



The Preserve at San Juan

TRAFFIC IMPACT ANALYSIS

COUNTY OF ORANGE

PREPARED BY:

John Kain, AICP
jkain@urbanxroads.com
(949) 336-5990

Marlie Whiteman, PE
mwhiteman@urbanxroads.com
(949) 336-5991

Janette Cachola
jcatchola@urbanxroads.com
(949) 336-5989

MARCH 10, 2017

TABLE OF CONTENTS

TABLE OF CONTENTS	I
APPENDICES	III
LIST OF EXHIBITS	V
LIST OF TABLES	VII
LIST OF ABBREVIATED TERMS	IX
1 INTRODUCTION	1
1.1 Study Objectives	1
1.2 Site Location.....	1
1.3 Study Area.....	1
1.4 Project Development Description.....	3
2 AREA CONDITIONS	5
2.1 Study Area.....	5
2.2 Existing Traffic Control and Intersection Geometrics	5
2.3 Existing Traffic Volumes	5
2.4 Existing (2017) Conditions Traffic Signal Warrants Analysis.....	10
2.5 Existing (2017) Conditions Intersection Operations Analysis	10
2.6 Jurisdiction Plans.....	10
3 PROJECTED FUTURE TRAFFIC	19
3.1 Traffic Forecast Methodology.....	19
3.2 Project Traffic.....	19
3.3 Other Future Traffic	21
3.4 Total Future Traffic	30
4 TRAFFIC ANALYSIS METHODOLOGIES	47
4.1 Level of Service Definition.....	47
4.2 Intersection Level of Service Criteria	47
4.3 Significant Project Impact Criteria	48
4.4 Intersection Operations Analysis Methodology	48
4.5 Traffic Signal Warrants Analysis Methodology	51
5 FUTURE CONDITIONS TRAFFIC ANALYSIS	53
5.1 Future Conditions Traffic Signal Warrant Analysis	53
5.2 Future Conditions Intersection Operations Analysis	54
5.3 Significant Project Impact Assessment	62
6 FINDINGS AND CONCLUSIONS	65
6.1 Project Trip Generation.....	65
6.2 Traffic Impacts and Level of Service.....	65
6.3 Traffic Signal Warrant Analysis Results.....	65
6.4 Circulation Recommendations.....	66
6.5 Improvement Funding Mechanisms	68
6.6 Project Fair Share Contribution	70
6.7 Significant Project Impact	72

This Page Intentionally Left Blank

APPENDICES

- APPENDIX 2.1: TRAFFIC COUNT DATA SHEETS**
- APPENDIX 2.2: EXISTING (2017) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**
- APPENDIX 2.3: EXISTING (2017) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**
- APPENDIX 5.1: EXISTING (2017) PLUS PROJECT CONDITIONS
TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**
- APPENDIX 5.2: 2020 WITHOUT PROJECT CONDITIONS
TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**
- APPENDIX 5.3: 2020 WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**
- APPENDIX 5.4: 2035 WITHOUT PROJECT CONDITIONS
TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**
- APPENDIX 5.5: 2035 WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**
- APPENDIX 5.6: EXISTING (2017) PLUS PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**
- APPENDIX 5.7: 2020 WITHOUT PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**
- APPENDIX 5.8: 2020 WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**
- APPENDIX 5.9: 2035 WITHOUT PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**
- APPENDIX 5.10: 2035 WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**
- APPENDIX 6.1: SOUTH COUNTY ROADWAY IMPROVEMENT PROGRAM (SCRIP)**
- APPENDIX 6.2: TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM**

This Page Intentionally Left Blank

LIST OF EXHIBITS

EXHIBIT 1-1: LOCATION MAP.....	2
EXHIBIT 1-2: SITE PLAN.....	4
EXHIBIT 2-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS.....	6
EXHIBIT 2-2: EXISTING (2017) AM PEAK HOUR INTERSECTION VOLUMES.....	7
EXHIBIT 2-3: EXISTING (2017) PM PEAK HOUR INTERSECTION VOLUMES.....	8
EXHIBIT 2-4: EXISTING (2017) AVERAGE DAILY TRAFFIC (ADT).....	9
EXHIBIT 2-5: COUNTY OF ORANGE MASTER PLAN OF ARTERIAL HIGHWAYS.....	12
EXHIBIT 2-6: COUNTY OF ORANGE ARTERIAL STREET CROSS-SECTIONS.....	13
EXHIBIT 2-7: COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT.....	14
EXHIBIT 2-8: COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS.....	15
EXHIBIT 2-9: CITY OF LAKE ELSINORE GENERAL PLAN CIRCULATION ELEMENT.....	16
EXHIBIT 2-10: CITY OF LAKE ELSINORE GENERAL PLAN ROADWAY CROSS-SECTIONS.....	17
EXHIBIT 3-1: NEAR TERM PROJECT TRIP DISTRIBUTION.....	22
EXHIBIT 3-2: LONG RANGE (2035) PROJECT TRIP DISTRIBUTION.....	23
EXHIBIT 3-3: PROJECT NEAR-TERM (2020) ONLY AM PEAK HOUR INTERSECTION VOLUMES.....	24
EXHIBIT 3-4: PROJECT NEAR-TERM (2020) ONLY PM PEAK HOUR INTERSECTION VOLUMES.....	25
EXHIBIT 3-5: PROJECT NEAR-TERM (2020) ONLY AVERAGE DAILY TRAFFIC (ADT).....	26
EXHIBIT 3-6: PROJECT LONG RANGE (2035) ONLY AM PEAK HOUR INTERSECTION VOLUMES.....	27
EXHIBIT 3-7: PROJECT LONG RANGE (2035) ONLY PM PEAK HOUR INTERSECTION VOLUMES.....	28
EXHIBIT 3-8: PROJECT LONG RANGE (2035) ONLY AVERAGE DAILY TRAFFIC (ADT).....	29
EXHIBIT 3-9: EXISTING PLUS PROJECT AM PEAK HOUR INTERSECTION VOLUMES.....	31
EXHIBIT 3-10: EXISTING PLUS PROJECT PM PEAK HOUR INTERSECTION VOLUMES.....	32
EXHIBIT 3-11: EXISTING PLUS PROJECT AVERAGE DAILY TRAFFIC (ADT).....	33
EXHIBIT 3-12: 2020 WITHOUT PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES.....	34
EXHIBIT 3-13: 2020 WITHOUT PROJECT CONDITIONS PM PEAK HOUR INTERSECTION VOLUMES.....	35
EXHIBIT 3-14: 2020 WITHOUT PROJECT CONDITIONS AVERAGE DAILY TRAFFIC (ADT).....	36
EXHIBIT 3-15: 2020 WITH PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES.....	37
EXHIBIT 3-16: 2020 WITH PROJECT CONDITIONS PM PEAK HOUR INTERSECTION VOLUMES.....	38
EXHIBIT 3-17: 2020 WITH PROJECT CONDITIONS AVERAGE DAILY TRAFFIC (ADT).....	39
EXHIBIT 3-18: 2035 WITHOUT PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES.....	40
EXHIBIT 3-19: 2035 WITHOUT PROJECT CONDITIONS PM PEAK HOUR INTERSECTION VOLUMES.....	41
EXHIBIT 3-20: 2035 WITHOUT PROJECT CONDITIONS AVERAGE DAILY TRAFFIC (ADT).....	42
EXHIBIT 3-21: 2035 WITH PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES.....	43
EXHIBIT 3-22: 2035 WITH PROJECT CONDITIONS PM PEAK HOUR INTERSECTION VOLUMES.....	44
EXHIBIT 3-23: 2035 WITH PROJECT CONDITIONS AVERAGE DAILY TRAFFIC (ADT).....	45
EXHIBIT 5-1: RECOMMENDED IMPROVEMENTS FOR 2035 WITHOUT PROJECT CONDITIONS.....	63

This Page Intentionally Left Blank

LIST OF TABLES

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS 1
TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS 5
TABLE 2-1: INTERSECTION ANALYSIS FOR EXISTING (2017) CONDITIONS 11
TABLE 3-1: PROJECT TRIP GENERATION SUMMARY 20
TABLE 5-1: EXISTING PLUS PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY 56
TABLE 5-2: 2020 WITHOUT PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY 57
TABLE 5-3: 2020 WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY 58
TABLE 5-4: 2035 WITHOUT PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY 60
TABLE 5-5: 2035 WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS SUMMARY 61
TABLE 5-6: ORANGE COUNTY CMP SIGNIFICANT PROJECT IMPACT SUMMARY 64
TABLE 6-1: IMPROVEMENTS AND FUNDING SOURCES..... 69
TABLE 6-2: PROJECT FAIR SHARE CALCULATIONS..... 71

This Page Intentionally Left Blank

LIST OF ABBREVIATED TERMS

ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CMP	Congestion Management Program
E+P	Existing Plus Project
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Devices
Project	The Preserve at San Juan
SCRIP	South County Roadway Improvement Program
TIA	Traffic Impact Analysis
TUMF	Transportation Uniform Mitigation Fee
WRCOG	Western Riverside Council of Governments

This Page Intentionally Left Blank

1 INTRODUCTION

This report presents the results of the traffic impact analysis (TIA) for the proposed The Preserve at San Juan development (“Project”) located west of Ortega Highway (SR-74) on the north and south sides of Long Canyon Road, which is currently named Forest Route 6S05 in the County of Orange.

