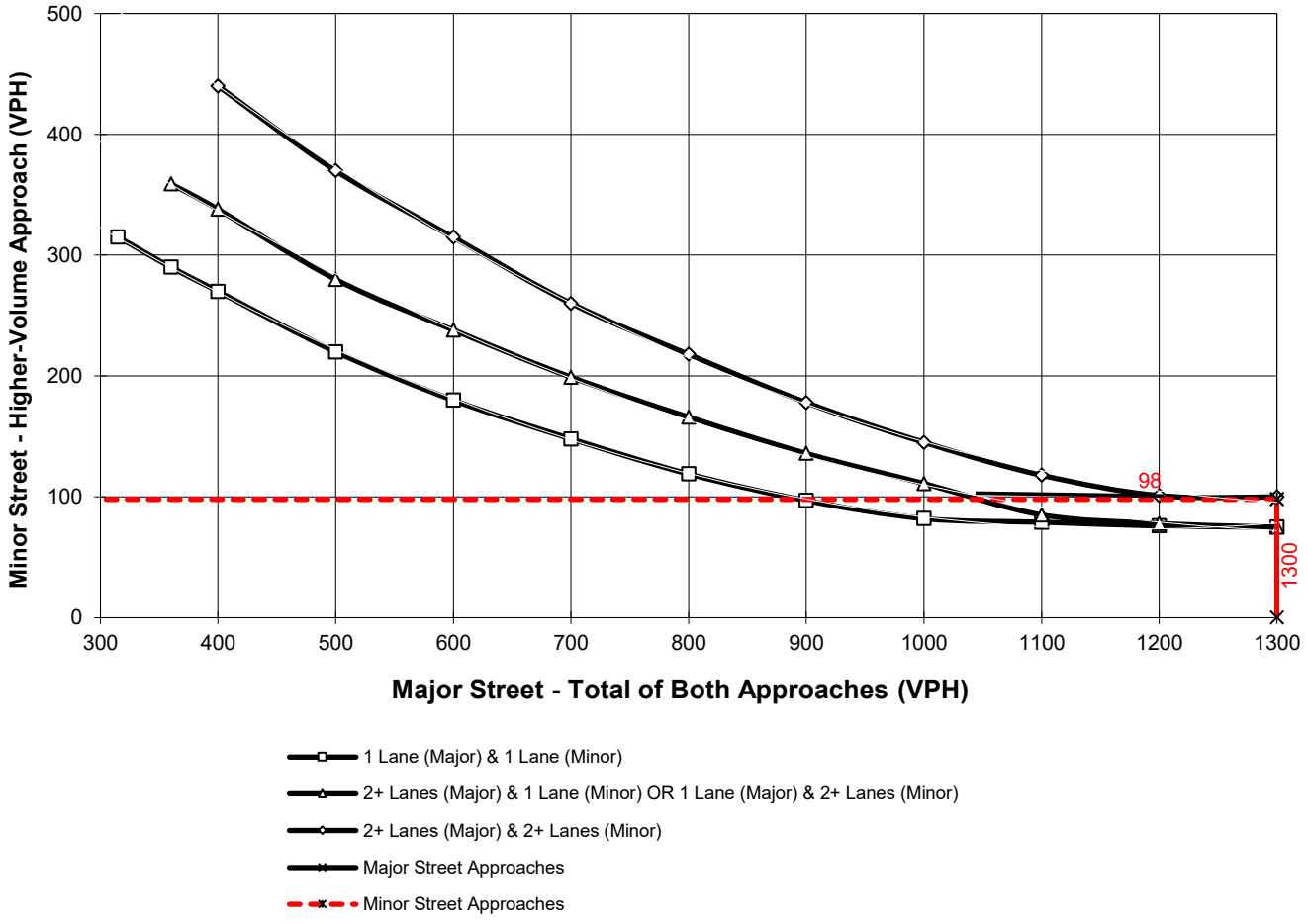
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2040 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Rancho Av.**
Total of Both Approaches (VPH) = **1932**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **W. N St.**
High Volume Approach (VPH) = **98**
Number of Approach Lanes Minor Street = **2**

SIGNAL WARRANT NOT SATISFIED



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

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APPENDIX 6.4:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		**2040 WP**
				CALC CH	DATE	07/30/20
Jurisdiction: **City of Colton**				CHK CH	DATE	07/30/20
Major Street: **Agua Mansa Rd.**				Critical Approach Speed (Major)		45 mph
Minor Street: **Driveway 1**				Critical Approach Speed (Minor)		25 mph

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

Major Street Future ADT = **13,376** vpd Minor Street Future ADT = **58** vpd

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

or

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

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **13,376** / *1* **58**	8,000	5,600 *	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **13,376** / *1* **58**	12,000	8,400 *	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX				
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 3% B: 7%	2 CONDITIONS 80%		2 CONDITIONS 80%	

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

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

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		2040 WP
				CALC CH	DATE	07/30/20
Jurisdiction: City of Colton				CHK CH	DATE	07/30/20
Major Street: Agua Mansa Rd.				Critical Approach Speed (Major)		45 mph
Minor Street: Driveway 2				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane

Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **13,550** vpd

Minor Street Future ADT = **288** 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 XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **13,550**	*1* **288**	8,000	5,600 *	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **13,550**	*1* **288**	12,000	8,400 *	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	A 17% B 34%				

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

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

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS	2040 WP
				CALC CH	DATE 07/30/20
Jurisdiction: **City of Colton**				CHK CH	DATE 07/30/20
Major Street: **Agua Mansa Rd.**				Critical Approach Speed (Major)	45 mph
Minor Street: **Driveway 3**				Critical Approach Speed (Minor)	25 mph

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

Major Street Future ADT = **13,933** vpd Minor Street Future ADT = **335** vpd

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

or

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

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **13,933** / *1* **335**	8,000	5,600 *	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **13,933** / *1* **335**	12,000	8,400 *	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 20% B: 39%				

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

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

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		2040 WP
				CALC CH	DATE	07/30/20
Jurisdiction: City of Colton				CHK CH	DATE	07/30/20
Major Street: Agua Mansa Rd.				Critical Approach Speed (Major)		45 mph
Minor Street: Driveway 4				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane

Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **14,355** vpd

Minor Street Future ADT = **313** 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	Number of lanes for moving traffic on each approach		Minimum Requirements EADT			
			Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	Major Street	Minor Street	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume						
Satisfied / Not Satisfied XX	*1* **14,355**	*1* **313**	8,000	5,600 *	2,400	1,680
XX	*2* +	*1*	9,600	6,720	2,400	1,680
	2 +	*2* +	9,600	6,720	3,200	2,240
	1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic			Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied XX						
	Major Street	Minor Street	Urban	Rural	Urban	Rural
	1 **14,355**	*1* **313**	12,000	8,400 *	1,200	850
	2 +	*1*	14,400	10,080	1,200	850
	2 +	*2* +	14,400	10,080	1,600	1,120
	1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B						
Satisfied / Not Satisfied XX			2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 19%	**B** 37%				

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)

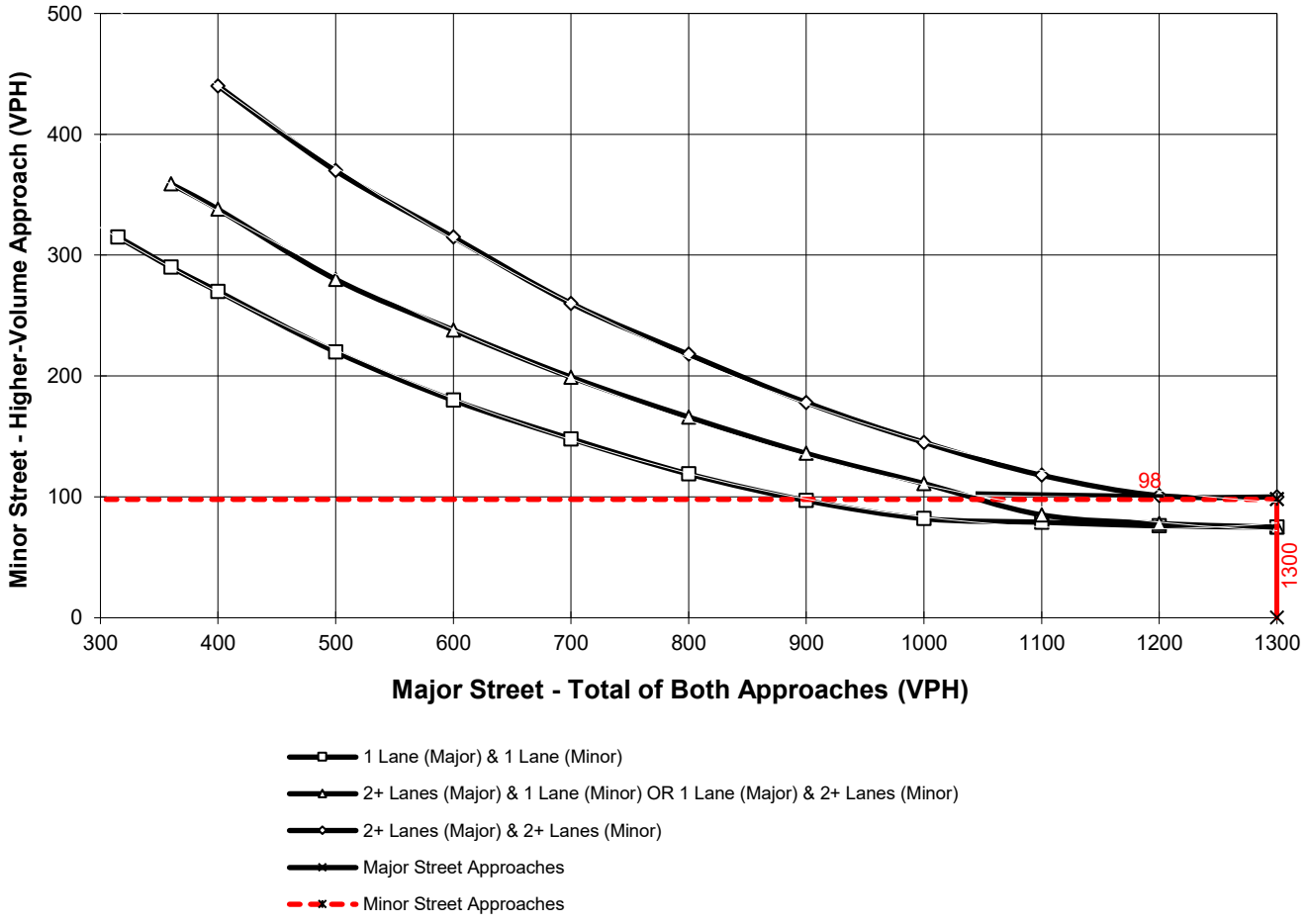
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2040 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Rancho Av.**
Total of Both Approaches (VPH) = **1964**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **W. N St.**
High Volume Approach (VPH) = **98**
Number of Approach Lanes Minor Street = **2**

SIGNAL WARRANT NOT SATISFIED



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

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APPENDIX 6.5:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	351	477	132	501	1371
v/c Ratio	0.82	0.70	0.69	0.21	0.74
Control Delay	59.1	13.7	92.6	2.1	25.1
Queue Delay	7.4	0.0	0.0	0.1	0.1
Total Delay	66.5	13.7	92.6	2.2	25.2
Queue Length 50th (ft)	254	52	109	10	408
Queue Length 95th (ft)	354	167	176	28	564
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	499	730	248	2427	1857
Starvation Cap Reductn	0	0	0	1001	0
Spillback Cap Reductn	108	0	0	0	61
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.90	0.65	0.53	0.35	0.76

Intersection Summary

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	184	404	683	468	840
v/c Ratio	0.55	0.87	0.50	0.88	0.32
Control Delay	49.0	42.4	29.2	54.2	9.1
Queue Delay	0.0	0.0	0.0	28.0	0.9
Total Delay	49.0	42.4	29.2	82.1	10.0
Queue Length 50th (ft)	129	159	191	380	95
Queue Length 95th (ft)	186	266	305	496	247
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	568	1378	652	2611
Starvation Cap Reductn	0	0	0	196	1389
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.71	0.50	1.03	0.69

Intersection Summary

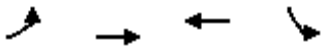


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	134	866	965	1003
v/c Ratio	0.81	1.97	2.96	0.94
Control Delay	85.0	464.6	909.6	38.0
Queue Delay	0.0	0.0	0.0	49.2
Total Delay	85.0	464.6	909.6	87.1
Queue Length 50th (ft)	98	~771	~1234	608
Queue Length 95th (ft)	#224	#1068	#1570	#864
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	166	439	326	1276
Starvation Cap Reductn	0	0	0	364
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	1.97	2.96	1.10

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	551	943	518	1869
v/c Ratio	1.57	1.48	1.78	1.69
Control Delay	303.3	256.9	388.6	336.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	303.3	256.9	388.6	336.3
Queue Length 50th (ft)	~604	~1007	~506	~2005
Queue Length 95th (ft)	#822	#1257	#724	#2274
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	291	1104
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.57	1.48	1.78	1.69

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.

Intersection	
Int Delay, s/veh	7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	480	194	0	0	469
Future Vol, veh/h	4	480	194	0	0	469
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	522	211	0	0	510

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	721	211	0	-	-	-
Stage 1	211	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	397	834	-	0	0	-
Stage 1	829	-	-	0	0	-
Stage 2	607	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	397	834	-	-	-	-
Mov Cap-2 Maneuver	491	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	607	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	829	-
HCM Lane V/C Ratio	-	0.635	-
HCM Control Delay (s)	-	16.6	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.6	-

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	195	4	0	0	474	0
Future Vol, veh/h	195	4	0	0	474	0
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	212	4	0	0	515	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11	16.8
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	199	474
LT Vol	195	474
Through Vol	4	0
RT Vol	0	0
Lane Flow Rate	216	515
Geometry Grp	1	1
Degree of Util (X)	0.322	0.671
Departure Headway (Hd)	5.358	4.691
Convergence, Y/N	Yes	Yes
Cap	668	768
Service Time	3.417	2.734
HCM Lane V/C Ratio	0.323	0.671
HCM Control Delay	11	16.8
HCM Lane LOS	B	C
HCM 95th-tile Q	1.4	5.2

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1145	1435	56	698
Demand Flow Rate, veh/h	1145	1435	56	698
Vehicles Circulating, veh/h	466	221	1524	797
Vehicles Exiting, veh/h	1029	1359	87	859
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.3	11.5	11.5	15.2
Approach LOS	B	B	B	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.606	0.394
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	538	607	674	761	56	423	275
Cap Entry Lane, veh/h	879	956	1102	1177	389	648	721
Entry HV Adj Factor	1.000	1.000	1.001	0.999	1.000	1.000	1.000
Flow Entry, veh/h	538	607	674	761	56	423	275
Cap Entry, veh/h	880	955	1102	1176	389	648	721
V/C Ratio	0.612	0.635	0.612	0.647	0.144	0.652	0.381
Control Delay, s/veh	13.4	13.3	11.3	11.7	11.5	18.6	9.9
LOS	B	B	B	B	B	C	A
95th %tile Queue, veh	4	5	4	5	0	5	2



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	317	999	1300	789	136	263	263
v/c Ratio	1.00	0.37	0.68	0.73	0.52	0.72	0.72
Control Delay	94.7	4.7	19.1	9.3	49.7	26.4	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.7	4.7	19.1	9.3	49.7	26.4	26.4
Queue Length 50th (ft)	~213	84	288	87	84	49	49
Queue Length 95th (ft)	#481	156	423	266	159	153	153
Internal Link Dist (ft)		528	718			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	318	3163	2449	1229	391	462	462
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	1.00	0.32	0.53	0.64	0.35	0.57	0.57

Intersection Summary

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

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



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	186	538	156	1091	1122
v/c Ratio	0.37	1.02	0.75	0.48	0.66
Control Delay	37.6	79.1	71.0	10.1	25.6
Queue Delay	0.9	0.0	0.0	1.5	0.4
Total Delay	38.5	79.1	71.0	11.6	26.0
Queue Length 50th (ft)	116	~376	130	125	332
Queue Length 95th (ft)	184	#595	m118	m116	423
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	501	527	248	2283	1695
Starvation Cap Reductn	0	0	0	944	0
Spillback Cap Reductn	135	0	0	0	174
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	1.02	0.63	0.81	0.74

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	SBL	SBT
Lane Group Flow (vph)	539	443	1209	466	622
v/c Ratio	1.15	0.74	1.06	0.88	0.27
Control Delay	129.0	25.7	79.9	67.5	11.5
Queue Delay	0.0	0.0	0.0	41.5	0.7
Total Delay	129.0	25.7	79.9	109.0	12.2
Queue Length 50th (ft)	~489	141	~517	385	104
Queue Length 95th (ft)	#705	271	#744	493	174
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	602	1144	652	2343
Starvation Cap Reductn	0	0	0	215	1316
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.15	0.74	1.06	1.07	0.61

Intersection Summary

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

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

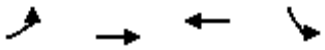


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	167	733	1126	767
v/c Ratio	0.81	1.39	2.80	0.87
Control Delay	71.6	204.2	835.5	33.0
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	71.6	204.2	835.5	33.3
Queue Length 50th (ft)	91	~340	~1069	368
Queue Length 95th (ft)	#252	#664	#1618	520
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	205	527	402	1575
Starvation Cap Reductn	0	0	0	321
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	1.39	2.80	0.61

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	595	1023	596	1484
v/c Ratio	1.70	1.61	1.60	1.41
Control Delay	356.2	310.6	305.6	213.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	356.2	310.6	305.6	213.0
Queue Length 50th (ft)	~675	~1136	~498	~1465
Queue Length 95th (ft)	#899	#1389	#724	#1734
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	372	1052
Starvation Cap Reductn	0	0	0	8
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.70	1.61	1.60	1.42

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	454	338	0	0	362
Future Vol, veh/h	6	454	338	0	0	362
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	488	363	0	0	389

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	752	363	0	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	381	686	-	0	0	-
Stage 1	708	-	-	0	0	-
Stage 2	689	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	381	686	-	-	-	-
Mov Cap-2 Maneuver	493	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	683	-
HCM Lane V/C Ratio	-	0.724	-
HCM Control Delay (s)	-	22.8	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	6.2	-

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	342	2	0	0	372	0
Future Vol, veh/h	342	2	0	0	372	0
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	372	2	0	0	404	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	14.1	14.8
HCM LOS	B	B

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	344	372
LT Vol	342	372
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	374	404
Geometry Grp	1	1
Degree of Util (X)	0.535	0.571
Departure Headway (Hd)	5.15	5.083
Convergence, Y/N	Yes	Yes
Cap	695	704
Service Time	3.223	3.153
HCM Lane V/C Ratio	0.538	0.574
HCM Control Delay	14.1	14.8
HCM Lane LOS	B	B
HCM 95th-tile Q	3.2	3.6

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1070	1290	83	882
Demand Flow Rate, veh/h	1070	1290	83	882
Vehicles Circulating, veh/h	571	168	1576	849
Vehicles Exiting, veh/h	1160	1491	65	609
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.8	9.2	13.6	24.7
Approach LOS	B	A	B	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.585	0.415
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	503	567	606	684	83	516	366
Cap Entry Lane, veh/h	798	874	1157	1231	372	618	690
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Flow Entry, veh/h	503	567	606	684	83	516	366
Cap Entry, veh/h	798	874	1157	1231	372	618	690
V/C Ratio	0.630	0.649	0.524	0.556	0.223	0.835	0.530
Control Delay, s/veh	15.0	14.6	9.1	9.3	13.6	32.6	13.6
LOS	C	B	A	A	B	D	B
95th %tile Queue, veh	5	5	3	4	1	9	3



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	275	1186	1097	494	640	332	332
v/c Ratio	0.85	0.55	0.80	0.64	1.13	0.63	0.63
Control Delay	69.7	14.4	36.9	15.2	116.4	32.3	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	14.4	36.9	15.2	116.4	32.3	32.3
Queue Length 50th (ft)	204	252	384	117	~600	176	176
Queue Length 95th (ft)	#332	307	472	237	135	290	290
Internal Link Dist (ft)		520	699			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	375	2406	1506	819	566	527	527
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	0.73	0.49	0.73	0.60	1.13	0.63	0.63

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.

APPENDIX 6.6:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	351	477	142	502	1374
v/c Ratio	0.82	0.70	0.72	0.21	0.75
Control Delay	59.1	13.8	93.9	2.2	25.6
Queue Delay	9.5	0.0	0.0	0.2	0.2
Total Delay	68.6	13.8	93.9	2.3	25.7
Queue Length 50th (ft)	254	53	117	11	416
Queue Length 95th (ft)	354	168	186	28	566
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	499	729	248	2427	1843
Starvation Cap Reductn	0	0	0	1013	0
Spillback Cap Reductn	117	0	0	0	61
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.92	0.65	0.57	0.36	0.77

Intersection Summary

Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	184	433	693	468	843
v/c Ratio	0.50	0.89	0.53	0.88	0.33
Control Delay	45.9	45.5	31.0	55.0	10.0
Queue Delay	0.0	0.0	0.0	35.4	1.0
Total Delay	45.9	45.5	31.0	90.4	11.0
Queue Length 50th (ft)	125	184	204	384	111
Queue Length 95th (ft)	186	303	312	496	249
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	470	567	1319	652	2551
Starvation Cap Reductn	0	0	0	206	1357
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.76	0.53	1.05	0.71

Intersection Summary

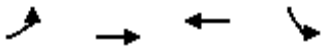


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	134	866	988	1004
v/c Ratio	0.81	1.97	3.04	0.94
Control Delay	85.0	465.0	942.6	38.0
Queue Delay	0.0	0.0	0.0	49.2
Total Delay	85.0	465.0	942.6	87.3
Queue Length 50th (ft)	98	~772	~1271	609
Queue Length 95th (ft)	#224	#1068	#1607	#867
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	166	439	325	1275
Starvation Cap Reductn	0	0	0	364
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	1.97	3.04	1.10

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	554	943	538	1870
v/c Ratio	1.58	1.48	1.82	1.69
Control Delay	306.9	256.9	404.5	336.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	306.9	256.9	404.5	336.7
Queue Length 50th (ft)	~609	~1007	~530	~2007
Queue Length 95th (ft)	#827	#1257	#750	#2276
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	296	1104
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.58	1.48	1.82	1.69

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.