1.1 STUDY OBJECTIVES

The purpose of this traffic impact analysis is to evaluate The Preserve at San Juan from a traffic circulation standpoint. Study objectives include: (1) documentation of existing traffic conditions in the vicinity of the site without and with the project; (2) evaluation of Near-Term (2017) Conditions and Long-Range (2035) Conditions without and with the project; (3) and determination of on-site and off-site improvements needed to achieve County of Orange and adjacent jurisdiction level of service requirements. This TIA has been prepared in accordance with the *City of Menifee Planning Department Traffic Impact Analysis Guidelines* (August 2015).

1.2 SITE LOCATION

The project site consists of two parcels located west of Ortega Highway (SR-74) on the north and south sides of Long Canyon Road, which is currently named Forest Route 6S05. The project site is located within unincorporated Orange County. Exhibit 1-1 illustrates the project site location.

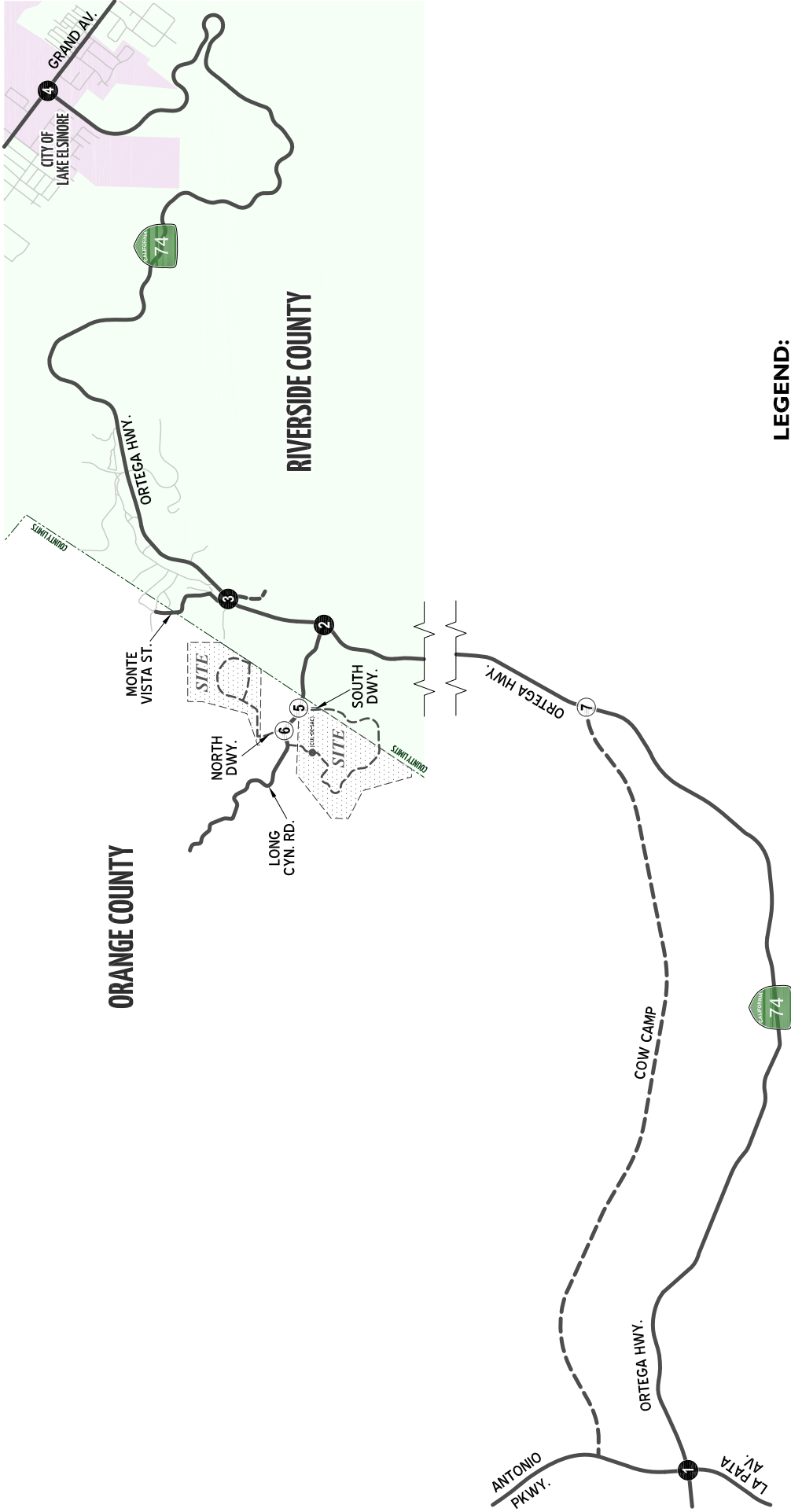
1.3 STUDY AREA

Exhibit 1-1 illustrates the project study area. Based on discussions with County staff, the study area includes the following seven (7) existing and future intersections within the noted jurisdictions:

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
1	Antonio Pkwy. - La Pata Av. (NS) / Ortega Hwy. (SR-74) (EW)	Unincorporated County of Orange
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
4	Ortega Hwy. (SR-74) (NS) / Grand Av. (EW)	City of Lake Elsinore
5	South Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
6	North Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
7	Ortega Hwy. (SR-74) (NS) / Cow Camp (EW) – Future	Unincorporated County of Orange

EXHIBIT 1-1
LOCATION MAP



LEGEND:

- ④ = EXISTING ANALYSIS LOCATION
- ③ = FUTURE ANALYSIS LOCATION
- - - = FUTURE ROADWAY / DIRT
- . - . = FUTURE TRANSPORTATION CORRIDOR



1.4 PROJECT DEVELOPMENT DESCRIPTION

1.4.1 PROJECT INTENSITY

- North Parcel: 29 single-family detached residential dwelling units
- South Parcel: 43 single-family detached residential dwelling units

In addition, the proposed project includes development of 25 to 50 acres of vineyards. Production and/or wine making facilities are not included in the proposed project. It is estimated that five (5) employees would be needed on a year-round basis (daily) to oversee the vineyard production, with peaks of up to twenty-five (25) employees needed during harvest season.

Therefore, a total of 72 single-family detached residential dwelling units and a vineyard land use with 5 employees are included in the analysis (See Exhibit 1-2).

1.4.2 EXISTING LAND USE

The project site is vacant and does not generate significant traffic. Adjacent land uses include the following:

- North – Vacant
- South – Vacant
- East – Vacant
- West – Vacant

1.4.3 SITE PLAN

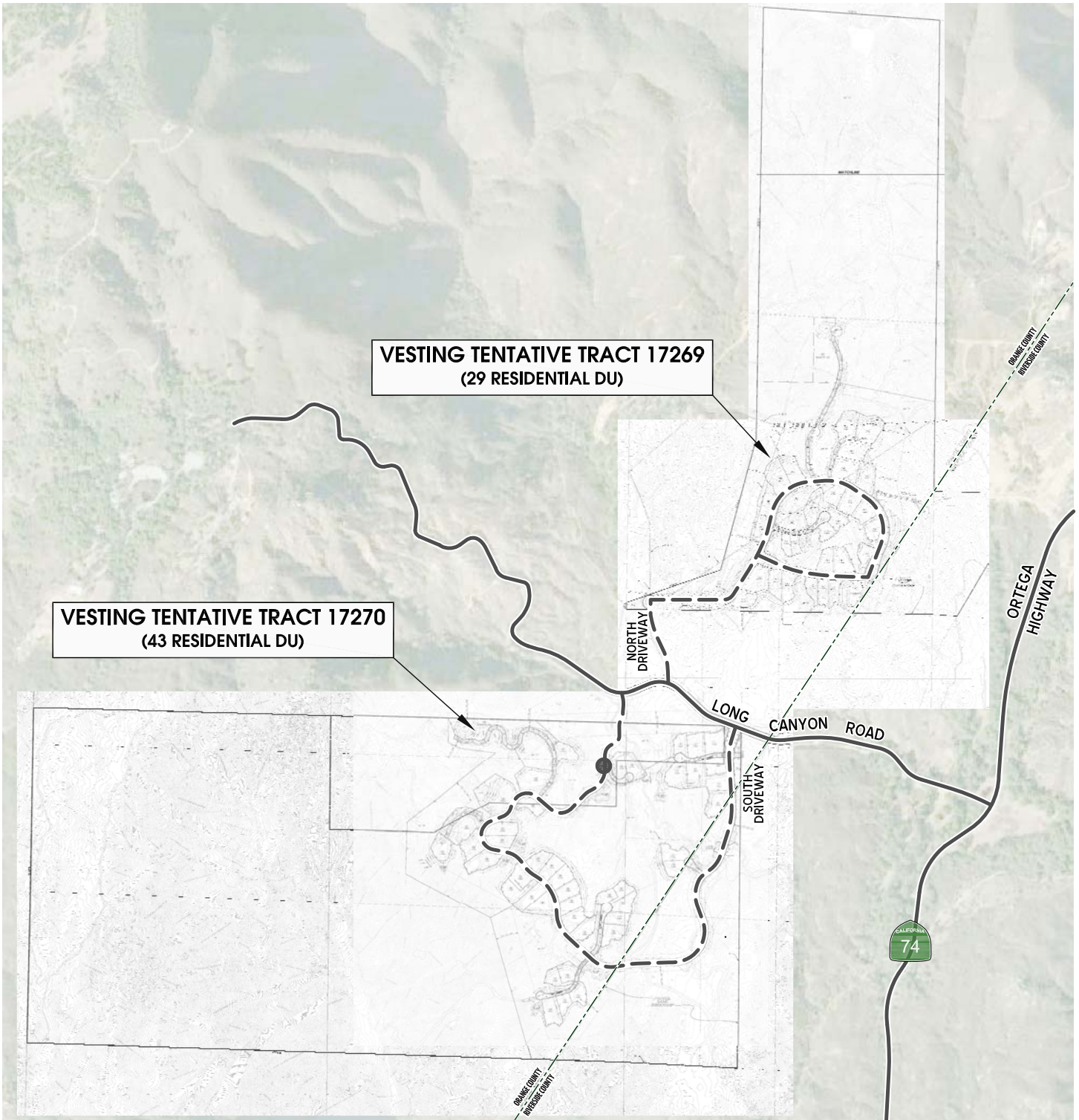
Exhibit 1-2 illustrates the conceptual site plan.

1.4.4 PHASING AND TIMING

For the purposes of this analysis, the project "Opening Year" is identified as 2020.

1.4.5 PROJECT VEHICULAR ACCESS

The proposed project, The Preserve at San Juan, will have access to Ortega Highway (SR-74) via Long Canyon Road. The North Parcel and the South Parcel will each have an access road, connecting to Long Canyon Road. Prior to the recordation of a subdivision map, the subdivider intends to request deviation to OCPW Std Plan 1109 to allow Long Canyon Rd from "A" Street to Ortega Hwy to be maintained with curb to curb width of 26' instead of the typically required 40', in a manner meeting the approval of the Manager, Traffic Engineering. Essentially, approval of this deviation would allow the existing pavement to remain, rather than requiring widening of the existing Long Canyon Road. Additional pavement for roadway widening along this segment is not necessary to provide adequate level of service. The benefits of maintaining the existing roadway width include the avoidance of increases in the impermeable surface area and less disruption of existing hydrology. It is also noteworthy that the project does not require on-street parking on this low volume access road.



2 AREA CONDITIONS

2.1 STUDY AREA

The study area includes the following seven (7) existing and future intersections as shown on previous Exhibit 1-1:

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
1	Antonio Pkwy. - La Pata Av. (NS) / Ortega Hwy. (SR-74) (EW)	Unincorporated County of Orange
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
4	Ortega Hwy. (SR-74) (NS) / Grand Av. (EW)	City of Lake Elsinore
5	South Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
6	North Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
7	Ortega Hwy. (SR-74) (NS) / Cow Camp (EW) – Future	Unincorporated County of Orange

2.2 EXISTING TRAFFIC CONTROL AND INTERSECTION GEOMETRICS

Exhibit 2-1 identifies the existing roadway conditions for the study area roadways. The number of traffic lanes for the existing roadways and the existing intersection controls are also identified. Ortega Highway (SR-74) is a two-lane undivided highway. The intersection of Ortega Highway and Long Canyon Road (currently named Forest Route 6S05) is stop-controlled on the eastbound (cross street) approach.

2.3 EXISTING TRAFFIC VOLUMES

Existing traffic volume data was collected in February, 2017. Existing (2017) AM and PM peak hour intersection volumes are shown on Exhibits 2-2 and 2-3, respectively. Traffic count data sheets are included in Appendix 2.1 of this report.

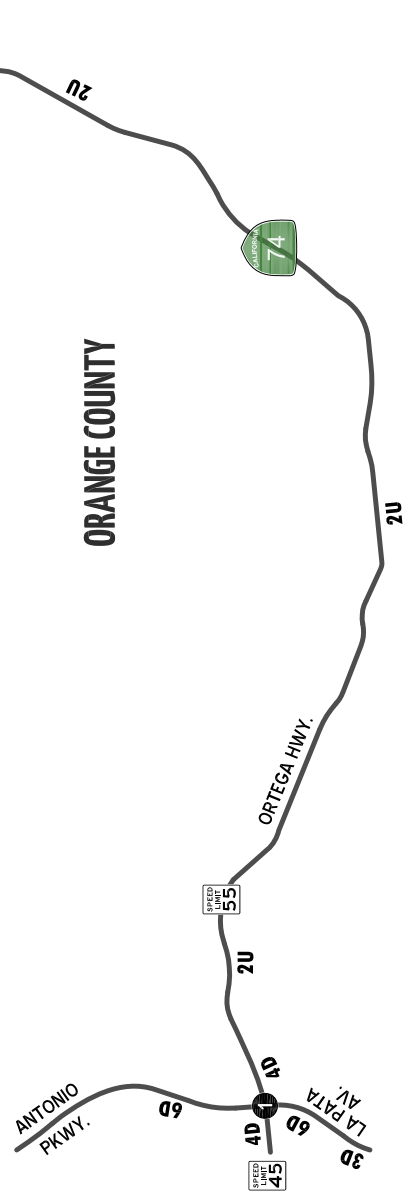
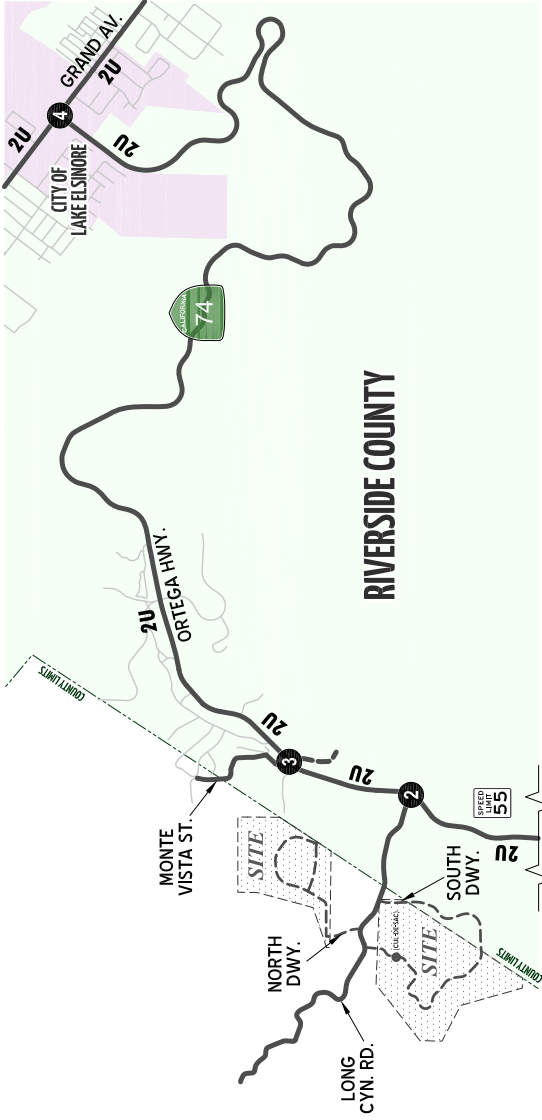
Exhibit 2-4 shows the existing ADT volumes. The ADT volumes are either based on traffic counts or have been estimated by factoring up peak hour counts. The following formula was used to estimate the daily volume for each intersection leg if daily traffic counts were not available:

$$\frac{(AM\ Peak\ Hour\ (Link\ Volume) + PM\ Peak\ Hour\ (Link\ Volume))}{AM\ Link\ Volume\ \%\ of\ Daily\ Volume + PM\ Link\ Volume\ \%\ of\ Daily\ Volume}$$

The daily traffic volume count worksheets and peak hour to daily traffic calculations are included in this report as Appendix 2.1. The resulting (combined AM and PM) ADT calculation factor is 5.263.

EXHIBIT 2-1 EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>
<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>	<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>