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	497	194	0	0	478
Future Vol, veh/h	4	497	194	0	0	478
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	540	211	0	0	520

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	731	211	0	-	-	-
Stage 1	211	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	392	834	-	0	0	-
Stage 1	829	-	-	0	0	-
Stage 2	601	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	392	834	-	-	-	-
Mov Cap-2 Maneuver	487	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	601	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	829	-
HCM Lane V/C Ratio	-	0.657	-
HCM Control Delay (s)	-	17.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	5	-

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	195	4	0	0	483	0
Future Vol, veh/h	195	4	0	0	483	0
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	212	4	0	0	525	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	11	17.3
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	98%	100%
Vol Thru, %	2%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	199	483
LT Vol	195	483
Through Vol	4	0
RT Vol	0	0
Lane Flow Rate	216	525
Geometry Grp	1	1
Degree of Util (X)	0.323	0.684
Departure Headway (Hd)	5.382	4.693
Convergence, Y/N	Yes	Yes
Cap	664	767
Service Time	3.443	2.736
HCM Lane V/C Ratio	0.325	0.684
HCM Control Delay	11	17.3
HCM Lane LOS	B	C
HCM 95th-tile Q	1.4	5.5

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1152	1448	56	698
Demand Flow Rate, veh/h	1152	1448	56	698
Vehicles Circulating, veh/h	466	227	1531	810
Vehicles Exiting, veh/h	1042	1360	87	865
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.4	11.8	11.6	15.6
Approach LOS	B	B	B	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.606	0.394
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	541	611	681	767	56	423	275
Cap Entry Lane, veh/h	879	956	1095	1171	386	641	713
Entry HV Adj Factor	1.001	0.999	0.999	1.001	1.000	1.000	1.000
Flow Entry, veh/h	541	611	681	767	56	423	275
Cap Entry, veh/h	880	955	1095	1172	386	641	713
V/C Ratio	0.615	0.639	0.622	0.655	0.145	0.660	0.386
Control Delay, s/veh	13.5	13.4	11.6	12.0	11.6	19.1	10.1
LOS	B	B	B	B	B	C	B
95th %tile Queue, veh	4	5	5	5	1	5	2



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	317	1000	1308	789	141	263	263
v/c Ratio	1.00	0.37	0.68	0.73	0.54	0.72	0.72
Control Delay	97.1	4.8	19.1	9.3	50.6	26.5	26.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	4.8	19.1	9.3	50.6	26.5	26.5
Queue Length 50th (ft)	~226	86	293	90	89	50	50
Queue Length 95th (ft)	#481	156	427	269	164	153	153
Internal Link Dist (ft)		528	718			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	316	3140	2430	1222	388	460	460
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.32	0.54	0.65	0.36	0.57	0.57

Intersection Summary

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

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



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	186	538	185	1095	1123
v/c Ratio	0.37	1.02	0.82	0.48	0.68
Control Delay	37.6	79.7	64.9	13.3	26.5
Queue Delay	1.4	0.0	0.0	2.0	0.4
Total Delay	39.0	79.7	64.9	15.3	27.0
Queue Length 50th (ft)	116	~377	153	179	343
Queue Length 95th (ft)	184	#597	m147	m171	423
Internal Link Dist (ft)	1119			278	943
Turn Bay Length (ft)		150	75		
Base Capacity (vph)	501	526	248	2283	1661
Starvation Cap Reductn	0	0	0	987	0
Spillback Cap Reductn	167	0	0	0	172
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	1.02	0.75	0.84	0.75

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	SBL	SBT
Lane Group Flow (vph)	539	455	1241	466	623
v/c Ratio	1.01	0.69	1.07	1.01	0.28
Control Delay	83.8	20.9	84.9	100.3	10.5
Queue Delay	0.0	0.0	0.0	34.2	0.6
Total Delay	83.8	20.9	84.9	134.5	11.1
Queue Length 50th (ft)	~424	128	~534	~390	88
Queue Length 95th (ft)	#654	253	#673	#604	141
Internal Link Dist (ft)	1530		1983		278
Turn Bay Length (ft)		160			
Base Capacity (vph)	534	663	1156	463	2217
Starvation Cap Reductn	0	0	0	131	1135
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.01	0.69	1.07	1.40	0.58

Intersection Summary

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

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

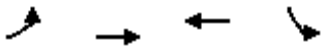


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	167	733	1135	771
v/c Ratio	0.82	1.39	2.84	0.87
Control Delay	72.6	206.4	853.0	32.7
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	72.6	206.4	853.0	33.1
Queue Length 50th (ft)	93	~347	~1100	371
Queue Length 95th (ft)	#253	#668	#1640	524
Internal Link Dist (ft)	1033		721	231
Turn Bay Length (ft)	320			
Base Capacity (vph)	204	526	400	1566
Starvation Cap Reductn	0	0	0	329
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.82	1.39	2.84	0.62

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	596	1023	605	1488
v/c Ratio	1.70	1.61	1.61	1.41
Control Delay	357.4	310.6	308.4	214.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	357.4	310.6	308.4	214.7
Queue Length 50th (ft)	~677	~1136	~507	~1471
Queue Length 95th (ft)	#899	#1389	#735	#1740
Internal Link Dist (ft)		1155	1042	721
Turn Bay Length (ft)	90			
Base Capacity (vph)	351	636	376	1052
Starvation Cap Reductn	0	0	0	8
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.70	1.61	1.61	1.43

Intersection Summary

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

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

Intersection	
Int Delay, s/veh	9.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	464	338	0	0	381
Future Vol, veh/h	6	464	338	0	0	381
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	-	-	-	-	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	499	363	0	0	410

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	773	363	0	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	370	686	-	0	0	-
Stage 1	708	-	-	0	0	-
Stage 2	674	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	370	686	-	-	-	-
Mov Cap-2 Maneuver	484	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	682	-
HCM Lane V/C Ratio	-	0.741	-
HCM Control Delay (s)	-	23.8	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	6.6	-

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	342	2	0	0	391	0
Future Vol, veh/h	342	2	0	0	391	0
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	372	2	0	0	425	0
Number of Lanes	0	1	0	0	1	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	14.3	15.6
HCM LOS	B	C

Lane	EBLn1	SBLn1
Vol Left, %	99%	100%
Vol Thru, %	1%	0%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	344	391
LT Vol	342	391
Through Vol	2	0
RT Vol	0	0
Lane Flow Rate	374	425
Geometry Grp	1	1
Degree of Util (X)	0.541	0.601
Departure Headway (Hd)	5.204	5.09
Convergence, Y/N	Yes	Yes
Cap	688	701
Service Time	3.282	3.165
HCM Lane V/C Ratio	0.544	0.606
HCM Control Delay	14.3	15.6
HCM Lane LOS	B	C
HCM 95th-tile Q	3.3	4

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1085	1297	83	882
Demand Flow Rate, veh/h	1085	1297	83	882
Vehicles Circulating, veh/h	571	175	1591	856
Vehicles Exiting, veh/h	1167	1499	65	616
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.1	9.4	13.8	25.2
Approach LOS	C	A	B	D

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	LT	TR	LT	TR	LTR	LTR	R
Assumed Moves	LT	TR	LT	TR	LTR	LT	R
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	0.585	0.415
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.645	4.328
Entry Flow, veh/h	510	575	610	687	83	516	366
Cap Entry Lane, veh/h	798	874	1149	1224	367	614	686
Entry HV Adj Factor	1.000	1.000	0.999	1.001	1.000	1.000	1.000
Flow Entry, veh/h	510	575	610	687	83	516	366
Cap Entry, veh/h	798	874	1148	1225	367	614	686
V/C Ratio	0.639	0.658	0.531	0.561	0.226	0.840	0.534
Control Delay, s/veh	15.3	15.0	9.3	9.4	13.8	33.3	13.8
LOS	C	B	A	A	B	D	B
95th %tile Queue, veh	5	5	3	4	1	9	3



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	275	1194	1100	494	656	332	332
v/c Ratio	0.85	0.55	0.80	0.64	1.16	0.63	0.63
Control Delay	69.8	14.5	37.0	15.3	126.7	32.5	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.8	14.5	37.0	15.3	126.7	32.5	32.5
Queue Length 50th (ft)	204	255	385	118	~626	177	177
Queue Length 95th (ft)	#332	310	474	238	138	290	290
Internal Link Dist (ft)		520	699			1059	
Turn Bay Length (ft)	350			150			250
Base Capacity (vph)	375	2405	1506	818	566	526	526
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	0.73	0.50	0.73	0.60	1.16	0.63	0.63

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.

APPENDIX 6.7:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	20	78	383	110	1390
Future Volume (vph)	20	78	383	110	1390
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	19.6	9.6	14.6
Total Split (s)	24.6	24.6	74.6	20.8	95.4
Total Split (%)	20.5%	20.5%	62.2%	17.3%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
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)	4.6	4.6	4.6	4.6	4.6
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	10.0	10.0	76.6	12.6	94.7
Actuated g/C Ratio	0.09	0.09	0.70	0.11	0.86
v/c Ratio	0.14	0.38	0.19	0.61	0.92
Control Delay	48.5	15.5	6.7	59.4	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	15.5	6.7	59.4	19.4
LOS	D	B	A	E	B
Approach Delay	22.3		6.7		22.3
Approach LOS	C		A		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.1	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 19.0	Intersection LOS: B
Intersection Capacity Utilization 89.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	78	383	49	110	1390
Future Volume (veh/h)	20	78	383	49	110	1390
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	22	85	416	53	120	1511
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	154	145	2239	284	148	1566
Arrive On Green	0.09	0.09	0.69	0.69	0.09	0.82
Sat Flow, veh/h	1714	1610	3318	408	1714	1900
Grp Volume(v), veh/h	22	85	232	237	120	1511
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1827	1714	1900
Q Serve(g_s), s	1.3	5.4	4.8	4.9	7.3	72.9
Cycle Q Clear(g_c), s	1.3	5.4	4.8	4.9	7.3	72.9
Prop In Lane	1.00	1.00		0.22	1.00	
Lane Grp Cap(c), veh/h	154	145	1254	1269	148	1566
V/C Ratio(X)	0.14	0.59	0.18	0.19	0.81	0.97
Avail Cap(c_a), veh/h	321	302	1254	1269	260	1617
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	44.8	46.7	5.7	5.7	47.9	8.1
Incr Delay (d2), s/veh	0.4	3.8	0.1	0.1	10.1	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.7	1.7	3.5	22.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.2	50.4	5.8	5.8	58.0	22.8
LnGrp LOS	D	D	A	A	E	C
Approach Vol, veh/h	107		469			1631
Approach Delay, s/veh	49.3		5.8			25.4
Approach LOS	D		A			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.8	78.7			92.5	14.2
Change Period (Y+Rc), s	4.6	4.6			4.6	4.6
Max Green Setting (Gmax), s	16.2	70.0			90.8	20.0
Max Q Clear Time (g_c+I1), s	9.3	6.9			74.9	7.4
Green Ext Time (p_c), s	0.1	3.2			13.0	0.2

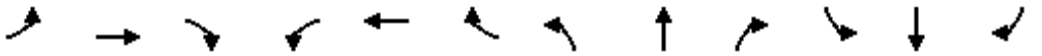
Intersection Summary		
HCM 6th Ctrl Delay		22.4
HCM 6th LOS		C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	227	22	5	39	109	475	40	987	772
Future Volume (vph)	227	22	5	39	109	475	40	987	772
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8	20.8
Total Split (s)	34.0	34.0	34.0	34.0	22.0	74.0	12.0	64.0	64.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	18.3%	61.7%	10.0%	53.3%	53.3%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		4.6	4.6	5.8	4.6	5.8	5.8
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	21.9	21.9		23.2	11.5	55.6	6.7	45.3	45.3
Actuated g/C Ratio	0.23	0.23		0.24	0.12	0.58	0.07	0.47	0.47
v/c Ratio	0.74	0.23		0.14	0.58	0.25	0.36	0.63	0.85
Control Delay	51.6	14.3		27.8	56.8	11.5	59.5	21.4	20.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	14.3		27.8	56.8	11.5	59.5	21.4	20.3
LOS	D	B		C	E	B	E	C	C
Approach Delay		40.9		27.8		19.8		21.8	
Approach LOS		D		C		B		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 23.7	Intersection LOS: C
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	22	70	5	39	15	109	475	7	40	987	772
Future Volume (veh/h)	227	22	70	5	39	15	109	475	7	40	987	772
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	247	24	66	5	42	14	118	516	7	43	1073	600
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	389	91	252	62	275	85	150	1963	27	68	1772	790
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.09	0.54	0.54	0.04	0.49	0.49
Sat Flow, veh/h	1369	448	1231	46	1345	414	1714	3647	49	1714	3610	1610
Grp Volume(v), veh/h	247	0	90	61	0	0	118	255	268	43	1073	600
Grp Sat Flow(s),veh/h/ln	1369	0	1678	1806	0	0	1714	1805	1891	1714	1805	1610
Q Serve(g_s), s	10.2	0.0	3.4	0.0	0.0	0.0	5.0	5.7	5.7	1.8	16.0	22.5
Cycle Q Clear(g_c), s	12.2	0.0	3.4	2.0	0.0	0.0	5.0	5.7	5.7	1.8	16.0	22.5
Prop In Lane	1.00		0.73	0.08		0.23	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	389	0	343	421	0	0	150	972	1018	68	1772	790
V/C Ratio(X)	0.64	0.00	0.26	0.14	0.00	0.00	0.79	0.26	0.26	0.63	0.61	0.76
Avail Cap(c_a), veh/h	627	0	636	758	0	0	401	1654	1733	170	2823	1259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	24.9	24.4	0.0	0.0	33.3	9.2	9.2	35.2	13.7	15.4
Incr Delay (d2), s/veh	1.7	0.0	0.4	0.2	0.0	0.0	3.5	0.1	0.1	3.6	0.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	1.3	0.9	0.0	0.0	2.1	1.8	1.9	0.8	5.4	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	0.0	25.3	24.5	0.0	0.0	36.8	9.4	9.4	38.8	14.1	16.9
LnGrp LOS	C	A	C	C	A	A	D	A	A	D	B	B
Approach Vol, veh/h		337			61			641			1716	
Approach Delay, s/veh		28.7			24.5			14.4			15.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	45.9		21.0	11.1	42.3		21.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	68.2		28.2	17.4	58.2		* 29				
Max Q Clear Time (g_c+I1), s	3.8	7.7		14.2	7.0	24.5		4.0				
Green Ext Time (p_c), s	0.0	3.0		1.0	0.1	12.0		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		17.2	
HCM 6th LOS		B	

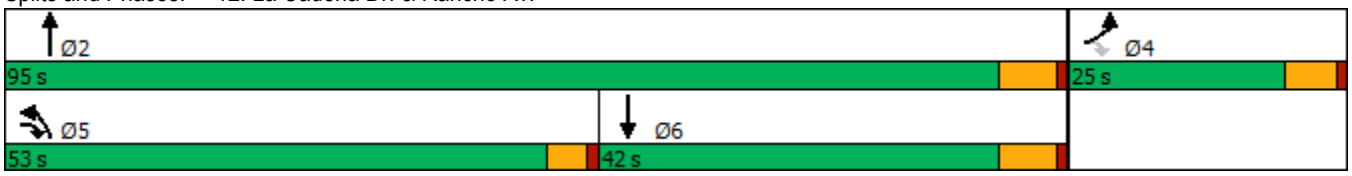
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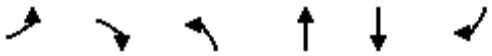
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	11	657	455	669	704
Future Volume (vph)	11	657	455	669	704
Turn Type	Prot	pm+ov	Prot	NA	NA
Protected Phases	4	5	5	2	6
Permitted Phases		4			
Detector Phase	4	5	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	15.8	9.6	9.6	16.2	39.2
Total Split (s)	25.0	53.0	53.0	95.0	42.0
Total Split (%)	20.8%	44.2%	44.2%	79.2%	35.0%
Yellow Time (s)	4.8	3.6	3.6	5.2	5.2
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)	5.8	4.6	4.6	6.2	6.2
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	12.1	49.8	31.5	62.7	26.3
Actuated g/C Ratio	0.14	0.57	0.36	0.72	0.30
v/c Ratio	0.70	0.43	0.84	0.29	0.77
Control Delay	14.3	11.5	41.1	4.6	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	11.5	41.1	4.6	35.1
LOS	B	B	D	A	D
Approach Delay	12.9			19.4	35.1
Approach LOS	B			B	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 87.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 22.2	Intersection LOS: C
Intersection Capacity Utilization 81.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	657	455	669	704	28
Future Volume (veh/h)	11	657	455	669	704	28
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	564	464	683	718	29
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	275	1431	501	2182	908	37
Arrive On Green	0.00	0.17	0.33	0.67	0.29	0.29
Sat Flow, veh/h	1629	2898	1543	3335	3268	129
Grp Volume(v), veh/h	0	564	464	683	366	381
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1687
Q Serve(g_s), s	0.0	9.2	21.8	6.6	15.6	15.7
Cycle Q Clear(g_c), s	0.0	9.2	21.8	6.6	15.6	15.7
Prop In Lane	1.00	1.00	1.00			0.08
Lane Grp Cap(c), veh/h	275	1431	501	2182	464	481
V/C Ratio(X)	0.00	0.39	0.93	0.31	0.79	0.79
Avail Cap(c_a), veh/h	416	1682	993	3837	773	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.0	24.5	5.1	24.8	24.8
Incr Delay (d2), s/veh	0.0	0.2	3.3	0.1	3.1	3.0
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	8.9	7.3	1.4	5.7	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	12.1	27.7	5.2	27.9	27.8
LnGrp LOS	A	B	C	A	C	C
Approach Vol, veh/h	564			1147	747	
Approach Delay, s/veh	12.1			14.3	27.8	
Approach LOS	B			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		56.7		18.5	29.0	27.7
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		88.8		19.2	48.4	35.8
Max Q Clear Time (g_c+I1), s		8.6		11.2	23.8	17.7
Green Ext Time (p_c), s		4.7		1.5	0.6	3.8

Intersection Summary		
HCM 6th Ctrl Delay	17.9	
HCM 6th LOS	B	

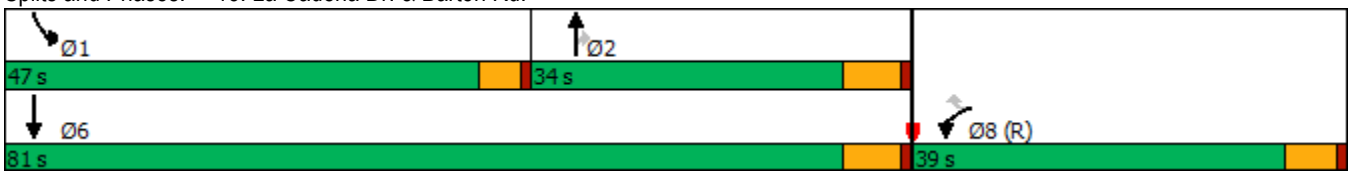
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	323	361	765	397	567	1390
Future Volume (vph)	323	361	765	397	567	1390
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	39.0	39.0	34.0	34.0	47.0	81.0
Total Split (%)	32.5%	32.5%	28.3%	28.3%	39.2%	67.5%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	33.2	33.2	27.8	27.8	42.4	74.8
Actuated g/C Ratio	0.28	0.28	0.23	0.23	0.35	0.62
v/c Ratio	0.38	0.60	0.97	0.60	1.00	0.66
Control Delay	36.5	15.4	71.4	7.6	75.5	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	15.4	71.4	7.6	75.5	16.2
LOS	D	B	E	A	E	B
Approach Delay	25.3		49.6			33.4
Approach LOS	C		D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 36.9	Intersection LOS: D
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	323	361	765	397	567	1390
Future Volume (veh/h)	323	361	765	397	567	1390
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	344	0	814	385	603	1479
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	920		836	373	606	2250
Arrive On Green	0.28	0.00	0.23	0.23	0.35	0.62
Sat Flow, veh/h	3326	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	344	0	814	385	603	1479
Grp Sat Flow(s),veh/h/ln	1663	1610	1805	1610	1714	1805
Q Serve(g_s), s	10.0	0.0	26.8	27.8	42.1	31.4
Cycle Q Clear(g_c), s	10.0	0.0	26.8	27.8	42.1	31.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	920		836	373	606	2250
V/C Ratio(X)	0.37		0.97	1.03	1.00	0.66
Avail Cap(c_a), veh/h	920		836	373	606	2250
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.84	0.84	0.70	0.70
Uniform Delay (d), s/veh	35.0	0.0	45.7	46.1	38.7	14.4
Incr Delay (d2), s/veh	1.2	0.0	22.2	51.2	29.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	14.0	15.9	21.5	11.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.2	0.0	67.9	97.3	68.1	14.9
LnGrp LOS	D		E	F	E	B
Approach Vol, veh/h	344	A	1199			2082
Approach Delay, s/veh	36.2		77.4			30.3
Approach LOS	D		E			C