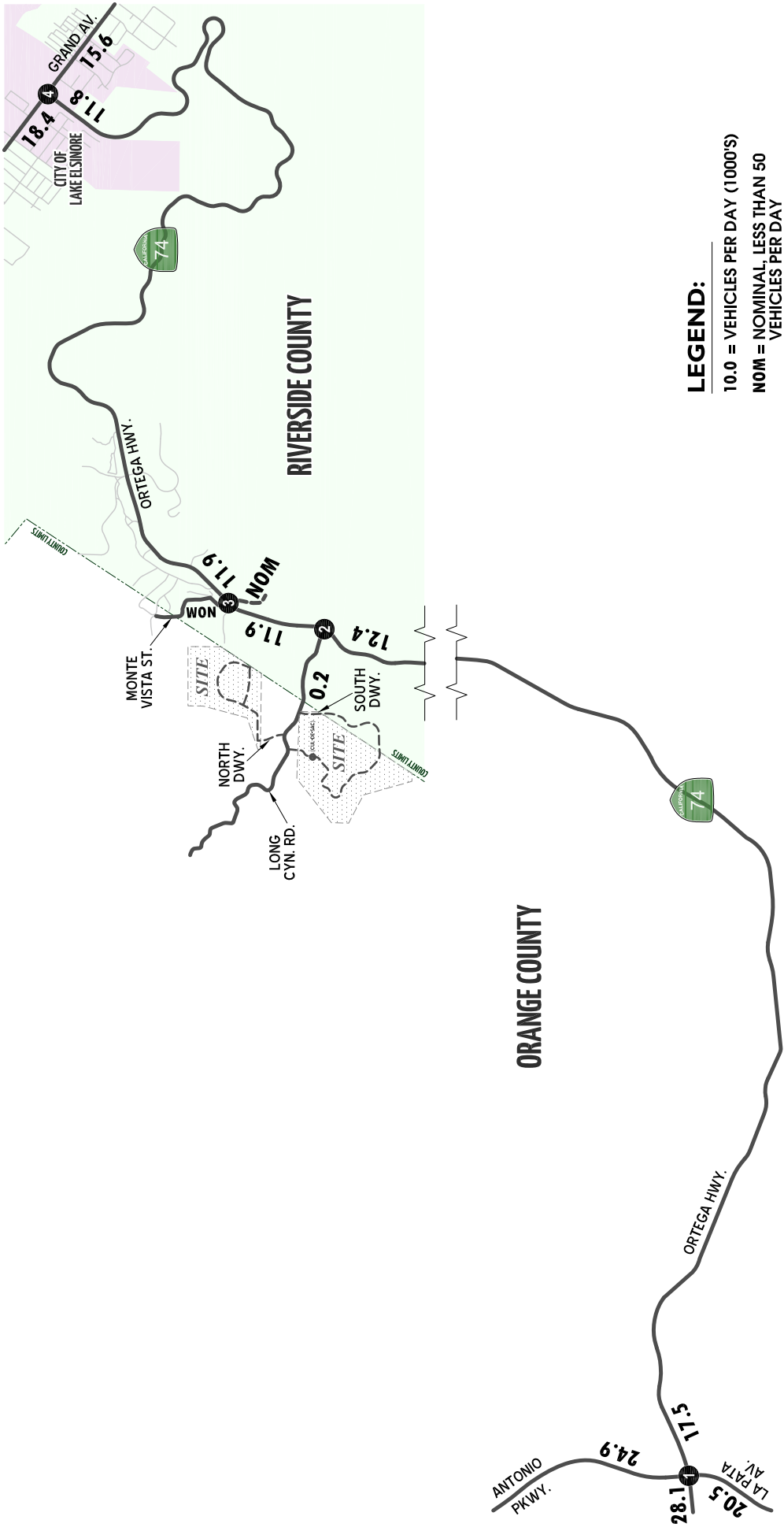


LEGEND:

- = TRAFFIC SIGNAL
- = STOP SIGN
- 4** = NUMBER OF LANES
- D** = DIVIDED
- U** = UNDIVIDED
- RTO** = RIGHT TURN OVERLAP
- = INTERSECTION ID



EXHIBIT 2-4
**EXISTING (2017)
 AVERAGE DAILY TRAFFIC (ADT)**



2.4 EXISTING (2017) CONDITIONS TRAFFIC SIGNAL WARRANTS ANALYSIS

A detailed description of the traffic signal warrant analysis methodologies is presented in subsequent Section 4.4. Based on the existing (2017) Conditions, none of the unsignalized intersections are expected to meet traffic signal warrants. The traffic signal warrant analysis worksheets for Existing (2017) Conditions are included in Appendix 2.2 of this report.

2.5 EXISTING (2017) CONDITIONS INTERSECTION OPERATIONS ANALYSIS

Existing (2017) peak hour traffic operations have been evaluated for the study area intersections. A detailed description of the methodologies for the intersection operations analysis is included in subsequent Section 4.4 of this report. For this study, the technical guide used in the evaluation of traffic operations is the 2010 Highway Capacity Manual (HCM) for all study area intersections. In addition, the Intersection Capacity Utilization (ICU) methodology is also used in the evaluation of signalized intersections within the county of Orange.

The results of an intersection operations analysis are expressed in terms of “Level of Service” (LOS), ranging from LOS “A”, which is free flowing traffic, to LOS “F”, which is stop-and-go traffic. The LOS criteria policies for the various jurisdictions, which the study area intersections are located within, are discussed in subsequent Section 4.2 of this report.

The results of this Existing (2017) analysis are summarized in Table 2-1, based on the existing intersection geometrics and traffic control devices at each analysis location. For Existing (2017) traffic conditions, the study area intersections are currently operating at acceptable levels of service during the peak hours.

Existing (2017) Conditions intersection operations analysis worksheets are included in Appendix 2.3 of this report.

2.6 JURISDICTION PLANS

Exhibit 2-5 shows the County of Orange Master Plan of Arterial Highways, and Exhibit 2-6 illustrates the County of Orange General Plan arterial street cross-sections.

Exhibit 2-7 shows the County of Riverside General Plan Circulation Element, and Exhibit 2-8 illustrates the County of Riverside General Plan arterial street cross-sections.

Exhibit 2-9 shows the City of Lake Elsinore General Plan Circulation Element, and Exhibit 2-10 illustrates the City of Lake Elsinore General Plan arterial street cross-sections.

TABLE 2-1

**EXISTING (2017) CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY**

ID	Intersection	Traffic Control ⁵	Intersection Approach Lanes ¹												Weekday Peak Hour						LOS Criteria
			Northbound			Southbound			Eastbound			Westbound			ICU ²		HCM ³		LOS ⁴		
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	
1	Antonio Parkway (NS) at: • Ortega Hwy. (SR-74) (EW)	TS	2	3	1	1	3	2>	2	2	1	1	2	1	0.656	0.606	43.2	29.1	D	C	D
2	Ortega Hwy. (SR-74) (NS) at: • Long Canyon Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	18.3	27.1	C	D	D
3	Ortega Hwy. (SR-74) (NS) at: • Monte Vista St. (EW) ⁶	CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	17.9	23.7	C	C	D
4	Ortega Hwy. (SR-74) (NS) at: • Grand Ave. (EW)	TS	2	0	1>	0	0	0	0	1	2>	1	1	0	n/a	n/a	14.3	28.2	B	C	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

² Volume/Capacity Ratio and Level of Service calculated using the TRAFFIX operation analysis software, Traffix Version 8.0 R1 (2008), based on the Intersection Capacity Utilization (ICU) method.

³ Delay (in seconds) and Level of Service calculated using Synchro 9 analysis software based on the 2010 Highway Capacity Manual (HCM) method.

⁴ LOS = Level of Service based on HCM methodology.

⁵ TS = Traffic Signal; CSS = Cross Street Stop

⁶ No "Stop" sign was installed for any of the approaches at the time field reconnaissance was performed for this intersection.

However, for analysis purposes, a cross-street stop has been assumed for the eastbound / westbound approaches of this intersection.

EXHIBIT 2-5
ORANGE COUNTY
MASTER PLAN OF ARTERIAL HIGHWAYS

LEGEND

ARTERIAL HIGHWAYS

CONSTRUCTED ROADWAYS**	UNCONSTRUCTED ROADWAYS**	PRINCIPAL
MAJOR	MAJOR	PRIMARY
SECONDARY	SECONDARY	DIVIDED COLLECTOR
COLLECTOR	COLLECTOR	