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	47.0	34.0				81.0	39.0
Change Period (Y+Rc), s	4.6	6.2				6.2	5.8
Max Green Setting (Gmax), s	42.4	27.8				74.8	33.2
Max Q Clear Time (g_c+I1), s	44.1	29.8				33.4	12.0
Green Ext Time (p_c), s	0.0	0.0				13.8	0.6

Intersection Summary		
HCM 6th Ctrl Delay		46.4
HCM 6th LOS		D

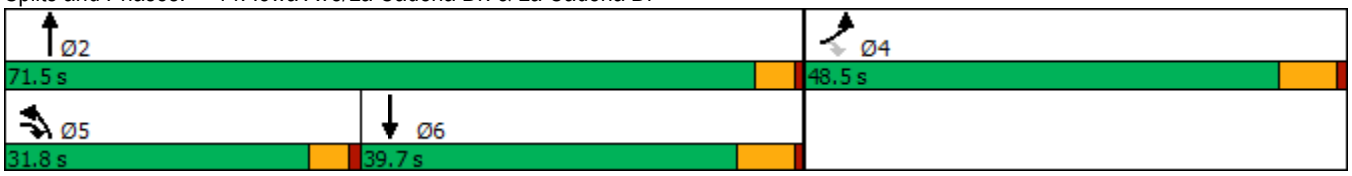
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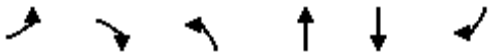
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	395	217	233	787	716	1187
Future Volume (vph)	395	217	233	787	716	1187
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	48.5	31.8	31.8	71.5	39.7	
Total Split (%)	40.4%	26.5%	26.5%	59.6%	33.1%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	27.3	51.5	17.5	48.7	24.5	87.6
Actuated g/C Ratio	0.31	0.59	0.20	0.56	0.28	1.00
v/c Ratio	0.76	0.24	0.70	0.40	0.73	0.45
Control Delay	39.1	9.6	47.3	12.4	35.2	0.6
Queue Delay	0.0	0.0	0.1	0.2	0.0	0.0
Total Delay	39.1	9.6	47.5	12.6	35.2	0.6
LOS	D	A	D	B	D	A
Approach Delay	28.6			20.6	13.6	
Approach LOS	C			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 87.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 70.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	395	217	233	787	716	1187
Future Volume (veh/h)	395	217	233	787	716	1187
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	407	198	240	811	738	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	485	727	289	1890	1023	
Arrive On Green	0.28	0.28	0.17	0.52	0.28	0.00
Sat Flow, veh/h	1714	1610	1714	3705	3705	2685
Grp Volume(v), veh/h	407	198	240	811	738	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1805	1805	1342
Q Serve(g_s), s	14.3	4.9	8.7	8.8	11.8	0.0
Cycle Q Clear(g_c), s	14.3	4.9	8.7	8.8	11.8	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	485	727	289	1890	1023	
V/C Ratio(X)	0.84	0.27	0.83	0.43	0.72	
Avail Cap(c_a), veh/h	1131	1334	728	3768	1887	
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	0.00
Uniform Delay (d), s/veh	21.6	11.0	25.8	9.4	20.7	0.0
Incr Delay (d2), s/veh	4.0	0.2	2.4	0.2	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	5.5	3.3	2.5	4.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.6	11.2	28.2	9.5	21.7	0.0
LnGrp LOS	C	B	C	A	C	
Approach Vol, veh/h	605			1051	738	A
Approach Delay, s/veh	20.9			13.8	21.7	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.8		24.3	15.4	24.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 67		42.3	27.2	33.5
Max Q Clear Time (g_c+I1), s		10.8		16.3	10.7	13.8
Green Ext Time (p_c), s		5.8		1.8	0.3	4.4

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

Notes

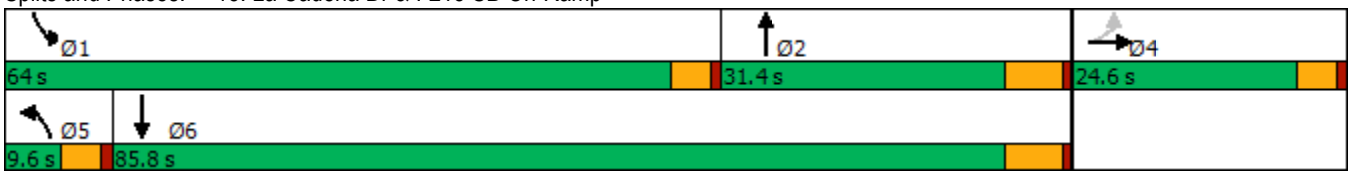
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	20	11	513	617	699
Future Volume (vph)	20	11	513	617	699
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.6	31.4	64.0	85.8
Total Split (%)	20.5%	8.0%	26.2%	53.3%	71.5%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	13.8	5.3	19.6	40.1	63.2
Actuated g/C Ratio	0.15	0.06	0.22	0.45	0.70
v/c Ratio	0.53	0.12	0.71	0.88	0.62
Control Delay	44.2	53.5	40.2	37.3	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.2	53.5	40.2	37.3	10.1
LOS	D	D	D	D	B
Approach Delay	44.2		40.5		22.3
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 28.5	Intersection LOS: C
Intersection Capacity Utilization 71.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	20	33	0	0	0	11	513	0	617	699	54
Future Volume (veh/h)	86	20	33	0	0	0	11	513	0	617	699	54
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				1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	93	22	36				12	558	0	671	760	59
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	152	36	59				26	771	0	717	1074	83
Arrive On Green	0.14	0.14	0.14				0.01	0.21	0.00	0.42	0.62	0.62
Sat Flow, veh/h	1090	258	422				1714	3705	0	1714	1741	135
Grp Volume(v), veh/h	151	0	0				12	558	0	671	0	819
Grp Sat Flow(s),veh/h/ln	1770	0	0				1714	1805	0	1714	0	1876
Q Serve(g_s), s	5.4	0.0	0.0				0.5	9.7	0.0	25.2	0.0	20.0
Cycle Q Clear(g_c), s	5.4	0.0	0.0				0.5	9.7	0.0	25.2	0.0	20.0
Prop In Lane	0.62		0.24				1.00		0.00	1.00		0.07
Lane Grp Cap(c), veh/h	247	0	0				26	771	0	717	0	1157
V/C Ratio(X)	0.61	0.00	0.00				0.47	0.72	0.00	0.94	0.00	0.71
Avail Cap(c_a), veh/h	525	0	0				127	1350	0	1511	0	2215
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	0.00				1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	0.0				32.9	24.6	0.0	18.7	0.0	8.8
Incr Delay (d2), s/veh	2.4	0.0	0.0				4.9	1.3	0.0	2.7	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	2.3	0.0	0.0				0.2	3.7	0.0	8.4	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	0.0	0.0				37.8	26.0	0.0	21.4	0.0	9.6
LnGrp LOS	C	A	A				D	C	A	C	A	A
Approach Vol, veh/h		151						570			1490	
Approach Delay, s/veh		29.7						26.2			14.9	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	32.8	20.6		14.0	5.6	47.8
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	59.4	25.2		20.0	5.0	79.6
Max Q Clear Time (g_c+I1), s	27.2	11.7		7.4	2.5	22.0
Green Ext Time (p_c), s	1.0	2.7		0.6	0.0	6.3

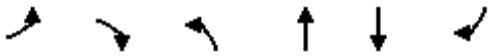
Intersection Summary			
HCM 6th Ctrl Delay			18.8
HCM 6th LOS			B

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	123	805	897	933
Future Volume (vph)	123	805	897	933
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	40.0	40.0	41.0	39.0
Total Split (%)	33.3%	33.3%	34.2%	32.5%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	33.8	33.8	34.1	32.8
Actuated g/C Ratio	0.28	0.28	0.29	0.27
v/c Ratio	0.26	1.00	0.94	1.01
Control Delay	35.0	47.5	58.1	74.6
Queue Delay	0.0	0.0	0.0	34.1
Total Delay	35.0	47.5	58.1	108.7
LOS	D	D	E	F
Approach Delay	45.8		58.1	108.7
Approach LOS	D		E	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 71.1	Intersection LOS: E
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	123	805	0	897	933	0
Future Volume (veh/h)	123	805	0	897	933	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	134	724	0	965	1003	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	851	758	0	1272	1272	0
Arrive On Green	0.47	0.47	0.00	0.35	0.35	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	134	724	0	965	1003	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	3.0	30.3	0.0	16.5	17.4	0.0
Cycle Q Clear(g_c), s	3.0	30.3	0.0	16.5	17.4	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	851	758	0	1272	1272	0
V/C Ratio(X)	0.16	0.96	0.00	0.76	0.79	0.00
Avail Cap(c_a), veh/h	874	778	0	1795	1692	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.6	17.8	0.0	20.0	20.3	0.0
Incr Delay (d2), s/veh	0.1	21.8	0.0	1.2	1.9	0.0
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	14.6	0.0	6.0	6.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	39.7	0.0	21.2	22.2	0.0
LnGrp LOS	B	D	A	C	C	A
Approach Vol, veh/h	858			965	1003	
Approach Delay, s/veh	35.1			21.2	22.2	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		30.9		39.1		30.9
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		34.8		33.8		32.8
Max Q Clear Time (g_c+I1), s		18.5		32.3		19.4
Green Ext Time (p_c), s		5.5		0.6		5.2

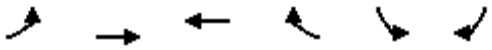
Intersection Summary		
HCM 6th Ctrl Delay	25.8	
HCM 6th LOS	C	

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	512	877	97	266	1472
Future Volume (vph)	512	877	97	266	1472
Turn Type	Prot	NA	NA	Prot	pm+ov
Protected Phases	7	4	8	6	7
Permitted Phases					6
Detector Phase	7	4	8	6	7
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	16.2	16.2	24.2	9.6
Total Split (s)	38.0	84.0	46.0	36.0	38.0
Total Split (%)	31.7%	70.0%	38.3%	30.0%	31.7%
Yellow Time (s)	3.6	5.2	5.2	5.2	3.6
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)	4.6	6.2	6.2	6.2	4.6
Lead/Lag	Lead		Lag		Lead
Lead-Lag Optimize?	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	22.3	52.5	25.3	19.7	48.7
Actuated g/C Ratio	0.26	0.61	0.30	0.23	0.57
v/c Ratio	0.61	0.81	0.83	0.69	0.73
Control Delay	32.9	19.6	31.6	42.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	19.6	31.6	42.6	4.7
LOS	C	B	C	D	A
Approach Delay		24.5	31.6	10.5	
Approach LOS		C	C	B	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 85.7			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 89.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	512	877	97	385	266	1472
Future Volume (veh/h)	512	877	97	385	266	1472
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	551	943	104	355	286	1309
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	645	1057	123	418	567	1409
Arrive On Green	0.18	0.56	0.32	0.32	0.31	0.31
Sat Flow, veh/h	3510	1900	378	1290	1810	2834
Grp Volume(v), veh/h	551	943	0	459	286	1309
Grp Sat Flow(s),veh/h/ln	1755	1900	0	1668	1810	1417
Q Serve(g_s), s	14.5	41.6	0.0	24.4	12.3	29.8
Cycle Q Clear(g_c), s	14.5	41.6	0.0	24.4	12.3	29.8
Prop In Lane	1.00			0.77	1.00	1.00
Lane Grp Cap(c), veh/h	645	1057	0	541	567	1409
V/C Ratio(X)	0.85	0.89	0.00	0.85	0.50	0.93
Avail Cap(c_a), veh/h	1233	1554	0	698	567	1409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	18.6	0.0	30.0	26.6	22.4
Incr Delay (d2), s/veh	1.3	4.9	0.0	7.8	0.7	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	18.0	0.0	10.6	5.0	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.9	23.5	0.0	37.7	27.4	33.4
LnGrp LOS	D	C	A	D	C	C
Approach Vol, veh/h		1494	459		1595	
Approach Delay, s/veh		29.2	37.7		32.4	
Approach LOS		C	D		C	

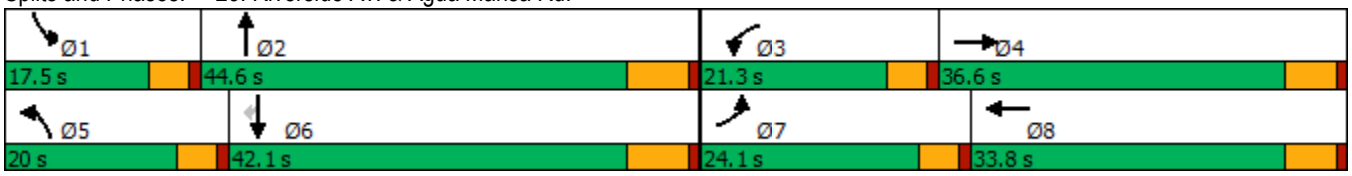
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			59.1		36.0	22.1	37.0
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			77.8		29.8	33.4	39.8
Max Q Clear Time (g_c+I1), s			43.6		31.8	16.5	26.4
Green Ext Time (p_c), s			9.3		0.0	1.0	2.6

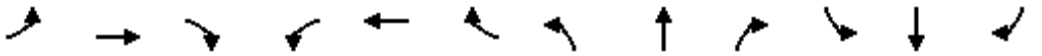
Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	278	226	182	367	229	1135	116	1534	343
Future Volume (vph)	278	226	182	367	229	1135	116	1534	343
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	9.6	33.8	9.6	29.5	9.6	31.5	31.5
Total Split (s)	24.1	36.6	21.3	33.8	20.0	44.6	17.5	42.1	42.1
Total Split (%)	20.1%	30.5%	17.8%	28.2%	16.7%	37.2%	14.6%	35.1%	35.1%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	18.5	25.8	14.9	21.2	15.4	40.2	10.9	35.6	35.6
Actuated g/C Ratio	0.16	0.23	0.13	0.19	0.14	0.35	0.10	0.31	0.31
v/c Ratio	0.99	0.43	0.81	0.76	0.98	0.70	0.71	0.99	0.61
Control Delay	99.5	31.6	73.5	48.3	103.4	34.6	71.9	59.3	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.5	31.6	73.5	48.3	103.4	34.6	71.9	59.3	26.3
LOS	F	C	E	D	F	C	E	E	C
Approach Delay		62.1		55.2		45.5		54.4	
Approach LOS		E		E		D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.3	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 52.8	Intersection LOS: D
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	226	114	182	367	122	229	1135	76	116	1534	343
Future Volume (veh/h)	278	226	114	182	367	122	229	1135	76	116	1534	343
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	293	238	83	192	386	109	241	1195	73	122	1615	323
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	301	598	203	222	483	135	250	1877	115	150	1659	515
Arrive On Green	0.17	0.23	0.23	0.12	0.17	0.17	0.14	0.38	0.38	0.08	0.32	0.32
Sat Flow, veh/h	1810	2644	898	1810	2786	778	1810	4998	305	1810	5187	1609
Grp Volume(v), veh/h	293	160	161	192	248	247	241	827	441	122	1615	323
Grp Sat Flow(s),veh/h/ln	1810	1805	1737	1810	1805	1758	1810	1729	1845	1810	1729	1609
Q Serve(g_s), s	17.9	8.4	8.8	11.6	14.7	15.0	14.7	21.8	21.8	7.4	34.2	19.0
Cycle Q Clear(g_c), s	17.9	8.4	8.8	11.6	14.7	15.0	14.7	21.8	21.8	7.4	34.2	19.0
Prop In Lane	1.00		0.52	1.00		0.44	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	301	408	393	222	313	305	250	1299	693	150	1659	515
V/C Ratio(X)	0.97	0.39	0.41	0.87	0.79	0.81	0.96	0.64	0.64	0.82	0.97	0.63
Avail Cap(c_a), veh/h	301	500	481	272	454	442	250	1299	693	210	1659	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	36.6	36.7	47.9	44.1	44.2	47.7	28.5	28.5	50.2	37.4	32.2
Incr Delay (d2), s/veh	44.5	0.6	0.7	18.5	6.0	7.1	46.1	1.0	1.9	10.8	16.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	3.7	3.7	6.2	6.9	6.9	9.5	8.5	9.2	3.6	15.8	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.6	37.2	37.4	66.5	50.1	51.3	93.7	29.6	30.5	61.0	53.5	34.6
LnGrp LOS	F	D	D	E	D	D	F	C	C	E	D	C
Approach Vol, veh/h		614			687			1509			2060	
Approach Delay, s/veh		62.8			55.1			40.1			51.0	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	48.3	18.2	31.0	20.0	42.1	24.1	25.1
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	12.9	38.1	16.7	30.8	15.4	35.6	19.5	28.0
Max Q Clear Time (g_c+I1), s	9.4	23.8	13.6	10.8	16.7	36.2	19.9	17.0
Green Ext Time (p_c), s	0.0	6.3	0.1	1.6	0.0	0.0	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	49.7
HCM 6th LOS	D

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	14	47	678	147	1128
Future Volume (vph)	14	47	678	147	1128
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	19.6	9.6	14.6
Total Split (s)	24.6	24.6	71.1	24.3	95.4
Total Split (%)	20.5%	20.5%	59.3%	20.3%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
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)	4.6	4.6	4.6	4.6	4.6
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	11.2	11.2	40.5	12.9	61.4
Actuated g/C Ratio	0.16	0.16	0.57	0.18	0.86
v/c Ratio	0.06	0.17	0.45	0.51	0.75
Control Delay	38.7	14.4	10.5	37.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	14.4	10.5	37.7	8.3
LOS	D	B	B	D	A
Approach Delay	19.9		10.5		11.7
Approach LOS	B		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 11.5	Intersection LOS: B
Intersection Capacity Utilization 75.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	47	678	156	147	1128
Future Volume (veh/h)	14	47	678	156	147	1128
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	15	51	737	170	160	1226
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	182	171	1651	381	201	1432
Arrive On Green	0.11	0.11	0.57	0.57	0.12	0.75
Sat Flow, veh/h	1714	1610	3007	672	1714	1900
Grp Volume(v), veh/h	15	51	457	450	160	1226
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1779	1714	1900
Q Serve(g_s), s	0.5	1.9	9.7	9.7	6.0	29.5
Cycle Q Clear(g_c), s	0.5	1.9	9.7	9.7	6.0	29.5
Prop In Lane	1.00	1.00		0.38	1.00	
Lane Grp Cap(c), veh/h	182	171	1024	1009	201	1432
V/C Ratio(X)	0.08	0.30	0.45	0.45	0.80	0.86
Avail Cap(c_a), veh/h	521	489	1823	1796	513	2620
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	26.5	27.2	8.3	8.3	28.3	5.6
Incr Delay (d2), s/veh	0.2	1.0	0.3	0.3	2.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	3.2	3.1	2.5	5.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.7	28.1	8.6	8.6	31.1	7.2
LnGrp LOS	C	C	A	A	C	A
Approach Vol, veh/h	66		907			1386
Approach Delay, s/veh	27.8		8.6			10.0
Approach LOS	C		A			A

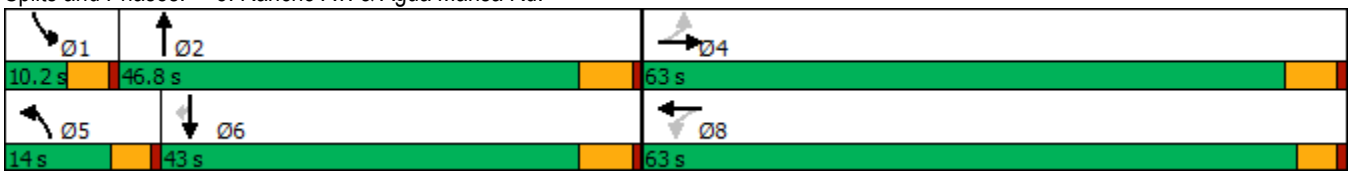
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.3	41.9			54.2	11.6
Change Period (Y+Rc), s	4.6	4.6			4.6	4.6
Max Green Setting (Gmax), s	19.7	66.5			90.8	20.0
Max Q Clear Time (g_c+I1), s	8.0	11.7			31.5	3.9
Green Ext Time (p_c), s	0.2	7.4			18.2	0.1