ROADS OUTSIDE OF OC SHOWN FOR CONTINUITY

FREEWAY / TOLL ROAD

SMART STREET 8 LANE

SMART STREET 6 LANE

SMART STREET 4 LANE

EXISTING INTERCHANGE

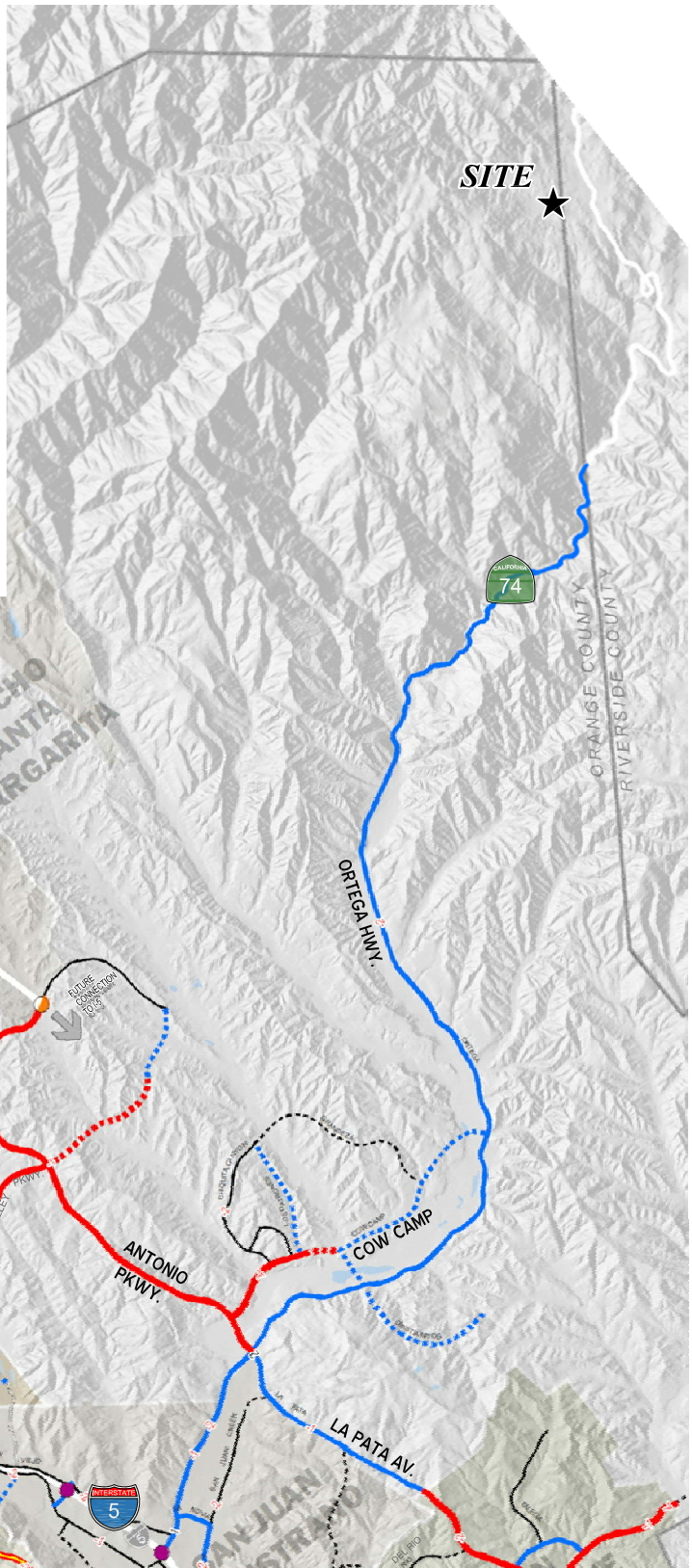
PROPOSED INTERCHANGE

RIGHT-OF-WAY RESERVE

* Figures show lane difference between MPAH classification and constructed lines. Red label indicates roadway segment is underbuilt to MPAH classification. Black label indicates overbuilt segments.
 ** Unconstructed roadway alignments may not be finalized.
 NOTE: Freeways / Toll Roads shown for reference purposes only.

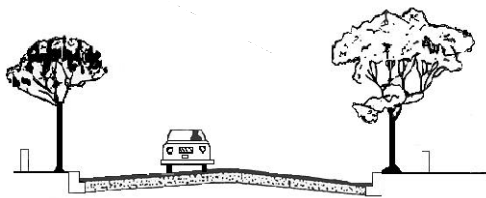
CLASSIFICATION

PRINCIPAL
8 Lane Divided Roadway
Accommodates 45,000 to 60,000 ADT
MAJOR
6 Lane Divided Roadway
Accommodates 30,000 to 45,000 ADT
PRIMARY
4 Lane Divided Roadway
Accommodates 20,000 to 30,000 ADT
SECONDARY
4 Lane Undivided Roadway
Accommodates 10,000 to 20,000 ADT
DIVIDED COLLECTOR
2 Lane Divided Roadway
Accommodates 9,000 to 15,000 ADT
COLLECTOR
2 Lane Undivided Roadway
Accommodates 7,500 to 10,000 ADT

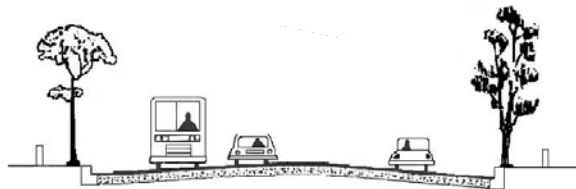


SOURCE: OCTA 2017 Master Plan of Arterial Highways

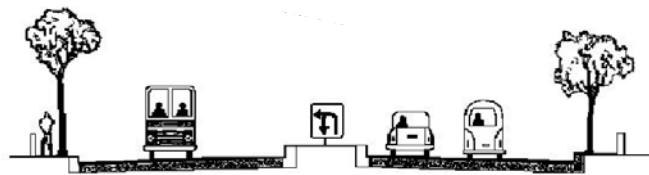
COUNTY OF ORANGE GENERAL PLAN ROADWAY CROSS-SECTIONS



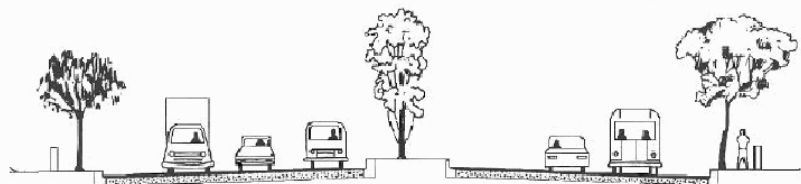
COLLECTOR - 56'
(2 LANES UNDIVIDED)



SECONDARY - 80'
(4 LANES UNDIVIDED)



PRIMARY - 100'
(4 LANES DIVIDED)

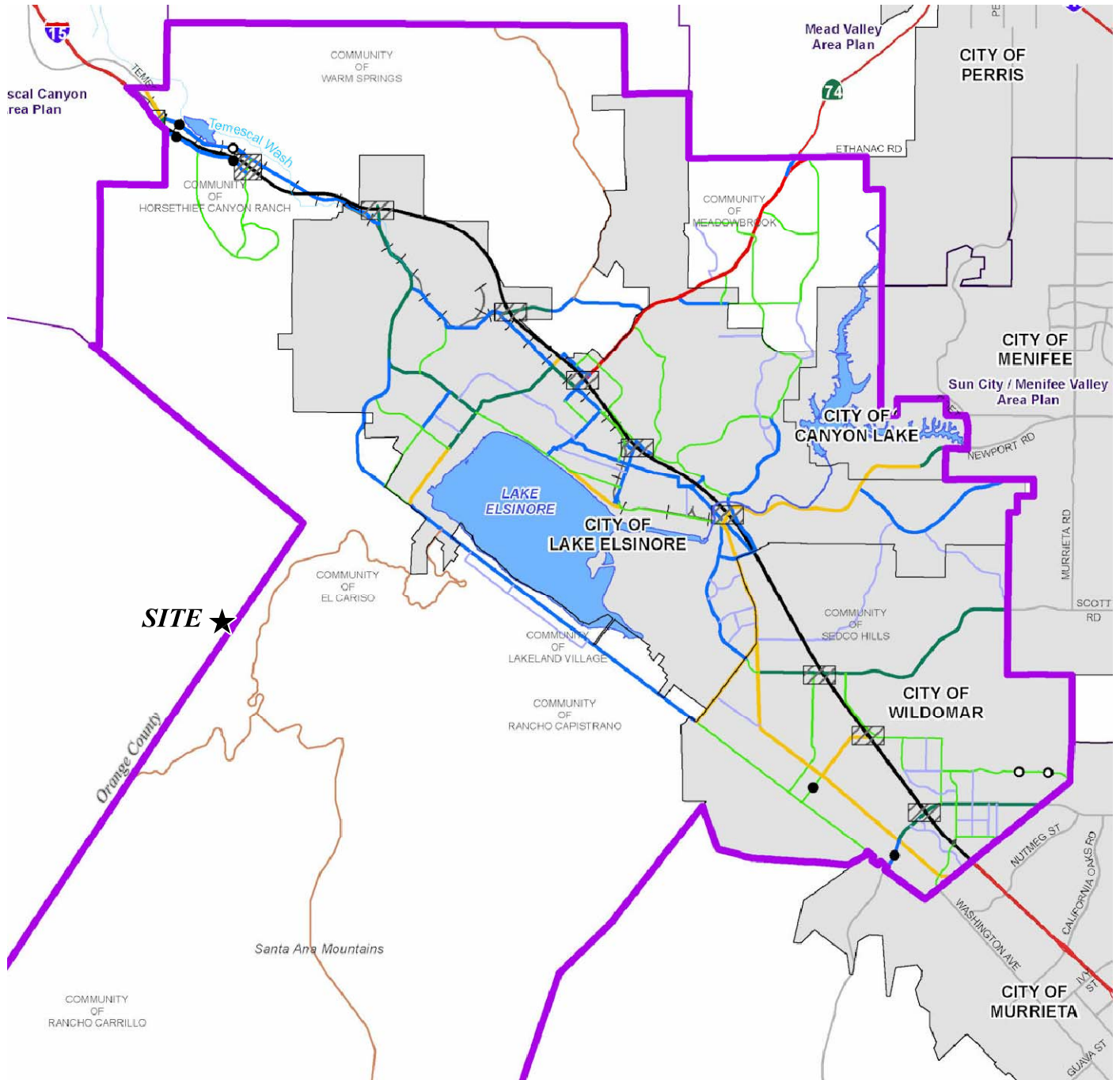


MAJOR - 120'
(6 LANES DIVIDED)



PRINCIPAL - 144'
(8 LANES DIVIDED)