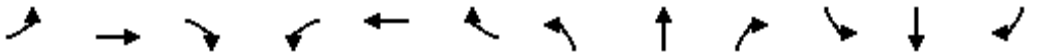
Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	567	114	5	32	85	607	16	941	220
Future Volume (vph)	567	114	5	32	85	607	16	941	220
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8	20.8
Total Split (s)	63.0	63.0	63.0	63.0	14.0	46.8	10.2	43.0	43.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	11.7%	39.0%	8.5%	35.8%	35.8%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		4.6	4.6	5.8	4.6	5.8	5.8
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	52.9	52.9		54.1	8.6	44.6	5.4	35.2	35.2
Actuated g/C Ratio	0.47	0.47		0.48	0.08	0.39	0.05	0.31	0.31
v/c Ratio	0.94	0.33		0.06	0.69	0.46	0.21	0.89	0.41
Control Delay	53.4	14.9		13.2	80.5	28.2	61.4	49.1	20.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	14.9		13.2	80.5	28.2	61.4	49.1	20.8
LOS	D	B		B	F	C	E	D	C
Approach Delay		41.2		13.2		34.5		44.0	
Approach LOS		D		B		C		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 40.2	Intersection LOS: D
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	567	114	149	5	32	12	85	607	3	16	941	220
Future Volume (veh/h)	567	114	149	5	32	12	85	607	3	16	941	220
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	603	121	100	5	34	11	90	646	2	17	1001	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	709	440	364	90	577	177	113	1355	4	32	1155	515
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.07	0.37	0.37	0.02	0.32	0.32
Sat Flow, veh/h	1383	962	795	112	1262	388	1714	3692	11	1714	3610	1610
Grp Volume(v), veh/h	603	0	221	50	0	0	90	316	332	17	1001	70
Grp Sat Flow(s),veh/h/ln	1383	0	1757	1762	0	0	1714	1805	1898	1714	1805	1610
Q Serve(g_s), s	40.9	0.0	8.1	0.0	0.0	0.0	5.3	13.9	13.9	1.0	26.9	3.2
Cycle Q Clear(g_c), s	42.5	0.0	8.1	1.6	0.0	0.0	5.3	13.9	13.9	1.0	26.9	3.2
Prop In Lane	1.00		0.45	0.10		0.22	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	709	0	803	844	0	0	113	663	697	32	1155	515
V/C Ratio(X)	0.85	0.00	0.28	0.06	0.00	0.00	0.80	0.48	0.48	0.53	0.87	0.14
Avail Cap(c_a), veh/h	843	0	974	1031	0	0	156	717	754	93	1301	580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	17.4	15.6	0.0	0.0	47.5	25.1	25.1	50.2	33.0	25.0
Incr Delay (d2), s/veh	7.3	0.0	0.2	0.0	0.0	0.0	12.2	0.5	0.5	5.0	5.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	0.0	3.1	0.7	0.0	0.0	2.6	5.7	6.0	0.5	12.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	17.6	15.7	0.0	0.0	59.7	25.6	25.6	55.2	38.9	25.1
LnGrp LOS	C	A	B	B	A	A	E	C	C	E	D	C
Approach Vol, veh/h		824			50			738			1088	
Approach Delay, s/veh		29.4			15.7			29.7			38.3	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	43.7		53.0	11.4	38.8		53.0				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	5.6	41.0		57.2	9.4	37.2		* 58				
Max Q Clear Time (g_c+I1), s	3.0	15.9		44.5	7.3	28.9		3.6				
Green Ext Time (p_c), s	0.0	3.6		2.7	0.0	4.1		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		32.8	
HCM 6th LOS		C	

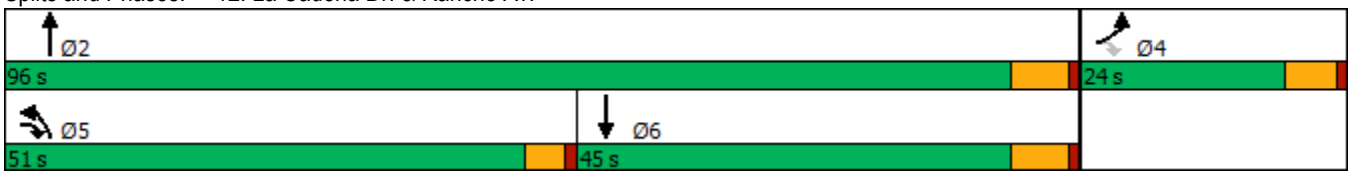
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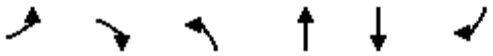
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	11	762	503	697	852
Future Volume (vph)	11	762	503	697	852
Turn Type	Prot	pm+ov	Prot	NA	NA
Protected Phases	4	5	5	2	6
Permitted Phases		4			
Detector Phase	4	5	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	15.8	9.6	9.6	16.2	39.2
Total Split (s)	24.0	51.0	51.0	96.0	45.0
Total Split (%)	20.0%	42.5%	42.5%	80.0%	37.5%
Yellow Time (s)	4.8	3.6	3.6	5.2	5.2
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)	5.8	4.6	4.6	6.2	6.2
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	12.1	56.4	38.3	76.1	33.1
Actuated g/C Ratio	0.12	0.56	0.38	0.76	0.33
v/c Ratio	0.77	0.51	0.89	0.29	0.83
Control Delay	16.6	15.7	48.5	4.2	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	15.7	48.5	4.2	39.8
LOS	B	B	D	A	D
Approach Delay	16.1			22.8	39.8
Approach LOS	B			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	762	503	697	852	3
Future Volume (veh/h)	11	762	503	697	852	3
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	679	519	719	878	3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	279	1522	546	2300	1022	3
Arrive On Green	0.00	0.17	0.35	0.71	0.31	0.31
Sat Flow, veh/h	1629	2898	1543	3335	3407	11
Grp Volume(v), veh/h	0	679	519	719	429	452
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1708
Q Serve(g_s), s	0.0	14.4	32.5	8.2	24.7	24.7
Cycle Q Clear(g_c), s	0.0	14.4	32.5	8.2	24.7	24.7
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	279	1522	546	2300	500	526
V/C Ratio(X)	0.00	0.45	0.95	0.31	0.86	0.86
Avail Cap(c_a), veh/h	298	1557	721	2936	634	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.6	31.2	5.4	32.4	32.4
Incr Delay (d2), s/veh	0.0	0.2	17.3	0.1	9.4	9.0
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	13.9	13.6	2.0	10.2	10.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	14.8	48.5	5.5	41.8	41.4
LnGrp LOS	A	B	D	A	D	D
Approach Vol, veh/h	679			1238	881	
Approach Delay, s/veh	14.8			23.5	41.6	
Approach LOS	B			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		76.5		22.8	39.8	36.8
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		89.8		18.2	46.4	38.8
Max Q Clear Time (g_c+I1), s		10.2		16.4	34.5	26.7
Green Ext Time (p_c), s		5.0		0.6	0.6	3.9

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	514	508	1042	322	489	1358
Future Volume (vph)	514	508	1042	322	489	1358
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	38.3	38.3	41.5	41.5	40.2	81.7
Total Split (%)	31.9%	31.9%	34.6%	34.6%	33.5%	68.1%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	32.5	32.5	35.3	35.3	35.6	75.5
Actuated g/C Ratio	0.27	0.27	0.29	0.29	0.30	0.63
v/c Ratio	0.59	0.86	1.01	0.50	0.99	0.62
Control Delay	41.2	37.6	72.9	9.8	81.1	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	37.6	72.9	9.8	81.1	15.0
LOS	D	D	E	A	F	B
Approach Delay	39.4		58.0			32.5
Approach LOS	D		E			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 42.4	Intersection LOS: D
Intersection Capacity Utilization 86.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	514	508	1042	322	489	1358
Future Volume (veh/h)	514	508	1042	322	489	1358
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	530	0	1074	296	504	1400
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	901		1062	474	509	2271
Arrive On Green	0.27	0.00	0.29	0.29	0.30	0.63
Sat Flow, veh/h	3326	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	530	0	1074	296	504	1400
Grp Sat Flow(s),veh/h/ln	1663	1610	1805	1610	1714	1805
Q Serve(g_s), s	16.6	0.0	35.3	19.1	35.1	28.2
Cycle Q Clear(g_c), s	16.6	0.0	35.3	19.1	35.1	28.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	901		1062	474	509	2271
V/C Ratio(X)	0.59		1.01	0.62	0.99	0.62
Avail Cap(c_a), veh/h	901		1062	474	509	2271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.63	0.63	0.61	0.61
Uniform Delay (d), s/veh	37.9	0.0	42.3	36.6	42.0	13.5
Incr Delay (d2), s/veh	2.8	0.0	24.7	1.6	28.9	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	7.0	0.0	18.5	7.4	18.1	9.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.8	0.0	67.1	38.3	70.9	13.8
LnGrp LOS	D		F	D	E	B
Approach Vol, veh/h	530	A	1370			1904
Approach Delay, s/veh	40.8		60.9			28.9
Approach LOS	D		E			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	40.2	41.5			81.7	38.3
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	35.6	35.3			75.5	32.5
Max Q Clear Time (g_c+I1), s	37.1	37.3			30.2	18.6
Green Ext Time (p_c), s	0.0	0.0			12.9	0.9

Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

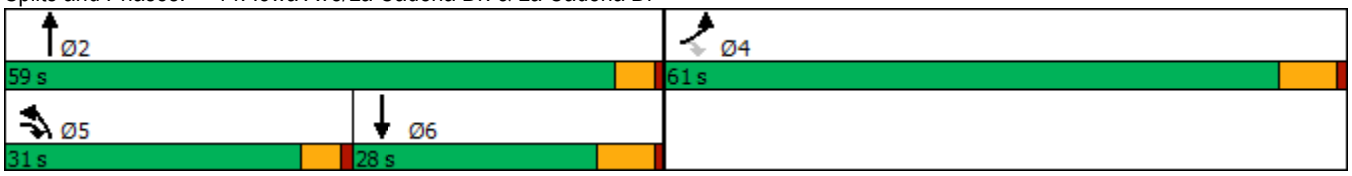
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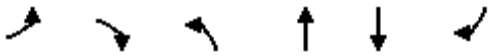
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	640	264	292	962	481	1405
Future Volume (vph)	640	264	292	962	481	1405
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	61.0	31.0	31.0	59.0	28.0	
Total Split (%)	50.8%	25.8%	25.8%	49.2%	23.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	44.4	72.7	21.8	47.0	18.7	102.7
Actuated g/C Ratio	0.43	0.71	0.21	0.46	0.18	1.00
v/c Ratio	0.89	0.24	0.83	0.60	0.75	0.54
Control Delay	43.7	5.8	60.7	23.6	50.0	0.8
Queue Delay	0.0	0.0	2.8	1.6	0.0	0.0
Total Delay	43.7	5.8	63.5	25.1	50.0	0.8
LOS	D	A	E	C	D	A
Approach Delay	32.6			34.1	13.3	
Approach LOS	C			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 24.1	Intersection LOS: C
Intersection Capacity Utilization 82.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	640	264	292	962	481	1405
Future Volume (veh/h)	640	264	292	962	481	1405
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	660	246	301	992	496	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	723	998	340	1553	640	
Arrive On Green	0.42	0.42	0.20	0.43	0.18	0.00
Sat Flow, veh/h	1714	1610	1714	3705	3705	2685
Grp Volume(v), veh/h	660	246	301	992	496	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1805	1805	1342
Q Serve(g_s), s	30.3	5.7	14.3	18.1	11.0	0.0
Cycle Q Clear(g_c), s	30.3	5.7	14.3	18.1	11.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	723	998	340	1553	640	
V/C Ratio(X)	0.91	0.25	0.89	0.64	0.77	
Avail Cap(c_a), veh/h	1121	1372	540	2343	939	
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	0.00
Uniform Delay (d), s/veh	22.8	7.1	32.7	18.8	32.9	0.0
Incr Delay (d2), s/veh	7.7	0.1	6.8	0.4	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	0.0	6.1	6.6	4.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.5	7.3	39.5	19.2	35.3	0.0
LnGrp LOS	C	A	D	B	D	
Approach Vol, veh/h	906			1293	496	A
Approach Delay, s/veh	24.2			23.9	35.3	
Approach LOS	C			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		42.3		41.5	21.2	21.1
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 54		54.8	26.4	21.8
Max Q Clear Time (g_c+I1), s		20.1		32.3	16.3	13.0
Green Ext Time (p_c), s		7.3		3.0	0.3	1.9

Intersection Summary		
HCM 6th Ctrl Delay		26.1
HCM 6th LOS		C

Notes

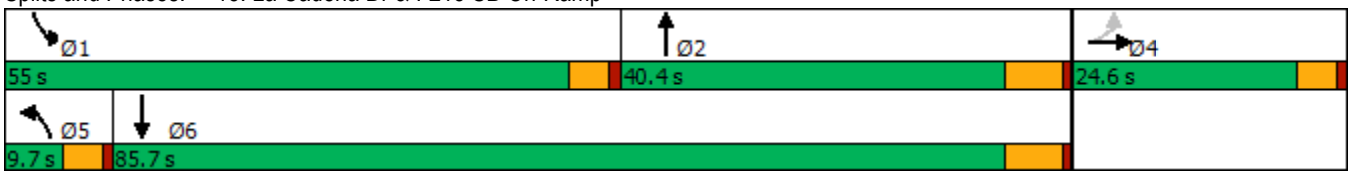
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

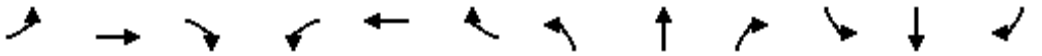
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	11	32	845	595	964
Future Volume (vph)	11	32	845	595	964
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.7	40.4	55.0	85.7
Total Split (%)	20.5%	8.1%	33.7%	45.8%	71.4%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	12.0	5.3	31.8	43.6	76.9
Actuated g/C Ratio	0.12	0.05	0.32	0.44	0.78
v/c Ratio	0.44	0.38	0.80	0.86	0.78
Control Delay	47.8	64.2	39.0	39.9	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	64.2	39.0	39.9	15.8
LOS	D	E	D	D	B
Approach Delay	47.8		39.9		24.5
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	11	20	0	0	0	32	845	7	595	964	88
Future Volume (veh/h)	59	11	20	0	0	0	32	845	7	595	964	88
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				1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	64	12	22				35	918	8	647	1048	96
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	124	23	43				57	1132	10	684	1156	106
Arrive On Green	0.11	0.11	0.11				0.03	0.31	0.31	0.40	0.67	0.67
Sat Flow, veh/h	1156	217	397				1714	3667	32	1714	1715	157
Grp Volume(v), veh/h	98	0	0				35	452	474	647	0	1144
Grp Sat Flow(s),veh/h/ln	1771	0	0				1714	1805	1894	1714	0	1872
Q Serve(g_s), s	4.4	0.0	0.0				1.7	19.2	19.2	30.4	0.0	42.7
Cycle Q Clear(g_c), s	4.4	0.0	0.0				1.7	19.2	19.2	30.4	0.0	42.7
Prop In Lane	0.65		0.22				1.00		0.02	1.00		0.08
Lane Grp Cap(c), veh/h	190	0	0				57	557	585	684	0	1262
V/C Ratio(X)	0.51	0.00	0.00				0.61	0.81	0.81	0.95	0.00	0.91
Avail Cap(c_a), veh/h	425	0	0				105	741	777	1036	0	1785
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	0.00				1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.1	0.0	0.0				39.8	26.6	26.6	24.2	0.0	11.4
Incr Delay (d2), s/veh	2.1	0.0	0.0				3.9	5.1	4.9	10.0	0.0	5.3
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	2.0	0.0	0.0				0.7	8.2	8.5	12.4	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	0.0	0.0				43.7	31.7	31.4	34.2	0.0	16.7
LnGrp LOS	D	A	A				D	C	C	C	A	B
Approach Vol, veh/h		98						961			1791	
Approach Delay, s/veh		37.3						32.0			23.0	
Approach LOS		D						C			C	

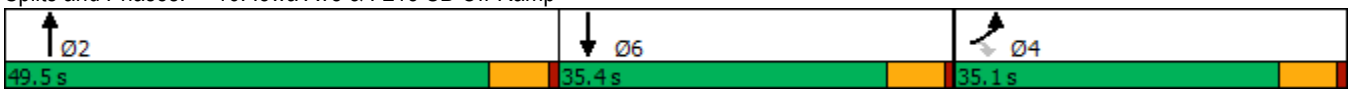
Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	37.9	31.9		13.6	7.4	62.4
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	50.4	34.2		20.0	5.1	79.5
Max Q Clear Time (g_c+I1), s	32.4	21.2		6.4	3.7	44.7
Green Ext Time (p_c), s	0.9	4.2		0.3	0.0	11.6

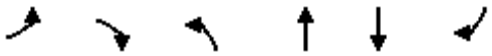
Intersection Summary		
HCM 6th Ctrl Delay		26.5
HCM 6th LOS		C

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	162	711	1092	744
Future Volume (vph)	162	711	1092	744
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	35.1	35.1	49.5	35.4
Total Split (%)	29.3%	29.3%	41.3%	29.5%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	18.3	18.3	37.5	26.5
Actuated g/C Ratio	0.18	0.18	0.37	0.26
v/c Ratio	0.51	0.88	0.84	0.81
Control Delay	44.5	19.3	37.4	44.9
Queue Delay	0.0	0.0	0.0	11.5
Total Delay	44.5	19.3	37.4	56.4
LOS	D	B	D	E
Approach Delay	24.0		37.4	56.4
Approach LOS	C		D	E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 38.3	Intersection LOS: D
Intersection Capacity Utilization 74.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	162	711	0	1092	744	0
Future Volume (veh/h)	162	711	0	1092	744	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	167	597	0	1126	767	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	724	644	0	1492	1492	0
Arrive On Green	0.40	0.40	0.00	0.41	0.41	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	167	597	0	1126	767	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	4.1	23.5	0.0	17.7	10.5	0.0
Cycle Q Clear(g_c), s	4.1	23.5	0.0	17.7	10.5	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	724	644	0	1492	1492	0
V/C Ratio(X)	0.23	0.93	0.00	0.75	0.51	0.00
Avail Cap(c_a), veh/h	787	700	0	2352	1586	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.2	19.0	0.0	16.6	14.5	0.0
Incr Delay (d2), s/veh	0.2	17.6	0.0	0.8	0.3	0.0
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	11.1	0.0	5.9	3.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	36.6	0.0	17.4	14.8	0.0
LnGrp LOS	B	D	A	B	B	A
Approach Vol, veh/h	764			1126	767	
Approach Delay, s/veh	31.5			17.4	14.8	
Approach LOS	C			B	B	

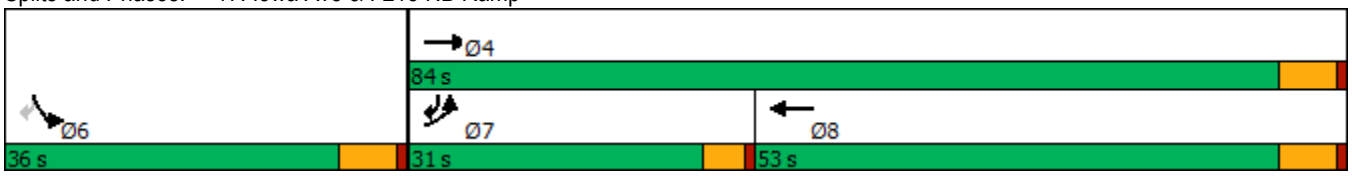
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		33.7		32.8		33.7
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		43.3		28.9		29.2
Max Q Clear Time (g_c+I1), s		19.7		25.5		12.5
Green Ext Time (p_c), s		7.8		1.1		4.3

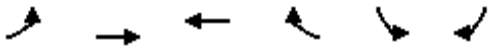
Intersection Summary		
HCM 6th Ctrl Delay	20.7	
HCM 6th LOS	C	

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	583	1003	75	315	1140
Future Volume (vph)	583	1003	75	315	1140
Turn Type	Prot	NA	NA	Prot	pm+ov
Protected Phases	7	4	8	6	7
Permitted Phases					6
Detector Phase	7	4	8	6	7
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	16.2	16.2	24.2	9.6
Total Split (s)	31.0	84.0	53.0	36.0	31.0
Total Split (%)	25.8%	70.0%	44.2%	30.0%	25.8%
Yellow Time (s)	3.6	5.2	5.2	5.2	3.6
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)	4.6	6.2	6.2	6.2	4.6
Lead/Lag	Lead		Lag		Lead
Lead-Lag Optimize?	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	21.3	56.9	30.6	21.9	49.9
Actuated g/C Ratio	0.23	0.62	0.33	0.24	0.54
v/c Ratio	0.73	0.87	0.77	0.75	0.56
Control Delay	41.6	24.6	19.3	47.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	24.6	19.3	47.5	2.0
LOS	D	C	B	D	A
Approach Delay		30.9	19.3	11.9	
Approach LOS		C	B	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 84.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	583	1003	75	509	315	1140
Future Volume (veh/h)	583	1003	75	509	315	1140
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	595	1023	77	463	321	903
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	676	1139	85	511	506	1338
Arrive On Green	0.19	0.60	0.36	0.36	0.28	0.28
Sat Flow, veh/h	3510	1900	235	1411	1810	2834
Grp Volume(v), veh/h	595	1023	0	540	321	903
Grp Sat Flow(s),veh/h/ln	1755	1900	0	1646	1810	1417
Q Serve(g_s), s	16.9	47.8	0.0	31.9	15.9	25.3
Cycle Q Clear(g_c), s	16.9	47.8	0.0	31.9	15.9	25.3
Prop In Lane	1.00			0.86	1.00	1.00
Lane Grp Cap(c), veh/h	676	1139	0	596	506	1338
V/C Ratio(X)	0.88	0.90	0.00	0.91	0.63	0.68
Avail Cap(c_a), veh/h	905	1443	0	752	526	1370
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	17.8	0.0	31.0	32.3	21.0
Incr Delay (d2), s/veh	6.4	6.6	0.0	12.6	2.4	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	7.8	21.0	0.0	14.3	6.9	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.6	24.4	0.0	43.6	34.7	22.2
LnGrp LOS	D	C	A	D	C	C
Approach Vol, veh/h		1618	540		1224	
Approach Delay, s/veh		32.6	43.6		25.5	
Approach LOS		C	D		C	

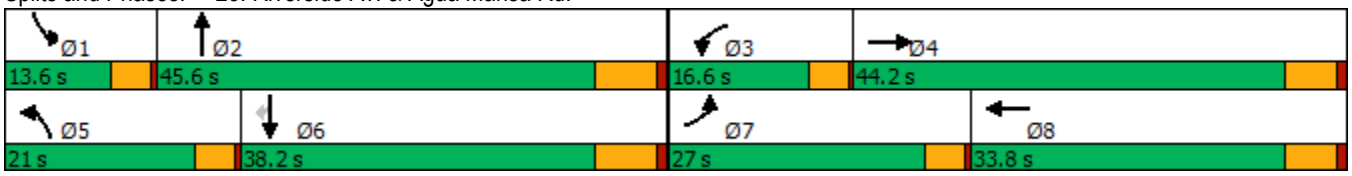
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			67.6		34.8	24.3	43.3
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			77.8		29.8	26.4	46.8
Max Q Clear Time (g_c+I1), s			49.8		27.3	18.9	33.9
Green Ext Time (p_c), s			10.1		1.3	0.9	3.2

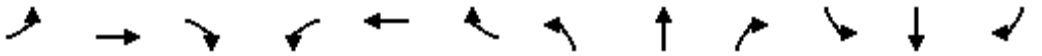
Intersection Summary		
HCM 6th Ctrl Delay		31.8
HCM 6th LOS		C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	327	569	121	322	229	1356	115	1125	235
Future Volume (vph)	327	569	121	322	229	1356	115	1125	235
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.1	34.8	9.1	33.8	9.1	29.5	9.1	31.5	31.5
Total Split (s)	27.0	44.2	16.6	33.8	21.0	45.6	13.6	38.2	38.2
Total Split (%)	22.5%	36.8%	13.8%	28.2%	17.5%	38.0%	11.3%	31.8%	31.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	4.1	5.8	4.1	6.5	4.1	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	23.0	35.4	11.0	23.4	16.6	38.8	9.3	31.5	31.5
Actuated g/C Ratio	0.20	0.31	0.10	0.20	0.14	0.34	0.08	0.27	0.27
v/c Ratio	0.95	0.87	0.73	0.65	0.92	0.93	0.83	0.83	0.44
Control Delay	82.6	41.8	75.7	41.4	88.0	47.2	93.8	45.8	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	41.8	75.7	41.4	88.0	47.2	93.8	45.8	13.9
LOS	F	D	E	D	F	D	F	D	B
Approach Delay		52.3		48.6		52.5		44.4	
Approach LOS		D		D		D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 49.7	Intersection LOS: D
Intersection Capacity Utilization 88.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	327	569	374	121	322	137	229	1356	186	115	1125	235
Future Volume (veh/h)	327	569	374	121	322	137	229	1356	186	115	1125	235
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	341	593	265	126	335	131	239	1412	179	120	1172	206
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	370	699	312	155	431	166	269	1628	206	148	1464	454
Arrive On Green	0.20	0.29	0.29	0.09	0.17	0.17	0.15	0.35	0.35	0.08	0.28	0.28
Sat Flow, veh/h	1810	2426	1083	1810	2550	979	1810	4661	591	1810	5187	1608
Grp Volume(v), veh/h	341	441	417	126	235	231	239	1047	544	120	1172	206
Grp Sat Flow(s),veh/h/ln	1810	1805	1704	1810	1805	1724	1810	1729	1794	1810	1729	1608
Q Serve(g_s), s	19.4	24.2	24.2	7.2	13.1	13.5	13.6	29.7	29.7	6.8	22.0	11.1
Cycle Q Clear(g_c), s	19.4	24.2	24.2	7.2	13.1	13.5	13.6	29.7	29.7	6.8	22.0	11.1
Prop In Lane	1.00		0.64	1.00		0.57	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	370	520	491	155	305	291	269	1208	627	148	1464	454
V/C Ratio(X)	0.92	0.85	0.85	0.81	0.77	0.79	0.89	0.87	0.87	0.81	0.80	0.45
Avail Cap(c_a), veh/h	395	660	623	215	481	460	291	1287	668	164	1566	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	35.2	35.2	47.2	41.7	41.9	43.8	31.9	31.9	47.4	35.0	31.0
Incr Delay (d2), s/veh	25.0	8.3	8.8	10.6	4.1	4.9	23.9	6.2	11.2	21.2	2.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	11.2	10.7	3.6	5.9	5.9	7.5	12.3	13.6	3.8	8.9	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	43.5	44.1	57.8	45.8	46.7	67.8	38.1	43.1	68.7	37.9	31.7
LnGrp LOS	E	D	D	E	D	D	E	D	D	E	D	C
Approach Vol, veh/h		1199			592			1830			1498	
Approach Delay, s/veh		50.1			48.7			43.5			39.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	43.2	13.1	36.1	19.7	36.1	25.6	23.6
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	9.5	39.1	12.5	38.4	16.9	31.7	22.9	28.0
Max Q Clear Time (g_c+I1), s	8.8	31.7	9.2	26.2	15.6	24.0	21.4	15.5
Green Ext Time (p_c), s	0.0	5.0	0.0	4.0	0.0	4.5	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

APPENDIX 6.8:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	20	78	394	110	1418
Future Volume (vph)	20	78	394	110	1418
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	19.6	9.6	14.6
Total Split (s)	24.6	24.6	74.6	20.8	95.4
Total Split (%)	20.5%	20.5%	62.2%	17.3%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
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)	4.6	4.6	4.6	4.6	4.6
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	10.0	10.0	76.6	12.6	94.7
Actuated g/C Ratio	0.09	0.09	0.70	0.11	0.86
v/c Ratio	0.14	0.38	0.19	0.61	0.94
Control Delay	48.5	15.5	6.8	59.4	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	15.5	6.8	59.4	21.9
LOS	D	B	A	E	C
Approach Delay	22.3		6.8		24.6
Approach LOS	C		A		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 90.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	78	394	49	110	1418
Future Volume (veh/h)	20	78	394	49	110	1418
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	22	85	428	53	120	1541
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	151	142	2260	278	148	1571
Arrive On Green	0.09	0.09	0.70	0.70	0.09	0.83
Sat Flow, veh/h	1714	1610	3330	398	1714	1900
Grp Volume(v), veh/h	22	85	238	243	120	1541
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1828	1714	1900
Q Serve(g_s), s	1.3	5.5	5.0	5.0	7.5	80.7
Cycle Q Clear(g_c), s	1.3	5.5	5.0	5.0	7.5	80.7
Prop In Lane	1.00	1.00		0.22	1.00	
Lane Grp Cap(c), veh/h	151	142	1261	1277	148	1571
V/C Ratio(X)	0.15	0.60	0.19	0.19	0.81	0.98
Avail Cap(c_a), veh/h	315	296	1261	1277	255	1587
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	45.8	47.7	5.7	5.7	48.8	8.6
Incr Delay (d2), s/veh	0.4	4.0	0.1	0.1	10.2	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.4	1.7	1.8	3.6	25.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.2	51.7	5.8	5.8	59.0	26.7
LnGrp LOS	D	D	A	A	E	C
Approach Vol, veh/h	107		481			1661
Approach Delay, s/veh	50.5		5.8			29.0
Approach LOS	D		A			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.0	80.5			94.5	14.2
Change Period (Y+Rc), s	4.6	4.6			4.6	4.6
Max Green Setting (Gmax), s	16.2	70.0			90.8	20.0
Max Q Clear Time (g_c+I1), s	9.5	7.0			82.7	7.5
Green Ext Time (p_c), s	0.1	3.2			7.2	0.2

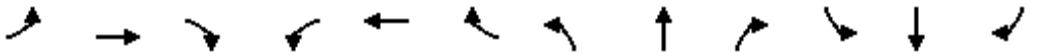
Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	237	22	5	39	170	475	40	987	801
Future Volume (vph)	237	22	5	39	170	475	40	987	801
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8	20.8
Total Split (s)	34.0	34.0	34.0	34.0	22.0	74.0	12.0	64.0	64.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	18.3%	61.7%	10.0%	53.3%	53.3%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		4.6	4.6	5.8	4.6	5.8	5.8
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	23.4	23.4		24.7	14.8	61.9	6.7	48.5	48.5
Actuated g/C Ratio	0.23	0.23		0.24	0.14	0.60	0.06	0.47	0.47
v/c Ratio	0.79	0.27		0.14	0.76	0.24	0.39	0.64	0.88
Control Delay	59.1	13.0		29.3	66.9	11.4	63.8	23.2	23.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	13.0		29.3	66.9	11.4	63.8	23.2	23.4
LOS	E	B		C	E	B	E	C	C
Approach Delay		44.2		29.3		25.9		24.2	
Approach LOS		D		C		C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 27.1	Intersection LOS: C
Intersection Capacity Utilization 80.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	22	91	5	39	15	170	475	7	40	987	801
Future Volume (veh/h)	237	22	91	5	39	15	170	475	7	40	987	801
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	258	24	89	5	42	14	185	516	7	43	1073	632
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	377	73	271	54	278	86	219	2093	28	63	1743	777
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.57	0.57	0.04	0.48	0.48
Sat Flow, veh/h	1369	353	1311	49	1341	414	1714	3647	49	1714	3610	1610
Grp Volume(v), veh/h	258	0	113	61	0	0	185	255	268	43	1073	632
Grp Sat Flow(s),veh/h/ln	1369	0	1664	1803	0	0	1714	1805	1891	1714	1805	1610
Q Serve(g_s), s	13.0	0.0	5.1	0.0	0.0	0.0	9.4	6.2	6.3	2.2	19.5	29.7
Cycle Q Clear(g_c), s	15.4	0.0	5.1	2.4	0.0	0.0	9.4	6.2	6.3	2.2	19.5	29.7
Prop In Lane	1.00		0.79	0.08		0.23	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	377	0	345	417	0	0	219	1036	1086	63	1743	777
V/C Ratio(X)	0.69	0.00	0.33	0.15	0.00	0.00	0.84	0.25	0.25	0.68	0.62	0.81
Avail Cap(c_a), veh/h	527	0	527	634	0	0	335	1383	1449	143	2361	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	30.0	28.9	0.0	0.0	37.9	9.4	9.4	42.3	16.9	19.6
Incr Delay (d2), s/veh	2.2	0.0	0.5	0.2	0.0	0.0	7.1	0.1	0.1	4.8	0.4	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	2.0	1.1	0.0	0.0	4.2	2.1	2.2	1.0	7.1	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	30.6	29.1	0.0	0.0	45.0	9.5	9.5	47.1	17.3	23.2
LnGrp LOS	D	A	C	C	A	A	D	A	A	D	B	C
Approach Vol, veh/h		371			61			708			1748	
Approach Delay, s/veh		34.3			29.1			18.8			20.2	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	56.9		24.2	16.0	48.8		24.2				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	7.4	68.2		28.2	17.4	58.2		* 29				
Max Q Clear Time (g_c+I1), s	4.2	8.3		17.4	11.4	31.7		4.4				
Green Ext Time (p_c), s	0.0	3.0		1.0	0.1	11.2		0.3				

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

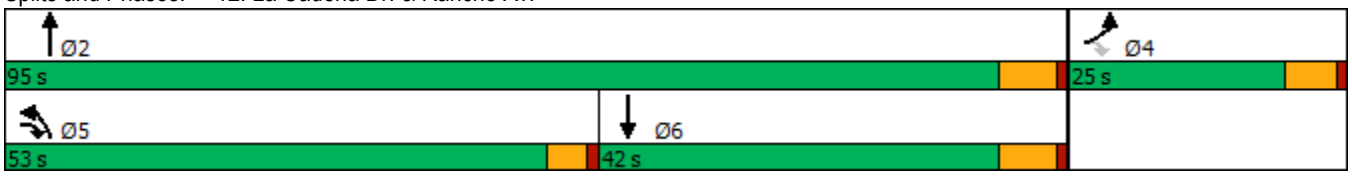
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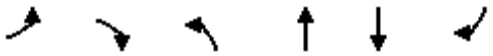
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	19	671	494	669	704
Future Volume (vph)	19	671	494	669	704
Turn Type	Prot	pm+ov	Prot	NA	NA
Protected Phases	4	5	5	2	6
Permitted Phases		4			
Detector Phase	4	5	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	15.8	9.6	9.6	16.2	39.2
Total Split (s)	25.0	53.0	53.0	95.0	42.0
Total Split (%)	20.8%	44.2%	44.2%	79.2%	35.0%
Yellow Time (s)	4.8	3.6	3.6	5.2	5.2
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)	5.8	4.6	4.6	6.2	6.2
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	12.3	53.9	35.4	68.5	28.2
Actuated g/C Ratio	0.13	0.58	0.38	0.73	0.30
v/c Ratio	0.73	0.43	0.86	0.29	0.78
Control Delay	16.2	11.8	43.9	4.4	37.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	11.8	43.9	4.4	37.4
LOS	B	B	D	A	D
Approach Delay	14.0			21.2	37.4
Approach LOS	B			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 24.0	Intersection LOS: C
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	19	671	494	669	704	47
Future Volume (veh/h)	19	671	494	669	704	47
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	588	504	683	718	48
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	269	1489	537	2241	883	59
Arrive On Green	0.00	0.17	0.35	0.69	0.29	0.29
Sat Flow, veh/h	1629	2898	1543	3335	3176	207
Grp Volume(v), veh/h	0	588	504	683	377	389
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1673
Q Serve(g_s), s	0.0	10.2	26.2	6.8	17.9	17.9
Cycle Q Clear(g_c), s	0.0	10.2	26.2	6.8	17.9	17.9
Prop In Lane	1.00	1.00	1.00			0.12
Lane Grp Cap(c), veh/h	269	1489	537	2241	464	478
V/C Ratio(X)	0.00	0.39	0.94	0.30	0.81	0.81
Avail Cap(c_a), veh/h	378	1682	902	3486	703	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.3	26.1	5.0	27.5	27.5
Incr Delay (d2), s/veh	0.0	0.2	7.5	0.1	4.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.1	9.5	1.5	6.8	7.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	12.4	33.6	5.1	31.9	31.8
LnGrp LOS	A	B	C	A	C	C
Approach Vol, veh/h	588			1187	766	
Approach Delay, s/veh	12.4			17.2	31.8	
Approach LOS	B			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		63.3		19.5	33.4	29.8
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		88.8		19.2	48.4	35.8
Max Q Clear Time (g_c+I1), s		8.8		12.2	28.2	19.9
Green Ext Time (p_c), s		4.7		1.4	0.7	3.7

Intersection Summary		
HCM 6th Ctrl Delay		20.5
HCM 6th LOS		C

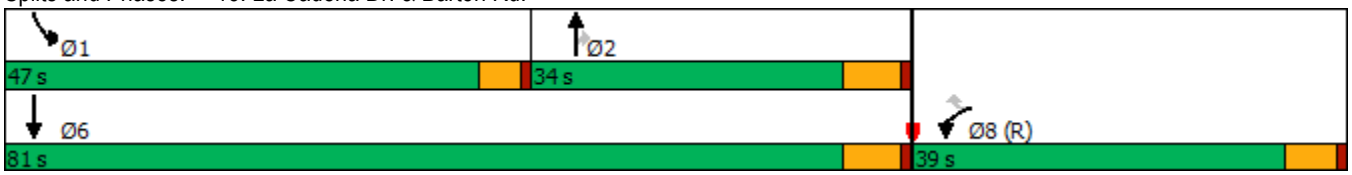
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	323	375	790	397	572	1399
Future Volume (vph)	323	375	790	397	572	1399
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	39.0	39.0	34.0	34.0	47.0	81.0
Total Split (%)	32.5%	32.5%	28.3%	28.3%	39.2%	67.5%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	33.2	33.2	27.8	27.8	42.4	74.8
Actuated g/C Ratio	0.28	0.28	0.23	0.23	0.35	0.62
v/c Ratio	0.38	0.61	1.00	0.61	1.01	0.66
Control Delay	36.5	15.6	78.4	8.5	77.8	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	15.6	78.4	8.5	77.8	16.3
LOS	D	B	E	A	E	B
Approach Delay	25.3		55.1			34.2
Approach LOS	C		E			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 39.0	Intersection LOS: D
Intersection Capacity Utilization 78.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	323	375	790	397	572	1399
Future Volume (veh/h)	323	375	790	397	572	1399
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	344	0	840	385	609	1488
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	920		836	373	606	2250
Arrive On Green	0.28	0.00	0.23	0.23	0.35	0.62
Sat Flow, veh/h	3326	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	344	0	840	385	609	1488
Grp Sat Flow(s),veh/h/ln	1663	1610	1805	1610	1714	1805
Q Serve(g_s), s	10.0	0.0	27.8	27.8	42.4	31.7
Cycle Q Clear(g_c), s	10.0	0.0	27.8	27.8	42.4	31.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	920		836	373	606	2250
V/C Ratio(X)	0.37		1.00	1.03	1.01	0.66
Avail Cap(c_a), veh/h	920		836	373	606	2250
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.83	0.83	0.69	0.69
Uniform Delay (d), s/veh	35.0	0.0	46.1	46.1	38.8	14.5
Incr Delay (d2), s/veh	1.2	0.0	29.4	51.0	31.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	15.3	15.9	22.0	11.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.2	0.0	75.5	97.1	70.5	15.0
LnGrp LOS	D		F	F	F	B
Approach Vol, veh/h	344		1225			2097
Approach Delay, s/veh	36.2		82.3			31.1
Approach LOS	D		F			C

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	47.0	34.0				81.0	39.0
Change Period (Y+Rc), s	4.6	6.2				6.2	5.8
Max Green Setting (Gmax), s	42.4	27.8				74.8	33.2
Max Q Clear Time (g_c+I1), s	44.4	29.8				33.7	12.0
Green Ext Time (p_c), s	0.0	0.0				13.9	0.6

Intersection Summary	
HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

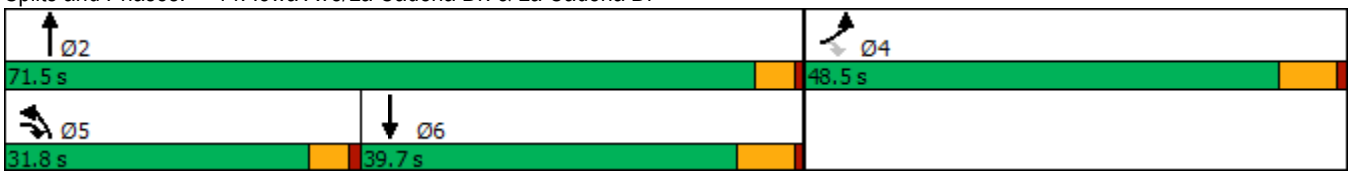
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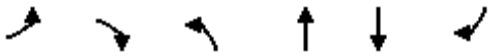
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	398	217	233	809	717	1195
Future Volume (vph)	398	217	233	809	717	1195
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	48.5	31.8	31.8	71.5	39.7	
Total Split (%)	40.4%	26.5%	26.5%	59.6%	33.1%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	27.6	51.7	17.5	48.8	24.6	87.9
Actuated g/C Ratio	0.31	0.59	0.20	0.56	0.28	1.00
v/c Ratio	0.76	0.24	0.70	0.42	0.73	0.46
Control Delay	39.2	9.6	47.6	12.6	35.3	0.6
Queue Delay	0.0	0.0	0.1	0.2	0.0	0.0
Total Delay	39.2	9.6	47.7	12.8	35.3	0.6
LOS	D	A	D	B	D	A
Approach Delay	28.7			20.6	13.6	
Approach LOS	C			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 87.9	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 70.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	398	217	233	809	717	1195
Future Volume (veh/h)	398	217	233	809	717	1195
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	410	198	240	834	739	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	488	729	288	1888	1022	
Arrive On Green	0.28	0.28	0.17	0.52	0.28	0.00
Sat Flow, veh/h	1714	1610	1714	3705	3705	2685
Grp Volume(v), veh/h	410	198	240	834	739	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1805	1805	1342
Q Serve(g_s), s	14.5	4.9	8.7	9.2	11.9	0.0
Cycle Q Clear(g_c), s	14.5	4.9	8.7	9.2	11.9	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	488	729	288	1888	1022	
V/C Ratio(X)	0.84	0.27	0.83	0.44	0.72	
Avail Cap(c_a), veh/h	1126	1328	724	3750	1878	
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	0.00
Uniform Delay (d), s/veh	21.7	11.0	25.9	9.5	20.8	0.0
Incr Delay (d2), s/veh	4.0	0.2	2.4	0.2	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	3.3	2.6	4.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.6	11.2	28.3	9.7	21.8	0.0
LnGrp LOS	C	B	C	A	C	
Approach Vol, veh/h	608			1074	739	
Approach Delay, s/veh	20.9			13.9	21.8	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.9		24.5	15.4	24.4
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 67		42.3	27.2	33.5
Max Q Clear Time (g_c+I1), s		11.2		16.5	10.7	13.9
Green Ext Time (p_c), s		6.0		1.8	0.3	4.4