EXHIBIT 2-7
**COUNTY OF RIVERSIDE
 GENERAL PLAN CIRCULATION ELEMENT**



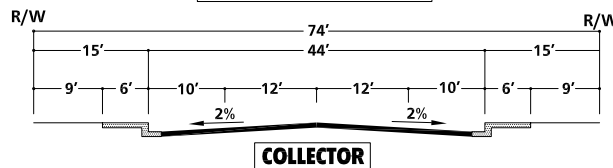
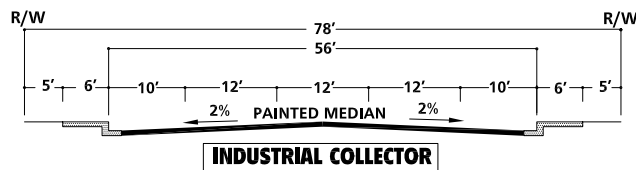
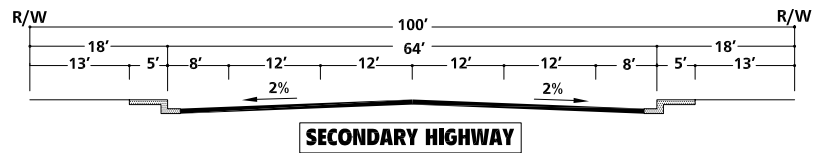
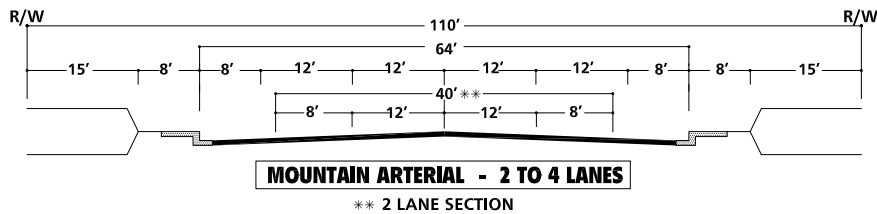
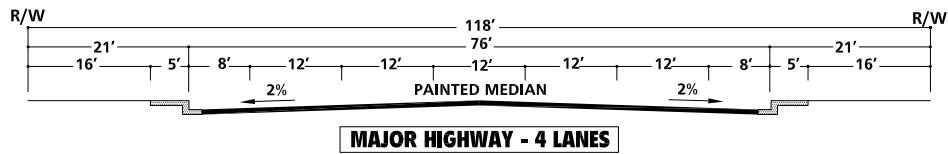
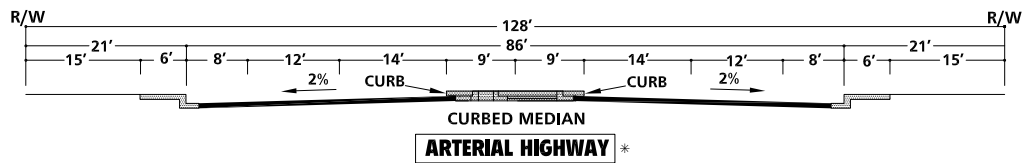
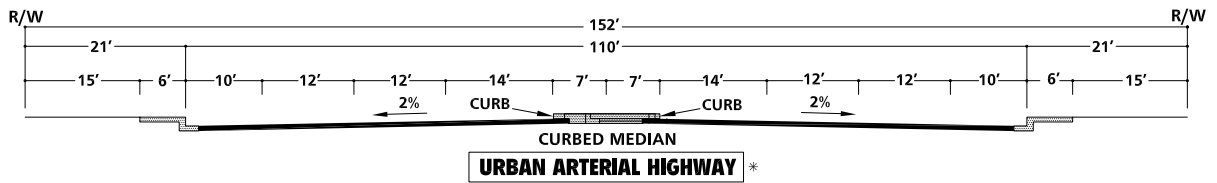
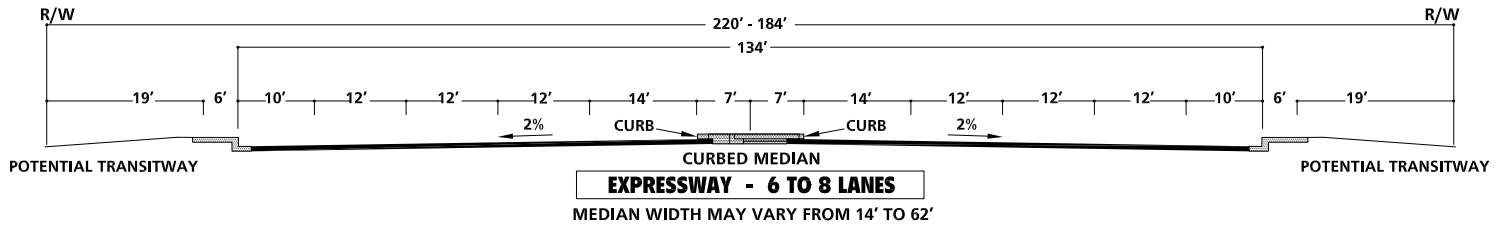
SOURCE: Riverside County Integration Project (RCIP - 12/2015)

- | | | |
|-----------------------------------|----------------------|--------------------|
| Freeway (Variable ROW) | Existing Interchange | Railroads Amended |
| Expressway (128' to 220' ROW) | Proposed Interchange | Highways |
| Urban Arterial (152' ROW) | Existing Bridge | Area Plan Boundary |
| Arterial (128' ROW) | Proposed Bridge | City Boundary |
| Major (118' ROW) | Waterbodies | |
| Secondary (100' ROW) | | |
| Mountain Arterial 2 Ln (110' ROW) | | |
| Collector (74' ROW) | | |



EXHIBIT 2-8

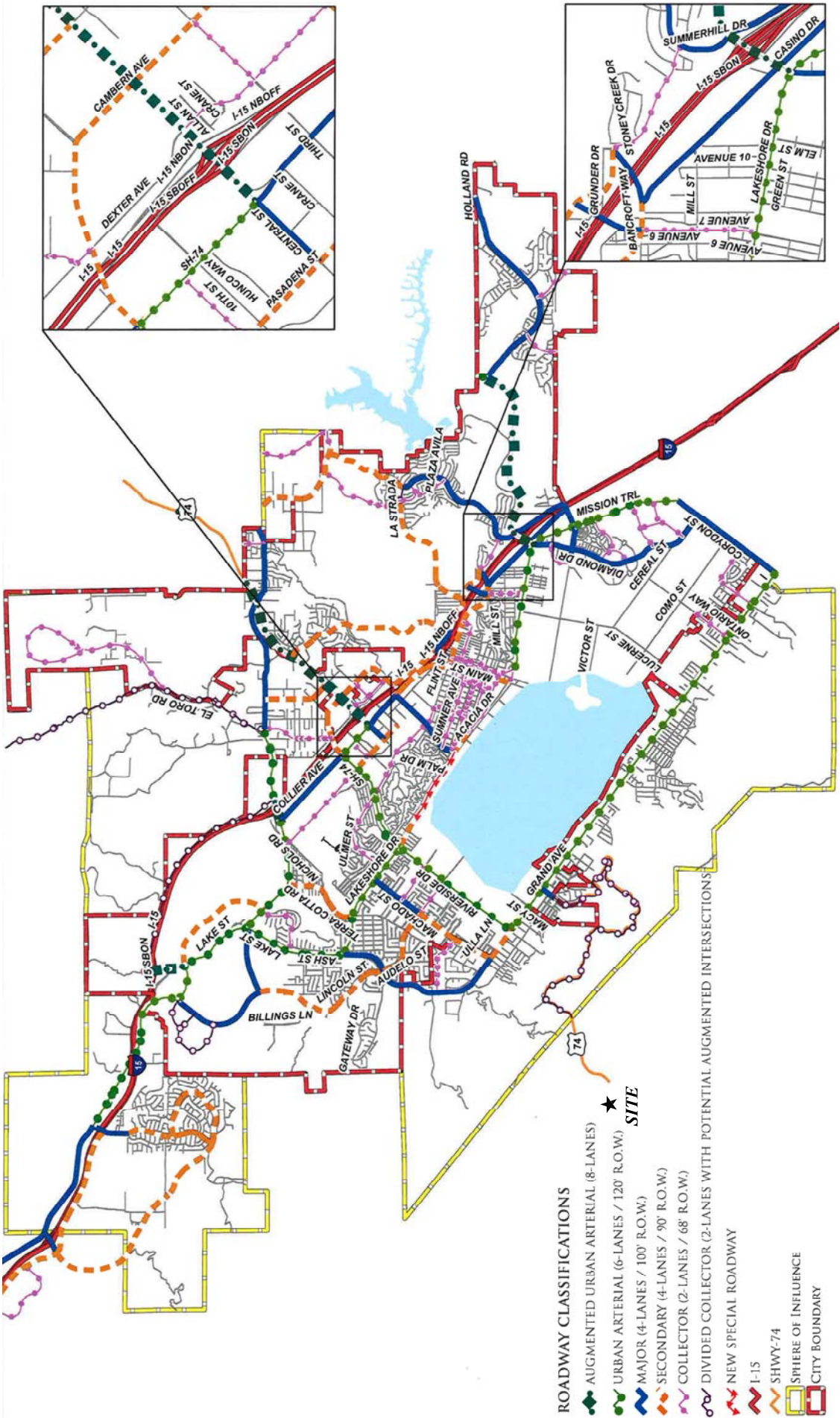
COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS



SOURCE: COUNTY OF RIVERSIDE

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

EXHIBIT 2-9
**CITY OF LAKE ELSINORE
 GENERAL PLAN CIRCULATION ELEMENT**

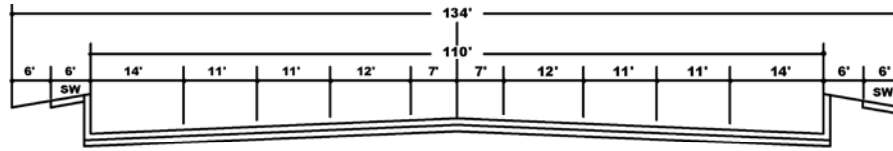


SOURCE: CITY OF LAKE ELSINORE GENERAL PLAN (ADOPTED 12-13-2011)

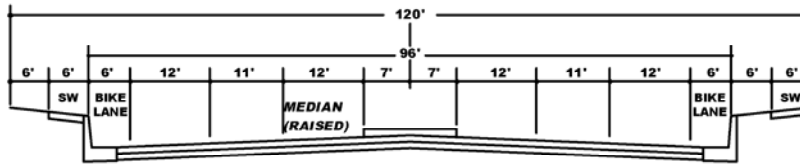


The Preserve at San Juan Traffic Impact Analysis
 County of Orange, CA (JN - 10784:10)

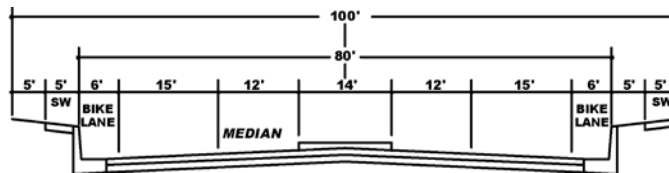
CITY OF LAKE ELSINORE GENERAL PLAN ROADWAY CROSS-SECTIONS



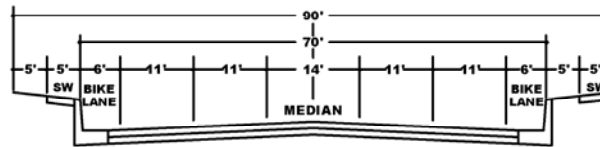
AUGMENTED URBAN ARTERIAL - STATE HIGHWAY
(8-LANE)



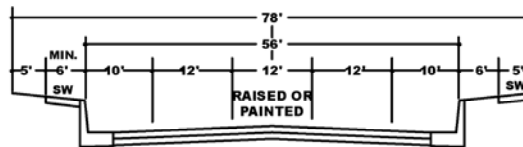
URBAN ARTERIAL HIGHWAY
(6-LANE)



MAJOR HIGHWAY
(4-LANE)

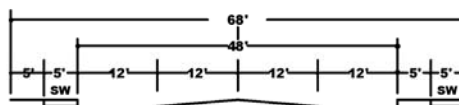


SECONDARY HIGHWAY
(4-LANE)

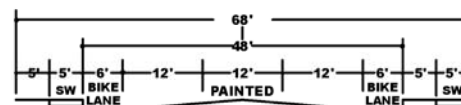


DIVIDED COLLECTOR
(2-LANE)

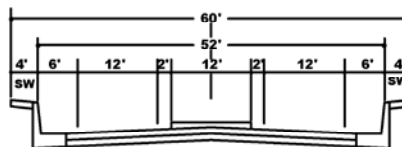
BIKES USE SHOULDER



COLLECTOR HIGHWAY
(4-LANE)



COLLECTOR HIGHWAY
(2-LANE)



NEW SPECIAL ROADWAY
(2-LANE)

SHOULDER/BIKE LANE

(PROPOSED FOR LAKESHORE DRIVE IN THE COUNTRY CLUB HEIGHT DISTRICT)

* BIKE LANES ARE NOT MANDATORY UNLESS SHOWN ON THE BIKEWAY CIRCULATION ELEMENT PLAN
PRECISE SIDEWALK LOCATION SUBJECT TO CITY ENGINEER APPROVAL
NOTE: CHECK THE DISTRICT PLAN OF YOUR AREA FOR ANY REQUIRED SPECIAL ROADWAY CROSS-SECTION,
ESPECIALLY THE LAKE EDGE AND COUNTRY CLUB HEIGHTS DISTRICT PLANS.
STRIPING OF COLLECTOR HIGHWAY AS DIRECTED BY CITY ENGINEER.

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

This Page Intentionally Left Blank

3 PROJECTED FUTURE TRAFFIC

3.1 TRAFFIC FORECAST METHODOLOGY

To assess future traffic conditions, project traffic is combined with existing traffic, ambient growth, and traffic from other surrounding developments. For Existing plus Project conditions, projected future traffic is represented by the sum of existing (2017) traffic and project traffic. For long-range 2035 Conditions, the future traffic forecast is based on the Orange County Traffic Analysis Model (OCTAM) and the Lake Elsinore version of the Riverside County Transportation Analysis Model (RIVTAM). For near-term conditions, the 2020 background traffic is estimated based on interpolation between estimated 2017 traffic and long-range 2035 traffic. This section discusses how projected future traffic from these various sources has been determined.

3.2 PROJECT TRAFFIC

3.2.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is attracted to and produced by a development. The traffic generation for the project is based upon the specific land uses which have been planned for these developments.

As stated previously, the applicant owns the two parcels located on north and south sides of Long Canyon Road. The following land use scenarios have been evaluated for the project:

- North Parcel: 29 single-family detached residential dwelling units
- South Parcel: 43 single-family detached residential dwelling units
- Vineyard with 5 employees

For the purposes of this traffic analysis, a total of 72 single-family detached residential dwelling units and a vineyard land use with 5 employees are included in the analysis.

Trip generation rates and resulting calculations for this project are shown in Table 3-1. The trip generation rates are based upon published data in the Institute of Transportation Engineers (ITE) *Trip Generation Manual (9th Edition)*. As shown on Table 3-1, the proposed project is expected to generate a total of 690 daily trips with 55 AM peak hour trips and 73 PM peak hour trips.

3.2.2 PROJECT TRIP DISTRIBUTION

Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of commercial, employment and recreational opportunities and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating existing and proposed land uses and highways within the study area, and existing traffic volumes.

**TABLE 3-1
PROJECT TRIP GENERATION SUMMARY
WITH ANCILLARY VINEYARD EMPLOYMENT**

Land Use		Proposed Quantity ¹	Peak Hour						Daily	
			AM			PM				
			In	Out	Total	In	Out	Total		
ITE Code ²	TRIP GENERATION RATES									
210	Single Family Detached Residential	72 DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52	
n/a	Vineyard ³	5 EMP	0.23	0.03	0.25	0.04	0.22	0.25	1.00	
TRIP GENERATION RESULTS										
Single Family Detached Residential		72 DU	14	40	54	45	27	72	685	
Vineyard		5 EMP	1	0	1	0	1	1	5	
TOTAL PROJECT TRIPS			15	40	55	45	28	73	690	

¹ DU = Dwelling Unit; TSF = Thousand Square Feet

² Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 9th Edition (2012).

³ Rates derived from the traffic impact study for the Silver Rose Winery and Resort Project. The Silver Rose Winery and Resort project utilizes a measured daily rate of 3 trips per employee for a full production winery facility. For the purpose of this report, a weekday average of 1.0 trip per employee is assumed since the Project's vineyard use does not include a production/wine tasting facility and employment activity for vineyard maintenance occurs at irregular intervals.

The near-term 2020 trip distribution patterns for the project are graphically depicted on Exhibit 3-1. The long-range 2035 trip distribution patterns for the project are graphically depicted on Exhibit 3-2, with the SR-241 Toll Road anticipated to extend southerly beyond Ortega Highway, including an interchange at a future roadway named Cow Camp.

3.2.3 MODAL SPLIT

The traffic-reducing potential of public transit has not been considered in this report. Essentially the traffic projections are "conservative" in that public transit might be able to reduce the traffic volumes.

3.2.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the project site to the adjoining roadway system has been based upon the project's trip generation and trip distribution, and the proposed arterial highway and local street systems which would be in place by the time of the development's opening.

Project Near-Term (2020) Traffic

Based on the identified project traffic generation and near-term (2020) distribution, project-only near-term (2020) AM and PM peak hour intersection turning movement volumes are illustrated on Exhibits 3-3 and 3-4, respectively. The project-only near-term (2020) average daily traffic (ADT) volumes are shown on Exhibit 3-5.

Project Long-Range (2035) Traffic

Based on the identified project traffic generation and long-range (2035) distribution, project-only long-range (2035) AM and PM peak hour intersection turning movement volumes are illustrated on Exhibits 3-6 and 3-7, respectively. The project-only long-range (2035) average daily traffic (ADT) volumes are shown on Exhibit 3-8.