Intersection Summary		
HCM 6th Ctrl Delay		18.1
HCM 6th LOS		B

Notes

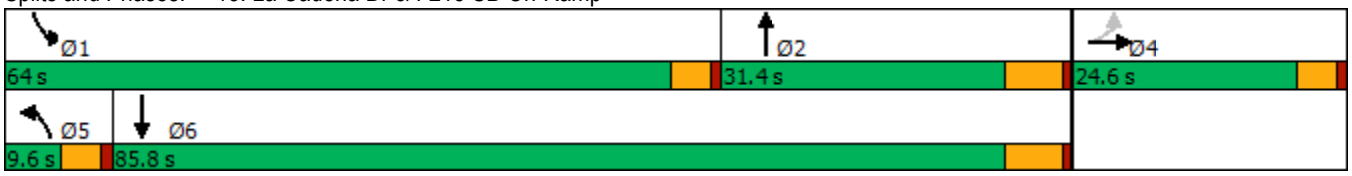
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	20	11	517	628	700
Future Volume (vph)	20	11	517	628	700
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.6	31.4	64.0	85.8
Total Split (%)	20.5%	8.0%	26.2%	53.3%	71.5%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	13.9	5.3	19.9	41.3	64.6
Actuated g/C Ratio	0.15	0.06	0.22	0.45	0.71
v/c Ratio	0.54	0.12	0.72	0.88	0.62
Control Delay	45.0	54.3	41.1	37.7	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	54.3	41.1	37.7	10.0
LOS	D	D	D	D	A
Approach Delay	45.0		41.4		22.6
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 91.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 28.9	Intersection LOS: C
Intersection Capacity Utilization 72.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	20	33	0	0	0	11	517	0	628	700	54
Future Volume (veh/h)	86	20	33	0	0	0	11	517	0	628	700	54
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				1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	93	22	36				12	562	0	683	761	59
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	150	35	58				26	771	0	728	1085	84
Arrive On Green	0.14	0.14	0.14				0.01	0.21	0.00	0.42	0.62	0.62
Sat Flow, veh/h	1090	258	422				1714	3705	0	1714	1741	135
Grp Volume(v), veh/h	151	0	0				12	562	0	683	0	820
Grp Sat Flow(s),veh/h/ln	1770	0	0				1714	1805	0	1714	0	1876
Q Serve(g_s), s	5.5	0.0	0.0				0.5	10.0	0.0	26.2	0.0	20.1
Cycle Q Clear(g_c), s	5.5	0.0	0.0				0.5	10.0	0.0	26.2	0.0	20.1
Prop In Lane	0.62		0.24				1.00		0.00	1.00		0.07
Lane Grp Cap(c), veh/h	243	0	0				26	771	0	728	0	1169
V/C Ratio(X)	0.62	0.00	0.00				0.47	0.73	0.00	0.94	0.00	0.70
Avail Cap(c_a), veh/h	515	0	0				125	1325	0	1483	0	2174
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	0.00				1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.9	0.0	0.0				33.6	25.1	0.0	18.9	0.0	8.7
Incr Delay (d2), s/veh	2.6	0.0	0.0				4.9	1.3	0.0	2.7	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	2.4	0.0	0.0				0.2	3.9	0.0	8.7	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	0.0	0.0				38.5	26.5	0.0	21.6	0.0	9.4
LnGrp LOS	C	A	A				D	C	A	C	A	A
Approach Vol, veh/h		151						574			1503	
Approach Delay, s/veh		30.5						26.7			15.0	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	33.8	20.9		14.0	5.6	49.0
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	59.4	25.2		20.0	5.0	79.6
Max Q Clear Time (g_c+I1), s	28.2	12.0		7.5	2.5	22.1
Green Ext Time (p_c), s	1.0	2.7		0.6	0.0	6.4

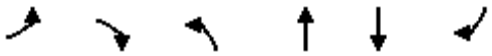
Intersection Summary		
HCM 6th Ctrl Delay		19.1
HCM 6th LOS		B

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	123	805	919	934
Future Volume (vph)	123	805	919	934
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	40.0	40.0	41.0	39.0
Total Split (%)	33.3%	33.3%	34.2%	32.5%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	33.8	33.8	34.4	32.8
Actuated g/C Ratio	0.28	0.28	0.29	0.27
v/c Ratio	0.26	1.01	0.95	1.02
Control Delay	35.1	47.8	60.5	75.7
Queue Delay	0.0	0.0	0.0	32.9
Total Delay	35.1	47.8	60.5	108.6
LOS	D	D	E	F
Approach Delay	46.1		60.5	108.6
Approach LOS	D		E	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.6	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 71.8	Intersection LOS: E
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	123	805	0	919	934	0
Future Volume (veh/h)	123	805	0	919	934	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	134	724	0	988	1004	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	851	757	0	1273	1273	0
Arrive On Green	0.47	0.47	0.00	0.35	0.35	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	134	724	0	988	1004	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	3.0	30.3	0.0	17.1	17.5	0.0
Cycle Q Clear(g_c), s	3.0	30.3	0.0	17.1	17.5	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	851	757	0	1273	1273	0
V/C Ratio(X)	0.16	0.96	0.00	0.78	0.79	0.00
Avail Cap(c_a), veh/h	873	777	0	1794	1691	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.6	17.8	0.0	20.2	20.3	0.0
Incr Delay (d2), s/veh	0.1	21.9	0.0	1.4	1.9	0.0
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	14.6	0.0	6.2	6.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	39.7	0.0	21.6	22.2	0.0
LnGrp LOS	B	D	A	C	C	A
Approach Vol, veh/h	858			988	1004	
Approach Delay, s/veh	35.2			21.6	22.2	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		30.9		39.1		30.9
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		34.8		33.8		32.8
Max Q Clear Time (g_c+I1), s		19.1		32.3		19.5
Green Ext Time (p_c), s		5.6		0.6		5.2

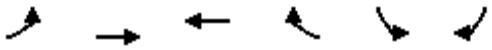
Intersection Summary		
HCM 6th Ctrl Delay	25.9	
HCM 6th LOS	C	

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	515	877	97	266	1473
Future Volume (vph)	515	877	97	266	1473
Turn Type	Prot	NA	NA	Prot	pm+ov
Protected Phases	7	4	8	6	7
Permitted Phases					6
Detector Phase	7	4	8	6	7
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	16.2	16.2	24.2	9.6
Total Split (s)	38.0	84.0	46.0	36.0	38.0
Total Split (%)	31.7%	70.0%	38.3%	30.0%	31.7%
Yellow Time (s)	3.6	5.2	5.2	5.2	3.6
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)	4.6	6.2	6.2	6.2	4.6
Lead/Lag	Lead		Lag		Lead
Lead-Lag Optimize?	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	22.5	54.2	26.6	19.9	49.2
Actuated g/C Ratio	0.26	0.62	0.30	0.23	0.56
v/c Ratio	0.61	0.80	0.83	0.70	0.73
Control Delay	33.7	19.2	31.9	43.7	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	19.2	31.9	43.7	4.8
LOS	C	B	C	D	A
Approach Delay		24.6	31.9	10.8	
Approach LOS		C	C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 87.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 19.0	Intersection LOS: B
Intersection Capacity Utilization 90.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	515	877	97	404	266	1473
Future Volume (veh/h)	515	877	97	404	266	1473
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	554	943	104	375	286	1310
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	648	1057	117	422	567	1411
Arrive On Green	0.18	0.56	0.32	0.32	0.31	0.31
Sat Flow, veh/h	3510	1900	362	1304	1810	2834
Grp Volume(v), veh/h	554	943	0	479	286	1310
Grp Sat Flow(s),veh/h/ln	1755	1900	0	1665	1810	1417
Q Serve(g_s), s	14.5	41.6	0.0	26.0	12.3	29.8
Cycle Q Clear(g_c), s	14.5	41.6	0.0	26.0	12.3	29.8
Prop In Lane	1.00			0.78	1.00	1.00
Lane Grp Cap(c), veh/h	648	1057	0	539	567	1411
V/C Ratio(X)	0.85	0.89	0.00	0.89	0.50	0.93
Avail Cap(c_a), veh/h	1233	1554	0	697	567	1411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	18.6	0.0	30.6	26.6	22.3
Incr Delay (d2), s/veh	1.3	4.9	0.0	11.2	0.7	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	18.0	0.0	11.8	5.0	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.8	23.5	0.0	41.8	27.4	33.3
LnGrp LOS	D	C	A	D	C	C
Approach Vol, veh/h		1497	479		1596	
Approach Delay, s/veh		29.2	41.8		32.2	
Approach LOS		C	D		C	

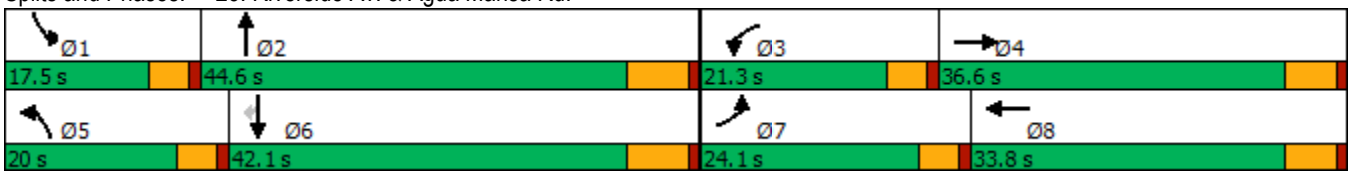
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			59.1		36.0	22.2	37.0
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			77.8		29.8	33.4	39.8
Max Q Clear Time (g_c+I1), s			43.6		31.8	16.5	28.0
Green Ext Time (p_c), s			9.3		0.0	1.0	2.6

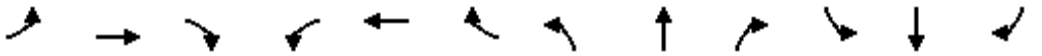
Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	278	229	183	367	229	1135	128	1534	343
Future Volume (vph)	278	229	183	367	229	1135	128	1534	343
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	9.6	33.8	9.6	29.5	9.6	31.5	31.5
Total Split (s)	24.1	36.6	21.3	33.8	20.0	44.6	17.5	42.1	42.1
Total Split (%)	20.1%	30.5%	17.8%	28.2%	16.7%	37.2%	14.6%	35.1%	35.1%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	18.5	26.0	14.9	21.4	15.4	39.6	11.5	35.7	35.7
Actuated g/C Ratio	0.16	0.23	0.13	0.19	0.14	0.35	0.10	0.31	0.31
v/c Ratio	1.00	0.43	0.81	0.77	0.98	0.71	0.74	0.99	0.61
Control Delay	100.3	31.9	74.2	48.3	104.1	35.4	74.3	59.9	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.3	31.9	74.2	48.3	104.1	35.4	74.3	59.9	26.4
LOS	F	C	E	D	F	D	E	E	C
Approach Delay		62.5		55.3		46.3		55.1	
Approach LOS		E		E		D		E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.6	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 53.4	Intersection LOS: D
Intersection Capacity Utilization 91.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	229	114	183	367	131	229	1135	82	128	1534	343
Future Volume (veh/h)	278	229	114	183	367	131	229	1135	82	128	1534	343
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	293	241	83	193	386	119	241	1195	79	135	1615	323
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	300	605	203	223	480	146	249	1821	120	163	1653	513
Arrive On Green	0.17	0.23	0.23	0.12	0.18	0.18	0.14	0.37	0.37	0.09	0.32	0.32
Sat Flow, veh/h	1810	2653	890	1810	2724	830	1810	4970	328	1810	5187	1609
Grp Volume(v), veh/h	293	162	162	193	254	251	241	831	443	135	1615	323
Grp Sat Flow(s),veh/h/ln	1810	1805	1738	1810	1805	1749	1810	1729	1841	1810	1729	1609
Q Serve(g_s), s	18.0	8.5	8.9	11.7	15.1	15.4	14.8	22.4	22.4	8.2	34.4	19.1
Cycle Q Clear(g_c), s	18.0	8.5	8.9	11.7	15.1	15.4	14.8	22.4	22.4	8.2	34.4	19.1
Prop In Lane	1.00		0.51	1.00		0.47	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	300	411	396	223	318	308	249	1267	674	163	1653	513
V/C Ratio(X)	0.98	0.39	0.41	0.87	0.80	0.81	0.97	0.66	0.66	0.83	0.98	0.63
Avail Cap(c_a), veh/h	300	498	479	271	452	438	249	1267	674	209	1653	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	36.6	36.7	48.1	44.1	44.2	47.9	29.5	29.5	50.0	37.6	32.4
Incr Delay (d2), s/veh	45.5	0.6	0.7	19.0	6.5	7.7	47.1	1.2	2.3	15.4	16.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	3.7	3.7	6.3	7.1	7.1	9.6	8.8	9.6	4.2	16.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	37.2	37.4	67.1	50.6	51.9	95.0	30.8	31.8	65.3	54.5	34.9
LnGrp LOS	F	D	D	E	D	D	F	C	C	E	D	C
Approach Vol, veh/h		617			698			1515			2073	
Approach Delay, s/veh		63.2			55.6			41.3			52.2	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	47.4	18.3	31.3	20.0	42.1	24.1	25.5
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8
Max Green Setting (Gmax), s	12.9	38.1	16.7	30.8	15.4	35.6	19.5	28.0
Max Q Clear Time (g_c+I1), s	10.2	24.4	13.7	10.9	16.8	36.4	20.0	17.4
Green Ext Time (p_c), s	0.0	6.2	0.1	1.6	0.0	0.0	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	14	47	709	147	1142
Future Volume (vph)	14	47	709	147	1142
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.6	24.6	19.6	9.6	14.6
Total Split (s)	24.6	24.6	71.1	24.3	95.4
Total Split (%)	20.5%	20.5%	59.3%	20.3%	79.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
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)	4.6	4.6	4.6	4.6	4.6
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	11.2	11.2	42.0	13.2	63.2
Actuated g/C Ratio	0.15	0.15	0.58	0.18	0.87
v/c Ratio	0.06	0.17	0.46	0.52	0.75
Control Delay	39.7	14.5	10.5	38.8	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	14.5	10.5	38.8	8.4
LOS	D	B	B	D	A
Approach Delay	20.2		10.5		11.8
Approach LOS	C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 72.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 11.6	Intersection LOS: B
Intersection Capacity Utilization 76.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Rancho Av. & N St.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	47	709	156	147	1142
Future Volume (veh/h)	14	47	709	156	147	1142
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	15	51	771	170	160	1241
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	180	169	1689	372	200	1442
Arrive On Green	0.10	0.10	0.57	0.57	0.12	0.76
Sat Flow, veh/h	1714	1610	3035	648	1714	1900
Grp Volume(v), veh/h	15	51	473	468	160	1241
Grp Sat Flow(s),veh/h/ln	1714	1610	1805	1783	1714	1900
Q Serve(g_s), s	0.5	2.0	10.2	10.2	6.2	30.7
Cycle Q Clear(g_c), s	0.5	2.0	10.2	10.2	6.2	30.7
Prop In Lane	1.00	1.00		0.36	1.00	
Lane Grp Cap(c), veh/h	180	169	1037	1025	200	1442
V/C Ratio(X)	0.08	0.30	0.46	0.46	0.80	0.86
Avail Cap(c_a), veh/h	506	475	1772	1751	499	2547
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	27.4	28.0	8.3	8.3	29.1	5.7
Incr Delay (d2), s/veh	0.2	1.0	0.3	0.3	2.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	3.4	3.3	2.5	5.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.6	29.0	8.6	8.6	32.0	7.3
LnGrp LOS	C	C	A	A	C	A
Approach Vol, veh/h	66		941			1401
Approach Delay, s/veh	28.7		8.6			10.1
Approach LOS	C		A			B

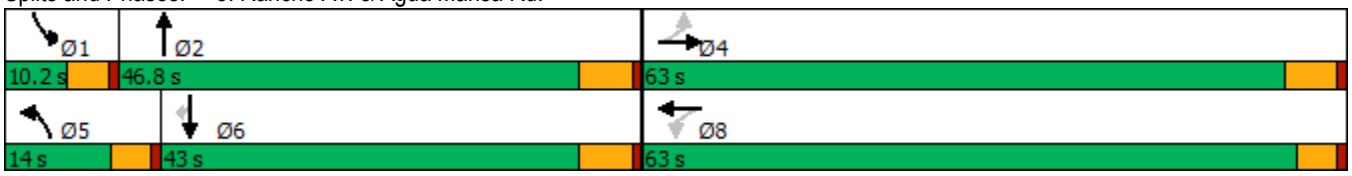
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.5	43.5			56.0	11.7
Change Period (Y+Rc), s	4.6	4.6			4.6	4.6
Max Green Setting (Gmax), s	19.7	66.5			90.8	20.0
Max Q Clear Time (g_c+I1), s	8.2	12.2			32.7	4.0
Green Ext Time (p_c), s	0.2	7.8			18.7	0.1

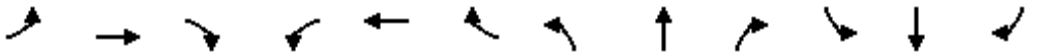
Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	598	114	5	32	111	607	16	941	233
Future Volume (vph)	598	114	5	32	111	607	16	941	233
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.8	23.8	14.6	14.6	9.6	20.8	9.6	20.8	20.8
Total Split (s)	63.0	63.0	63.0	63.0	14.0	46.8	10.2	43.0	43.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	11.7%	39.0%	8.5%	35.8%	35.8%
Yellow Time (s)	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		4.6	4.6	5.8	4.6	5.8	5.8
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	55.8	55.8		57.1	9.4	45.9	5.4	35.9	35.9
Actuated g/C Ratio	0.48	0.48		0.49	0.08	0.39	0.05	0.31	0.31
v/c Ratio	0.97	0.40		0.06	0.87	0.46	0.22	0.91	0.44
Control Delay	60.6	14.9		13.2	102.9	28.9	62.0	51.9	21.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	14.9		13.2	102.9	28.9	62.0	51.9	21.6
LOS	E	B		B	F	C	E	D	C
Approach Delay		44.5		13.2		40.3		46.1	
Approach LOS		D		B		D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.4	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 43.6	Intersection LOS: D
Intersection Capacity Utilization 85.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Rancho Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	598	114	213	5	32	12	111	607	3	16	941	233
Future Volume (veh/h)	598	114	213	5	32	12	111	607	3	16	941	233
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	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	636	121	168	5	34	11	118	646	2	17	1001	84
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	722	340	472	90	588	182	140	1362	4	31	1103	492
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.08	0.37	0.37	0.02	0.31	0.31
Sat Flow, veh/h	1383	720	1000	118	1245	384	1714	3692	11	1714	3610	1610
Grp Volume(v), veh/h	636	0	289	50	0	0	118	316	332	17	1001	84
Grp Sat Flow(s),veh/h/ln	1383	0	1720	1747	0	0	1714	1805	1898	1714	1805	1610
Q Serve(g_s), s	49.2	0.0	12.3	0.0	0.0	0.0	7.8	15.5	15.5	1.1	30.7	4.4
Cycle Q Clear(g_c), s	50.9	0.0	12.3	1.7	0.0	0.0	7.8	15.5	15.5	1.1	30.7	4.4
Prop In Lane	1.00		0.58	0.10		0.22	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	722	0	813	860	0	0	140	666	700	31	1103	492
V/C Ratio(X)	0.88	0.00	0.36	0.06	0.00	0.00	0.85	0.47	0.47	0.54	0.91	0.17
Avail Cap(c_a), veh/h	754	0	852	917	0	0	140	666	700	83	1163	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	0.0	19.3	16.5	0.0	0.0	52.3	27.9	27.9	56.2	38.5	29.4
Incr Delay (d2), s/veh	11.5	0.0	0.3	0.0	0.0	0.0	33.9	0.5	0.5	5.4	10.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	0.0	4.7	0.7	0.0	0.0	4.6	6.5	6.8	0.5	14.5	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	0.0	19.6	16.5	0.0	0.0	86.2	28.4	28.4	61.6	48.5	29.5
LnGrp LOS	D	A	B	B	A	A	F	C	C	E	D	C
Approach Vol, veh/h		925			50			766			1102	
Approach Delay, s/veh		34.1			16.5			37.3			47.3	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	48.4		60.3	14.0	41.1		60.3				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	5.6	41.0		57.2	9.4	37.2		* 58				
Max Q Clear Time (g_c+I1), s	3.1	17.5		52.9	9.8	32.7		3.7				
Green Ext Time (p_c), s	0.0	3.6		1.7	0.0	2.5		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		39.8	
HCM 6th LOS		D	

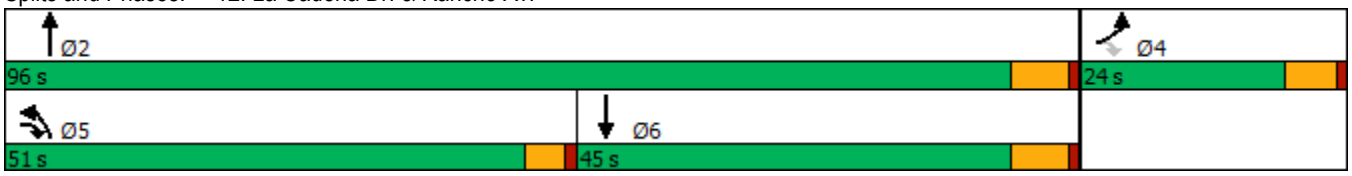
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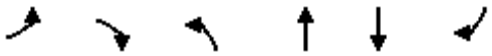
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	35	802	519	697	852
Future Volume (vph)	35	802	519	697	852
Turn Type	Prot	pm+ov	Prot	NA	NA
Protected Phases	4	5	5	2	6
Permitted Phases		4			
Detector Phase	4	5	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	15.8	9.6	9.6	16.2	39.2
Total Split (s)	24.0	51.0	51.0	96.0	45.0
Total Split (%)	20.0%	42.5%	42.5%	80.0%	37.5%
Yellow Time (s)	4.8	3.6	3.6	5.2	5.2
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)	5.8	4.6	4.6	6.2	6.2
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	None	None
Act Effct Green (s)	13.1	59.1	40.1	78.6	33.8
Actuated g/C Ratio	0.13	0.57	0.39	0.76	0.32
v/c Ratio	0.82	0.54	0.90	0.29	0.85
Control Delay	21.7	16.3	51.4	4.4	42.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	16.3	51.4	4.4	42.4
LOS	C	B	D	A	D
Approach Delay	19.0			24.4	42.4
Approach LOS	B			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 94.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: La Cadena Dr. & Rancho Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	802	519	697	852	13
Future Volume (veh/h)	35	802	519	697	852	13
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	1710	1710	1620	1710	1710	1710
Adj Flow Rate, veh/h	0	747	535	719	878	13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	282	1553	560	2317	1004	15
Arrive On Green	0.00	0.17	0.36	0.71	0.31	0.31
Sat Flow, veh/h	1629	2898	1543	3335	3363	49
Grp Volume(v), veh/h	0	747	535	719	435	456
Grp Sat Flow(s),veh/h/ln	1629	1449	1543	1625	1625	1701
Q Serve(g_s), s	0.0	17.0	35.6	8.6	26.7	26.7
Cycle Q Clear(g_c), s	0.0	17.0	35.6	8.6	26.7	26.7
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	282	1553	560	2317	498	521
V/C Ratio(X)	0.00	0.48	0.96	0.31	0.87	0.87
Avail Cap(c_a), veh/h	282	1553	680	2773	599	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	32.7	5.6	34.6	34.6
Incr Delay (d2), s/veh	0.0	0.2	20.7	0.1	11.9	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	15.4	2.1	11.4	11.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.5	53.4	5.6	46.4	46.0
LnGrp LOS	A	B	D	A	D	D
Approach Vol, veh/h	747			1254	891	
Approach Delay, s/veh	15.5			26.0	46.2	
Approach LOS	B			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		81.2		24.0	42.8	38.4
Change Period (Y+Rc), s		6.2		5.8	4.6	6.2
Max Green Setting (Gmax), s		89.8		18.2	46.4	38.8
Max Q Clear Time (g_c+I1), s		10.6		19.0	37.6	28.7
Green Ext Time (p_c), s		5.0		0.0	0.6	3.5

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

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	514	514	1053	322	503	1384
Future Volume (vph)	514	514	1053	322	503	1384
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	37.8	37.8	16.2	16.2	9.6	16.2
Total Split (s)	38.3	38.3	41.5	41.5	40.2	81.7
Total Split (%)	31.9%	31.9%	34.6%	34.6%	33.5%	68.1%
Yellow Time (s)	4.8	4.8	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	Min	Min	None	Min
Act Effct Green (s)	32.5	32.5	35.3	35.3	35.6	75.5
Actuated g/C Ratio	0.27	0.27	0.29	0.29	0.30	0.63
v/c Ratio	0.59	0.87	1.02	0.50	1.02	0.63
Control Delay	41.2	38.3	75.7	10.1	88.1	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	38.3	75.7	10.1	88.1	15.2
LOS	D	D	E	B	F	B
Approach Delay	39.7		60.3			34.7
Approach LOS	D		E			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 78 (65%), Referenced to phase 8:WBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 44.1	Intersection LOS: D
Intersection Capacity Utilization 87.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: La Cadena Dr. & Barton Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	514	514	1053	322	503	1384
Future Volume (veh/h)	514	514	1053	322	503	1384
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	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	530	0	1086	296	519	1427
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	901		1062	474	509	2271
Arrive On Green	0.27	0.00	0.29	0.29	0.30	0.63
Sat Flow, veh/h	3326	1610	3705	1610	1714	3705
Grp Volume(v), veh/h	530	0	1086	296	519	1427
Grp Sat Flow(s),veh/h/ln	1663	1610	1805	1610	1714	1805
Q Serve(g_s), s	16.6	0.0	35.3	19.1	35.6	29.1
Cycle Q Clear(g_c), s	16.6	0.0	35.3	19.1	35.6	29.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	901		1062	474	509	2271
V/C Ratio(X)	0.59		1.02	0.62	1.02	0.63
Avail Cap(c_a), veh/h	901		1062	474	509	2271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.62	0.62	0.58	0.58
Uniform Delay (d), s/veh	37.9	0.0	42.3	36.6	42.2	13.6
Incr Delay (d2), s/veh	2.8	0.0	27.7	1.6	35.7	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	7.0	0.0	18.9	7.4	19.2	10.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.8	0.0	70.0	38.2	77.9	14.0
LnGrp LOS	D		F	D	F	B
Approach Vol, veh/h	530		1382			1946
Approach Delay, s/veh	40.8		63.2			31.0
Approach LOS	D		E			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	40.2	41.5			81.7	38.3
Change Period (Y+Rc), s	4.6	6.2			6.2	5.8
Max Green Setting (Gmax), s	35.6	35.3			75.5	32.5
Max Q Clear Time (g_c+I1), s	37.6	37.3			31.1	18.6
Green Ext Time (p_c), s	0.0	0.0			13.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

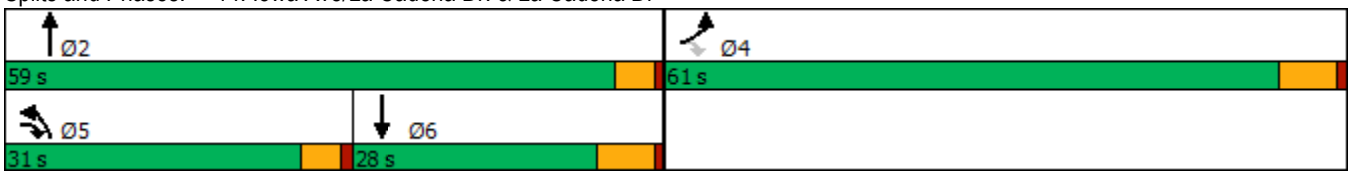
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	641	264	292	971	485	1427
Future Volume (vph)	641	264	292	971	485	1427
Turn Type	Prot	pm+ov	Prot	NA	NA	Free
Protected Phases	4	5	5	2	6	
Permitted Phases		4				Free
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	16.2	9.6	9.6	14.6	16.2	
Total Split (s)	61.0	31.0	31.0	59.0	28.0	
Total Split (%)	50.8%	25.8%	25.8%	49.2%	23.3%	
Yellow Time (s)	5.2	3.6	3.6	3.6	5.2	
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)	6.2	4.6	4.6	4.6	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	
Act Effct Green (s)	44.6	72.9	21.9	47.2	18.8	103.0
Actuated g/C Ratio	0.43	0.71	0.21	0.46	0.18	1.00
v/c Ratio	0.89	0.24	0.83	0.61	0.76	0.55
Control Delay	43.8	5.8	60.8	23.7	50.2	0.8
Queue Delay	0.0	0.0	2.9	1.7	0.0	0.0
Total Delay	43.8	5.8	63.7	25.4	50.2	0.8
LOS	D	A	E	C	D	A
Approach Delay	32.8			34.3	13.3	
Approach LOS	C			C	B	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 103			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 24.1		Intersection LOS: C	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 14: Iowa Ave/La Cadena Dr. & La Cadena Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	641	264	292	971	485	1427
Future Volume (veh/h)	641	264	292	971	485	1427
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	1800	1900	1800	1900	1900	1800
Adj Flow Rate, veh/h	661	246	301	1001	500	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	724	998	339	1555	643	
Arrive On Green	0.42	0.42	0.20	0.43	0.18	0.00
Sat Flow, veh/h	1714	1610	1714	3705	3705	2685
Grp Volume(v), veh/h	661	246	301	1001	500	0
Grp Sat Flow(s),veh/h/ln	1714	1610	1714	1805	1805	1342
Q Serve(g_s), s	30.6	5.8	14.4	18.4	11.1	0.0
Cycle Q Clear(g_c), s	30.6	5.8	14.4	18.4	11.1	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	724	998	339	1555	643	
V/C Ratio(X)	0.91	0.25	0.89	0.64	0.78	
Avail Cap(c_a), veh/h	1115	1366	537	2331	934	
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	0.00
Uniform Delay (d), s/veh	22.9	7.2	32.9	18.9	33.0	0.0
Incr Delay (d2), s/veh	7.9	0.1	7.0	0.5	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	8.0	6.1	6.7	4.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.8	7.3	39.9	19.3	35.6	0.0
LnGrp LOS	C	A	D	B	D	
Approach Vol, veh/h	907			1302	500	
Approach Delay, s/veh	24.4			24.1	35.6	
Approach LOS	C			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		42.5		41.8	21.3	21.2
Change Period (Y+Rc), s		* 6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s		* 54		54.8	26.4	21.8
Max Q Clear Time (g_c+I1), s		20.4		32.6	16.4	13.1
Green Ext Time (p_c), s		7.3		3.0	0.3	1.9

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

Notes

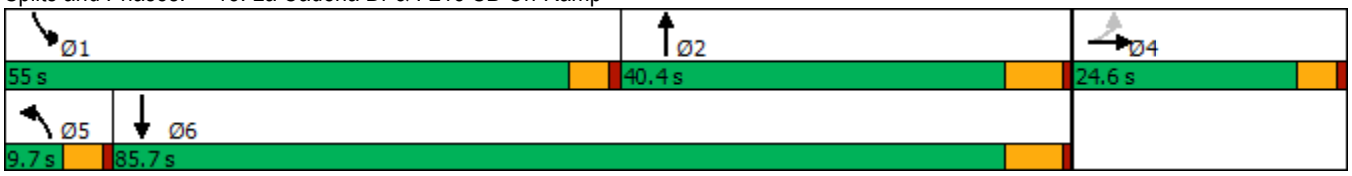
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

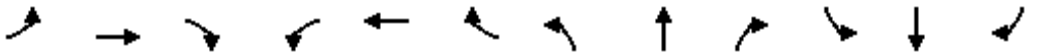
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	11	32	846	612	968
Future Volume (vph)	11	32	846	612	968
Turn Type	NA	Prot	NA	Prot	NA
Protected Phases	4	5	2	1	6
Permitted Phases					
Detector Phase	4	5	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.6	9.6	21.2	9.6	21.2
Total Split (s)	24.6	9.7	40.4	55.0	85.7
Total Split (%)	20.5%	8.1%	33.7%	45.8%	71.4%
Yellow Time (s)	3.6	3.6	5.2	3.6	5.2
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)	4.6	4.6	6.2	4.6	6.2
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	12.0	5.3	32.1	45.3	78.9
Actuated g/C Ratio	0.12	0.05	0.32	0.45	0.78
v/c Ratio	0.45	0.39	0.81	0.87	0.78
Control Delay	48.6	65.6	40.2	40.4	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	65.6	40.2	40.4	15.7
LOS	D	E	D	D	B
Approach Delay	48.6		41.2		24.8
Approach LOS	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.1	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 31.1	Intersection LOS: C
Intersection Capacity Utilization 81.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: La Cadena Dr & I-215 SB On-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	11	20	0	0	0	32	846	7	612	968	88
Future Volume (veh/h)	59	11	20	0	0	0	32	846	7	612	968	88
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				1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	64	12	22				35	920	8	665	1052	96
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	122	23	42				57	1118	10	701	1168	107
Arrive On Green	0.11	0.11	0.11				0.03	0.30	0.30	0.41	0.68	0.68
Sat Flow, veh/h	1156	217	397				1714	3667	32	1714	1715	157
Grp Volume(v), veh/h	98	0	0				35	453	475	665	0	1148
Grp Sat Flow(s),veh/h/ln	1771	0	0				1714	1805	1894	1714	0	1872
Q Serve(g_s), s	4.5	0.0	0.0				1.7	19.9	19.9	32.0	0.0	43.2
Cycle Q Clear(g_c), s	4.5	0.0	0.0				1.7	19.9	19.9	32.0	0.0	43.2
Prop In Lane	0.65		0.22				1.00		0.02	1.00		0.08
Lane Grp Cap(c), veh/h	187	0	0				57	550	577	701	0	1274
V/C Ratio(X)	0.52	0.00	0.00				0.62	0.82	0.82	0.95	0.00	0.90
Avail Cap(c_a), veh/h	415	0	0				103	724	760	1013	0	1745
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	0.00				1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	0.0				40.7	27.5	27.5	24.3	0.0	11.2
Incr Delay (d2), s/veh	2.3	0.0	0.0				4.0	5.9	5.6	11.6	0.0	5.3
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	2.0	0.0	0.0				0.7	8.6	8.9	13.4	0.0	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	0.0	0.0				44.7	33.4	33.1	36.0	0.0	16.6
LnGrp LOS	D	A	A				D	C	C	D	A	B
Approach Vol, veh/h		98						963			1813	
Approach Delay, s/veh		38.4						33.7			23.7	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	39.5	32.2		13.6	7.4	64.3
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2
Max Green Setting (Gmax), s	50.4	34.2		20.0	5.1	79.5
Max Q Clear Time (g_c+I1), s	34.0	21.9		6.5	3.7	45.2
Green Ext Time (p_c), s	0.9	4.1		0.3	0.0	11.6

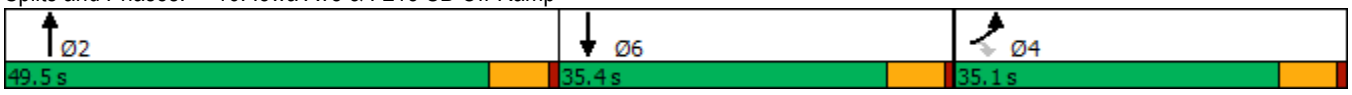
Intersection Summary		
HCM 6th Ctrl Delay		27.5
HCM 6th LOS		C

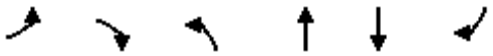


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	162	711	1101	748
Future Volume (vph)	162	711	1101	748
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	24.2	16.2
Total Split (s)	35.1	35.1	49.5	35.4
Total Split (%)	29.3%	29.3%	41.3%	29.5%
Yellow Time (s)	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
Act Effct Green (s)	18.4	18.4	37.8	26.7
Actuated g/C Ratio	0.18	0.18	0.37	0.26
v/c Ratio	0.51	0.88	0.85	0.82
Control Delay	44.7	19.4	37.7	45.2
Queue Delay	0.0	0.0	0.0	13.8
Total Delay	44.7	19.4	37.7	59.0
LOS	D	B	D	E
Approach Delay	24.1		37.7	59.0
Approach LOS	C		D	E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 39.2	Intersection LOS: D
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 16: Iowa Ave & I-215 SB Off-Ramp





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	162	711	0	1101	748	0
Future Volume (veh/h)	162	711	0	1101	748	0
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	0	1900	1900	0
Adj Flow Rate, veh/h	167	597	0	1135	771	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	723	643	0	1499	1499	0
Arrive On Green	0.40	0.40	0.00	0.42	0.42	0.00
Sat Flow, veh/h	1810	1610	0	3800	3800	0
Grp Volume(v), veh/h	167	597	0	1135	771	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1805	1805	0
Q Serve(g_s), s	4.1	23.7	0.0	17.9	10.6	0.0
Cycle Q Clear(g_c), s	4.1	23.7	0.0	17.9	10.6	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	723	643	0	1499	1499	0
V/C Ratio(X)	0.23	0.93	0.00	0.76	0.51	0.00
Avail Cap(c_a), veh/h	782	696	0	2336	1576	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.3	19.2	0.0	16.7	14.6	0.0
Incr Delay (d2), s/veh	0.2	18.0	0.0	0.8	0.3	0.0
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	11.3	0.0	6.0	3.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.4	37.2	0.0	17.5	14.8	0.0
LnGrp LOS	B	D	A	B	B	A
Approach Vol, veh/h	764			1135	771	
Approach Delay, s/veh	32.0			17.5	14.8	
Approach LOS	C			B	B	

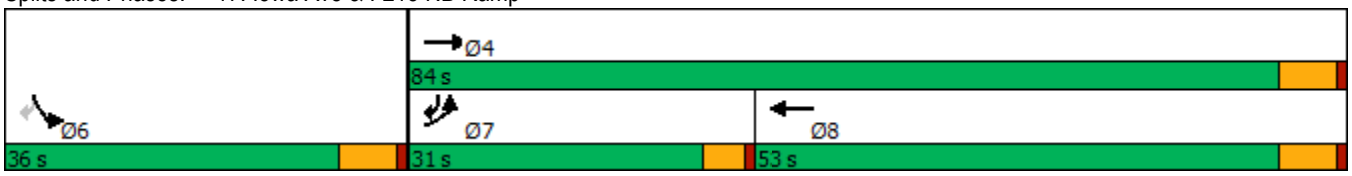
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		32.9		34.0
Change Period (Y+Rc), s		6.2		6.2		6.2
Max Green Setting (Gmax), s		43.3		28.9		29.2
Max Q Clear Time (g_c+I1), s		19.9		25.7		12.6
Green Ext Time (p_c), s		7.8		1.1		4.3

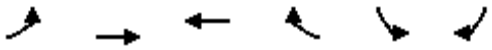
Intersection Summary		
HCM 6th Ctrl Delay	20.9	
HCM 6th LOS	C	

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	584	1003	75	315	1144
Future Volume (vph)	584	1003	75	315	1144
Turn Type	Prot	NA	NA	Prot	pm+ov
Protected Phases	7	4	8	6	7
Permitted Phases					6
Detector Phase	7	4	8	6	7
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	16.2	16.2	24.2	9.6
Total Split (s)	31.0	84.0	53.0	36.0	31.0
Total Split (%)	25.8%	70.0%	44.2%	30.0%	25.8%
Yellow Time (s)	3.6	5.2	5.2	5.2	3.6
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)	4.6	6.2	6.2	6.2	4.6
Lead/Lag	Lead		Lag		Lead
Lead-Lag Optimize?	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	21.3	56.9	30.6	21.9	49.9
Actuated g/C Ratio	0.23	0.62	0.33	0.24	0.54
v/c Ratio	0.74	0.87	0.77	0.75	0.56
Control Delay	41.6	24.6	19.6	47.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	24.6	19.6	47.5	2.0
LOS	D	C	B	D	A
Approach Delay		30.9	19.6	11.8	
Approach LOS		C	B	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Iowa Ave & I-215 NB Ramp





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	584	1003	75	517	315	1144
Future Volume (veh/h)	584	1003	75	517	315	1144
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	596	1023	77	472	321	907
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	676	1145	84	518	503	1334
Arrive On Green	0.19	0.60	0.37	0.37	0.28	0.28
Sat Flow, veh/h	3510	1900	231	1415	1810	2834
Grp Volume(v), veh/h	596	1023	0	549	321	907
Grp Sat Flow(s),veh/h/ln	1755	1900	0	1645	1810	1417
Q Serve(g_s), s	17.2	48.3	0.0	33.1	16.2	25.9
Cycle Q Clear(g_c), s	17.2	48.3	0.0	33.1	16.2	25.9
Prop In Lane	1.00			0.86	1.00	1.00
Lane Grp Cap(c), veh/h	676	1145	0	602	503	1334
V/C Ratio(X)	0.88	0.89	0.00	0.91	0.64	0.68
Avail Cap(c_a), veh/h	890	1420	0	740	518	1356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	17.8	0.0	31.4	33.0	21.5
Incr Delay (d2), s/veh	6.9	6.5	0.0	13.6	2.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	21.1	0.0	15.0	7.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.8	24.3	0.0	45.0	35.5	22.8
LnGrp LOS	D	C	A	D	D	C
Approach Vol, veh/h		1619	549		1228	
Approach Delay, s/veh		33.0	45.0		26.1	
Approach LOS		C	D		C	

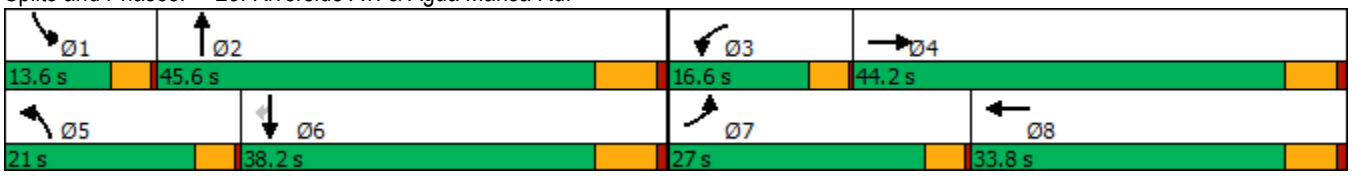
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			69.0		35.2	24.6	44.3
Change Period (Y+Rc), s			6.2		6.2	4.6	6.2
Max Green Setting (Gmax), s			77.8		29.8	26.4	46.8
Max Q Clear Time (g_c+I1), s			50.3		27.9	19.2	35.1
Green Ext Time (p_c), s			10.1		1.0	0.8	3.1

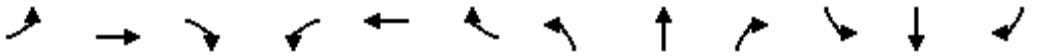
Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	327	570	127	325	229	1356	123	1125	235
Future Volume (vph)	327	570	127	325	229	1356	123	1125	235
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.1	34.8	9.1	33.8	9.1	29.5	9.1	31.5	31.5
Total Split (s)	27.0	44.2	16.6	33.8	21.0	45.6	13.6	38.2	38.2
Total Split (%)	22.5%	36.8%	13.8%	28.2%	17.5%	38.0%	11.3%	31.8%	31.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.1	5.8	4.1	5.8	4.1	6.5	4.1	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	23.0	35.4	11.2	23.6	16.6	38.9	9.5	31.8	31.8
Actuated g/C Ratio	0.20	0.31	0.10	0.20	0.14	0.34	0.08	0.28	0.28
v/c Ratio	0.95	0.87	0.75	0.66	0.92	0.93	0.86	0.82	0.43
Control Delay	84.1	42.4	78.0	41.4	88.9	47.8	99.1	45.6	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.1	42.4	78.0	41.4	88.9	47.8	99.1	45.6	13.8
LOS	F	D	E	D	F	D	F	D	B
Approach Delay		53.1		49.1		53.1		45.0	
Approach LOS		D		D		D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 50.3	Intersection LOS: D
Intersection Capacity Utilization 89.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 23: Riverside Av. & Agua Mansa Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	327	570	374	127	325	151	229	1356	188	123	1125	235
Future Volume (veh/h)	327	570	374	127	325	151	229	1356	188	123	1125	235
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	341	594	265	132	339	145	239	1412	181	128	1172	206
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	369	699	312	161	428	180	269	1609	206	156	1470	456
Arrive On Green	0.20	0.29	0.29	0.09	0.17	0.17	0.15	0.35	0.35	0.09	0.28	0.28
Sat Flow, veh/h	1810	2427	1082	1810	2477	1040	1810	4654	596	1810	5187	1608
Grp Volume(v), veh/h	341	442	417	132	245	239	239	1049	544	128	1172	206
Grp Sat Flow(s),veh/h/ln	1810	1805	1704	1810	1805	1713	1810	1729	1793	1810	1729	1608
Q Serve(g_s), s	19.8	24.7	24.8	7.7	14.0	14.4	13.9	30.6	30.6	7.5	22.4	11.3
Cycle Q Clear(g_c), s	19.8	24.7	24.8	7.7	14.0	14.4	13.9	30.6	30.6	7.5	22.4	11.3
Prop In Lane	1.00		0.63	1.00		0.61	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	369	520	491	161	312	296	269	1195	620	156	1470	456
V/C Ratio(X)	0.92	0.85	0.85	0.82	0.79	0.81	0.89	0.88	0.88	0.82	0.80	0.45
Avail Cap(c_a), veh/h	386	646	610	211	471	447	285	1260	653	160	1533	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	36.0	36.0	48.0	42.5	42.6	44.8	33.0	33.0	48.2	35.6	31.6
Incr Delay (d2), s/veh	26.2	8.7	9.3	13.6	5.0	6.3	25.2	7.1	12.6	25.2	2.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	11.6	11.0	4.0	6.4	6.4	7.8	12.8	14.3	4.3	9.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	44.7	45.3	61.7	47.5	49.0	70.0	40.0	45.5	73.4	38.5	32.3
LnGrp LOS	E	D	D	E	D	D	E	D	D	E	D	C
Approach Vol, veh/h		1200			616			1832			1506	
Approach Delay, s/veh		51.5			51.1			45.6			40.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	43.6	13.6	36.7	20.0	36.9	26.0	24.4
Change Period (Y+Rc), s	4.1	6.5	4.1	5.8	4.1	6.5	4.1	5.8
Max Green Setting (Gmax), s	9.5	39.1	12.5	38.4	16.9	31.7	22.9	28.0
Max Q Clear Time (g_c+I1), s	9.5	32.6	9.7	26.8	15.9	24.4	21.8	16.4
Green Ext Time (p_c), s	0.0	4.5	0.0	3.9	0.0	4.3	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

July 15, 2022

Ms. Cecilia So
First Carbon Solutions
250 Commerce, Suite 250
Irvine, CA 92602

AGUA MANSA COMMERCE CENTER VEHICLE MILES TRAVELED (VMT) ANALYSIS

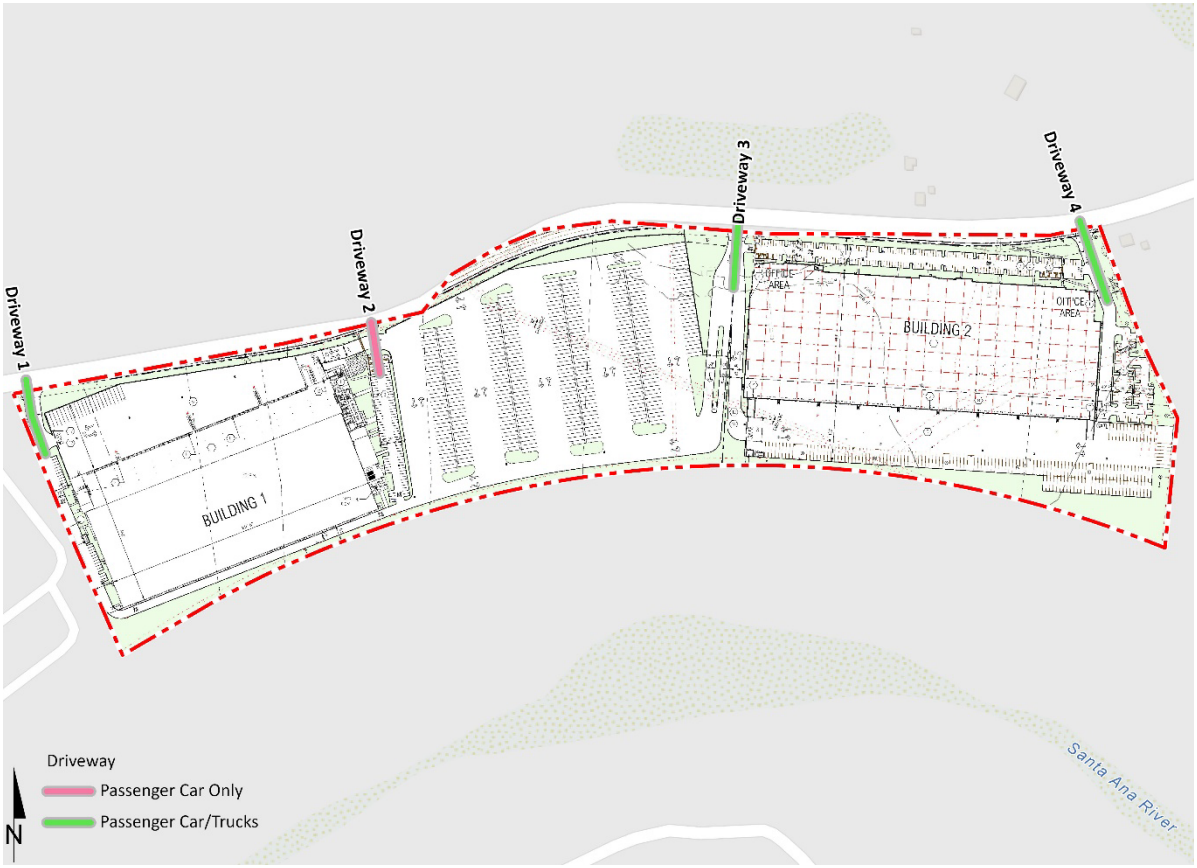
Ms. Cecilia So,

The following VMT analysis has been prepared for the proposed Agua Mansa Commerce Center development (**Project**), which is located south of Agua Mansa Road and west of Rancho Avenue in the City of Colton. We are preparing this VMT Analysis even though CEQA does not require preparation of a VMT analysis due to the previous certification of the City's General Plan Update EIR ("EIR"), SCH No. 20122031037. The EIR analyzed the Project impacts. At the time the EIR for the Project was certified, there was no CEQA requirement to analyze VMT impacts, and therefore there is no need to address VMT impacts now. *A Local & Regional Monitor v. City of Los Angeles* (1993) 12 Cal.App.4th 1773, 1801. Second, because at the time the EIR was certified, VMT impacts were known or should have been known, adoption of the requirement to analyze VMT does not constitute significant new information, requiring preparation of a subsequent or supplemental EIR. *Concerned Dublin Citizens v. City of Dublin* (2013) 214 Cal.App.4th 1301, 1320.

PROJECT OVERVIEW

The Project is to consist of two industrial warehouse buildings totaling 930,021 square feet (sf) (Building 1/Lineage Logistics totals 474,021 sf and Building 2/speculative warehouse building totals 456,000 sf). Preliminary site plan can be found on Exhibit 1.

EXHIBIT 1: PRELIMINARY SITE PLAN



BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the City of Colton has adopted their City of Colton VMT (Vehicle Miles Traveled) Guidelines (June 2020) (**City Guidelines**) (2), which documents the City's VMT analysis methodology and approved impact thresholds. The VMT analysis presented in this report has been developed based on the adopted City Guidelines.

VMT SCREENING

The City Guidelines describe specific "screening thresholds" that can be used to identify when a proposed land use project is anticipated to result in a less than significant impact without conducting a more detailed project level VMT analysis. For the purposes of this analysis, the initial

VMT screening process has been conducted with the SBCTA VMT Screening Tool (**Screening Tool**), which uses screening criteria consistent with the screening thresholds recommended in the City Guidelines. The following screening criteria are described within the City Guidelines:

- Trip Screening
- Land Use Type Screening
- High Quality Transit Areas (HQTA) Screening
- Low VMT Area Screening

A land use project need only meet one of the above screening criteria to result in a less than significant impact.

TRIP SCREENING

Projects that generate fewer than 110 daily vehicle trips may be presumed to have a less than significant impact on VMT.[1] The Project is forecasted to generate 1,986 vehicle trip-ends per day (see Attachment A), which would exceed the 110 daily vehicle trip threshold.

Trip Screening criteria is not met.

LAND USE TYPE SCREENING

The City Guidelines identifies local serving retail projects less than 50,000 square feet or other local serving uses (e.g., day care centers, student housing, public facilities, places of worship, etc.) may be presumed to have a less than significant impact absent substantial evidence to the contrary. The Project does not intend to include any local serving retail uses.

Land Use Type screening criteria is not met.

HIGH QUALITY TRANSIT AREAS (HQTA) SCREENING

Consistent with guidance identified in the Technical Advisory and the City Guidelines, projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"[2] or an existing stop along a "high-quality transit corridor"[3]) may be presumed to have a less than significant impact absent substantial evidence to the contrary.

However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);

[1] City Guidelines; Page 17
[2] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[3] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project site is not located within ½ mile of an existing major transit stop or along a high-quality transit corridor (See Attachment B).

TPA screening criteria is not met.

LOW VMT AREA SCREENING

As noted in the City Guidelines, "Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area." The Screening Tool uses the sub-regional San Bernardino County Transportation Analysis Model (SBTAM) to measure VMT performance within San Bernardino County for individual traffic analysis zones (TAZ's) within each city. The Project's physical location based on APN is input into the Screening Tool to determine the VMT generated within the respective TAZ as compared to the jurisdictional average inclusive of a particular threshold (i.e., 15% below citywide VMT per service population). Based on the Screening Tool results, the Project is not located within a low VMT generating zone as compared to the City's adopted threshold of 15% below baseline citywide average VMT per service population (See Attachment B).

Low VMT Area screening criteria is not met.

As the Project was not found to meet any of the aforementioned VMT screening criteria, a project level VMT analysis is prepared to assess the Project's potential impact to VMT.

VMT ANALYSIS

VMT MODELING

City Guidelines identify SBTAM as the appropriate tool for conducting VMT analysis for land use projects in San Bernardino County. SBTAM is a useful tool to estimate VMT as it considers interactions between different land uses based on socio-economic data such as population, households, and employment. The calculation of VMT for land use projects is based on the total number of trips generated and the average trip length of each vehicle. SBTAM is also consistent with the model used to develop the City's VMT impact thresholds listed by the City Guidelines. Therefore, the vehicle trips and average daily trip length for project-related vehicle trips are model derived from SBTAM.

VMT METRIC AND SIGNIFICANCE THRESHOLD

Consistent with City Guidelines, calculation of VMT for distribution centers, warehouses, and logistic center projects are to utilize thresholds similar to retail projects where significance is based on the net increase in total VMT divided by the Project's service population (i.e., employees)[4].

PROJECT LAND USE CONVERSION

In order to evaluate Project VMT, standard land use information must first be converted into a SBTAM compatible input data. The SBTAM model utilizes socio-economic data (SED) (e.g., population, households, employment, etc.) instead of land use information for the purposes of vehicle trip estimation. Project land use information, such as building square footages, must first be converted to SED (i.e., employment) for input into SBTAM. Building 1 (Lineage Logistics) has supplied tenant employee count of 150 employees. Employment density factors for the speculative Building 2 has been derived from the Southern California Association of Governments (SCAG) Employment Density Study (October 2001) (4). Table 1 presents the estimated number of Project employees by land use type used to populate the SBTAM model for the proposed Project.

TABLE 1: PROJECT EMPLOYMENT ESTIMATES

	Project
Total Building sf	930,021
Service Population[5]	501[6]

PROJECT GENERATED VMT CALCULATION

SBTAM was utilized to calculate the City of Colton's citywide average VMT for the Project's proposed warehousing land uses. Those values were then divided by the City's service population inclusive of the Project's scenario specific service population (i.e., employees). As shown in Table 2, the "with Project" Baseline VMT per service population is 23.31 and "with Project" Cumulative VMT per service population is 23.77.

TABLE 2: CITYWIDE VMT PER SERVICE POPULATION "WITH PROJECT" SCENARIOS

	Baseline	Cumulative
Service Population	72,135	91,954
Citywide VMT	1,681,266	2,185,480
Citywide VMT per SP	23.31	23.77

[4] City Guidelines; Page 27.
[5] As the General Plan Allowable Land Use and propose Project do not have a residential component, Service Population refers to employees only.
[6] Building 1/Lineage Logistics tenant supplied employee count of 150 and Building 2/Speculative Building assumes 1,195 sf per employee consistent with SCAG Employment Density; Table II-B.

COMPARISON TO CITY IMPACT THRESHOLD

City Guidelines provides VMT impact thresholds for PA VMT per service population to be 23.38 for baseline conditions and 23.83 for cumulative conditions[7]. Table 3 presents the comparison in citywide VMT per service population in the "with Project" scenario to the City of Colton's adopted thresholds. As shown below, the proposed Project would not result in an increase in citywide VMT per service population. The Project would not exceed City's adopted impact thresholds for both 2016 base year and 2040 cumulative year conditions. The Project's impact on VMT is less than significant.

TABLE 3: CITYWIDE VMT PER SERVICE POPULATION COMPARISON TO CITY THRESHOLDS

	2016 Base Year	2040 Horizon Year
Citywide VMT per SP Threshold "no Project"	23.38	23.83
Citywide VMT per SP "with Project"	23.31	23.77
Difference	-0.07	-0.06
Potentially Significant?	No	No

CUMULATIVE ASSESSMENT

The Technical Advisory notes that "… metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impact that utilize plan compliance as a threshold of significance."[8] The SBCTA Guidelines further acknowledges that "if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence." Since the Project was found to have a less than significant impact at the project level, it is considered to be less than significant cumulative impact as well.

CONCLUSION

Using the City Guidelines, the Project was evaluated against City of Colton adopted VMT screening criteria but was found to not meet available screening criteria. Consistent with City Guidelines, a project level VMT analysis was performed. The Project was not found to exceed the City's adopted impact thresholds. The Project's impact to VMT is less than significant.

[7] City Guidelines; Page 26 Table 4
[8] Page 6 of the OPR's Technical Advisory.

If you have any questions, please contact me directly at aso@urbanxroads.com.

Respectfully submitted,

URBAN CROSSROADS, INC.

Alexander So

Senior Associate

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **City of Colton.** *City of Colton VMT (Vehicles Miles Traveled) Guidelines.* City of Colton : s.n., June 2020.

ATTACHMENT A
PROJECT TRIP GENERATION SUMMARY

TABLE 1: PROJECT TRIP GENERATION

Land Use[1]	ITE LU Code	Units[2]	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
Project Trip Generation Rates:									
High-Cube Cold Storage Warehouse[3]	157	TSF	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
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

Project	Quantity	Units[2]	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
Project Trip Generation:									
Building 1 (High-Cube Cold Storage)	474.021	TSF							
Passenger Cars:			37	2	39	10	34	44	650
2-axle:			2	4	6	3	3	6	124
3-axle:			1	2	3	1	1	2	40
4+-axle:			3	6	9	4	4	8	194
Truck Trips (Actual Vehicles):			6	12	18	8	8	16	358
Building 1 Total Trips (Actual Vehicles)			**43**	**14**	**57**	**18**	**42**	**60**	**1,008**
Building 2 (High-Cube Cold Storage, 25%)	114.000	TSF							
Passenger Cars:			9	1	10	3	9	12	158
2-axle:			1	1	2	1	1	2	30
3-axle:			1	1	2	1	1	2	10
4+-axle:			1	2	3	1	1	2	48
Truck Trips (Actual Vehicles):			3	4	7	3	3	6	88
Building 2 (High-Cube Fulfillment, 75%)	342.000	TSF							
Passenger Cars:			28	9	37	14	36	50	600
2-4 axle:			3	1	4	2	3	5	56
5+-axle:			3	1	4	1	3	4	76
Truck Trips (Actual Vehicles):			6	2	8	3	6	9	132
Building 2 Total Trips (Actual Vehicles)			**46**	**16**	**62**	**23**	**54**	**77**	**978**
Total Passenger Cars (Building 1 + Building 2)			74	12	86	27	79	106	1,408
Total Trucks (Building 1 + Building 2)			15	18	33	14	17	31	578
Total Project Trips (Actual Vehicles)			**89**	**30**	**119**	**41**	**96**	**137**	**1,986**

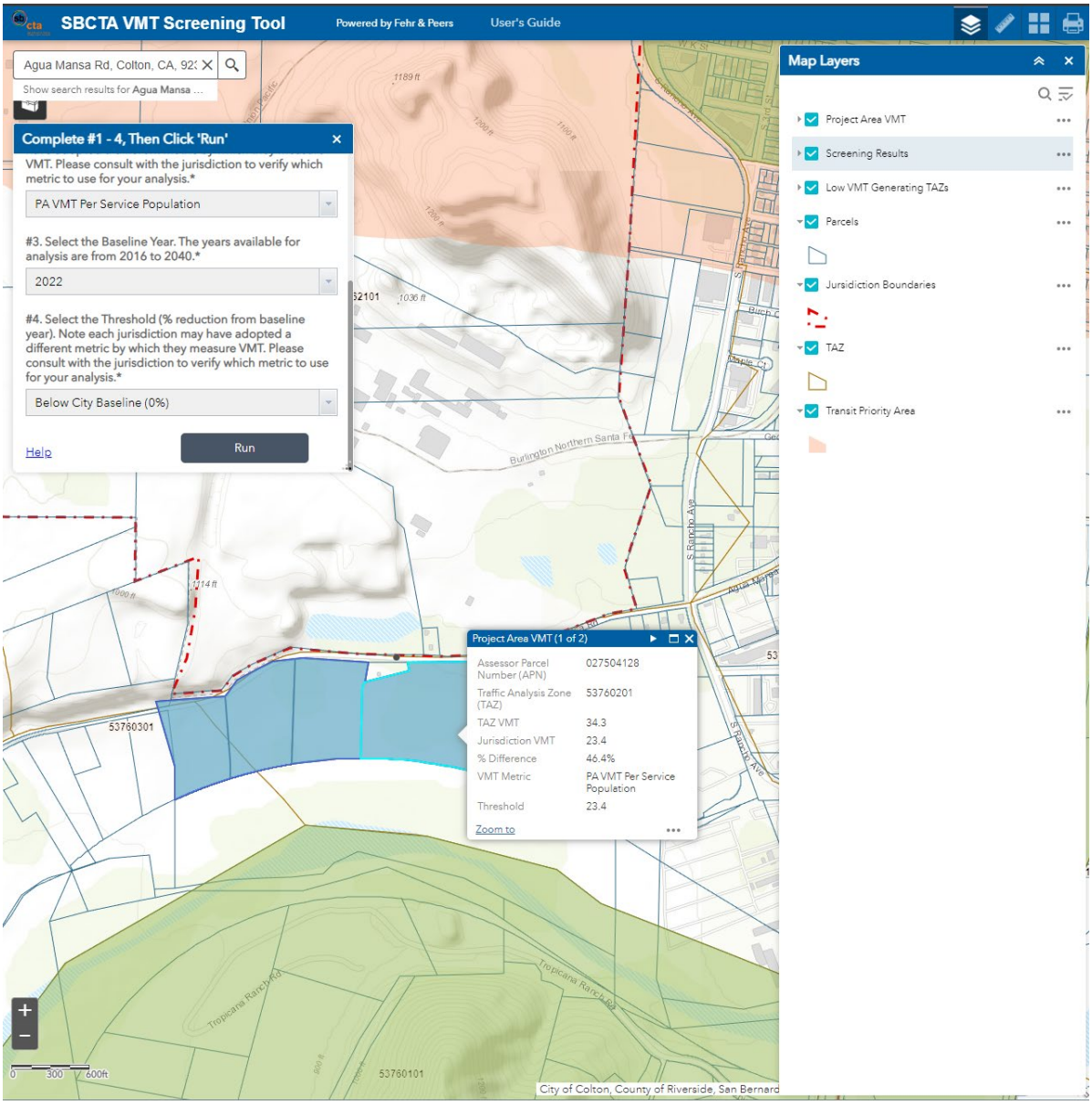
[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[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 % - 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.

ATTACHMENT B
SBCTA SCREENING TOOL


SBCTA VMT Screening Tool
Powered by Fehr & Peers
User's Guide
Agua Mansa Rd, Colton, CA, 92
Show search results for Agua Mansa ...
Complete #1 - 4, Then Click 'Run'
VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
PA VMT Per Service Population
#3. Select the Baseline Year. The years available for analysis are from 2016 to 2040.*
2022
#4. Select the Threshold (% reduction from baseline year). Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
Below City Baseline (0%)
Help
Run
Map Layers
Project Area VMT
Screening Results
Low VMT Generating TAZs
Parcels
Jurisdiction Boundaries
TAZ
Transit Priority Area
Project Area VMT (1 of 2)
Assessor Parcel Number (APN) 027504128
Traffic Analysis Zone (TAZ) 53760201
TAZ VMT 34.3
Jurisdiction VMT 23.4
% Difference 46.4%
VMT Metric PA VMT Per Service Population
Threshold 23.4
Zoom to
53760301
53760101
Tropicana Ranch Rd
S Rancho Ave
Burlington Northern Santa Fe
City of Colton, County of Riverside, San Bernard