3.3 OTHER FUTURE TRAFFIC

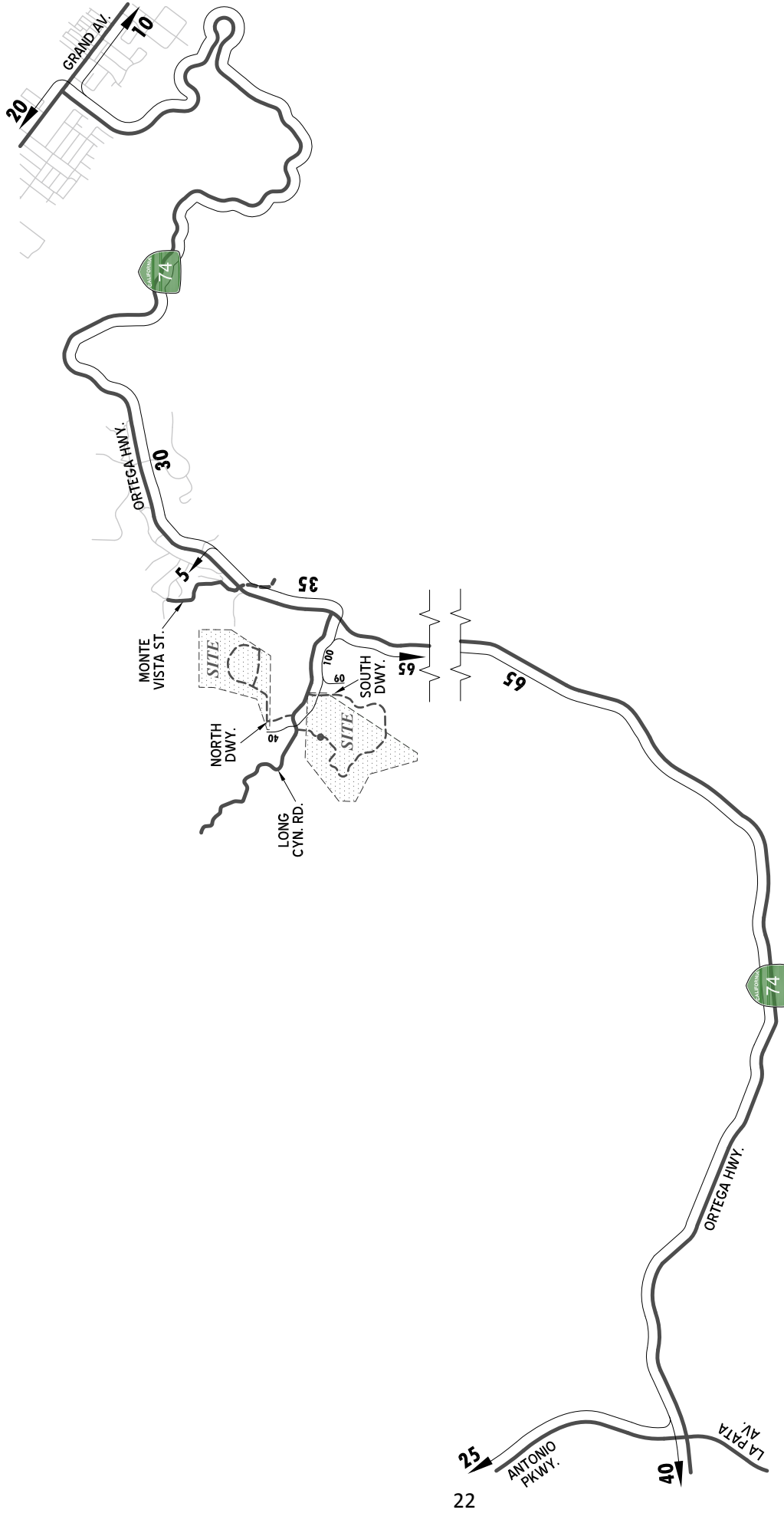
The long-range 2035 traffic conditions presented in this analysis were developed using the Orange County Traffic Analysis Model (OCTAM) and the Lake Elsinore version of the Riverside County Transportation Analysis Model (RIVTAM).

The future peak hour forecasts used in the traffic analyses were refined using the long-range traffic forecasts, along with existing peak hour traffic count data collected at intersection analysis locations. The traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. The initial estimate of the future peak hour turning movements has, therefore, been reviewed for reasonableness. The reasonableness checks performed include a review of traffic flow conservation in addition to a comparison with the existing actual counted volume. Where necessary, the initial raw model estimates have been adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes.

For near-term conditions, the 2020 background traffic is estimated based on an interpolation between existing (2017) traffic and long-range 2035 traffic.

NEAR-TERM PROJECT TRIP DISTRIBUTION

EXHIBIT 3-1



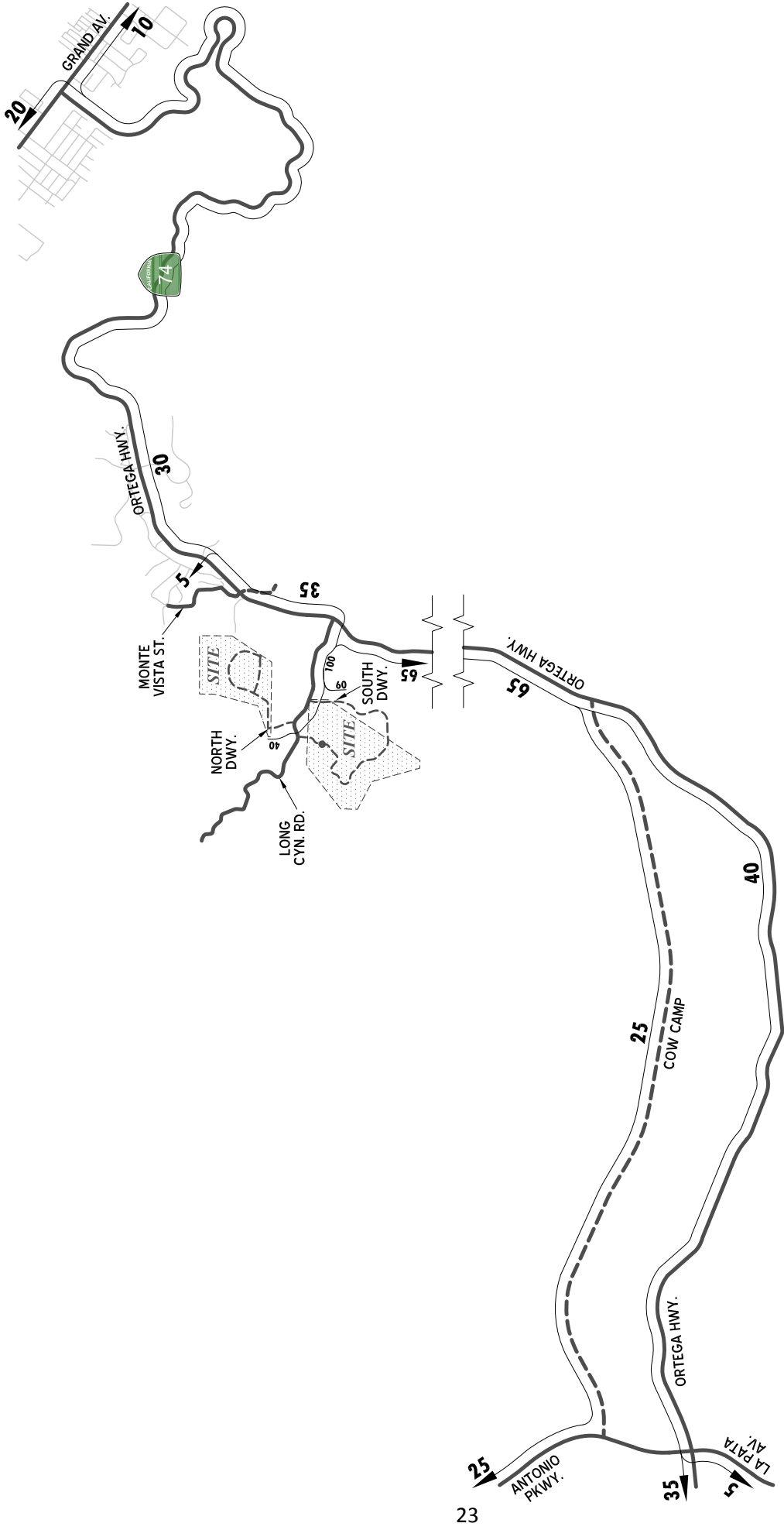
LEGEND:

10 - PERCENT TO/FROM PROJECT



LONG RANGE (2035) PROJECT TRIP DISTRIBUTION

EXHIBIT 3-2



LEGEND:

10 - PERCENT TO/FROM PROJECT



EXHIBIT 3-3 PROJECT NEAR-TERM (2020) ONLY AM PEAK HOUR INTERSECTION VOLUMES

1 Antonio Pkwy. & Ortega Hwy. (SR-74) 	2 Ortega Hwy. (SR-74) & Long Cyn. Rd. 	3 Ortega Hwy. (SR-74) & Monte Vista St.
4 Ortega Hwy. (SR-74) & Grand Av. 	5 North Dwy. & Long Cyn. Rd. 	6 South Dwy. & Long Cyn. Rd.

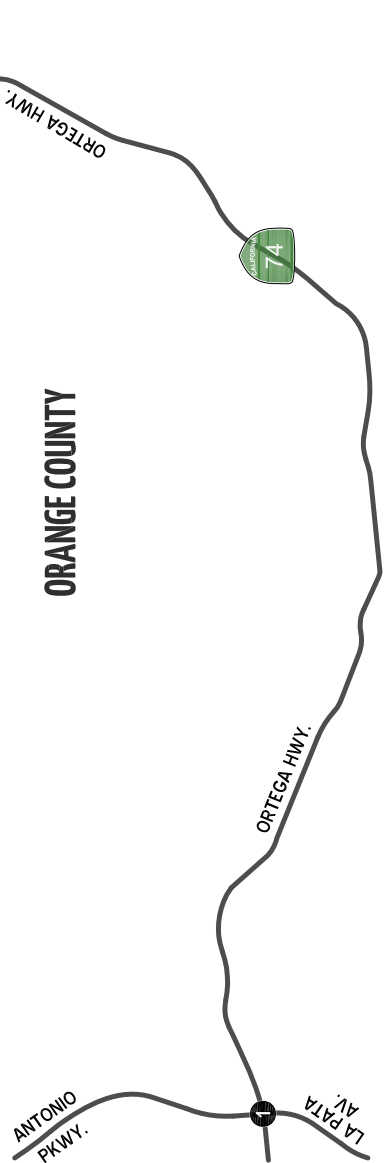


EXHIBIT 3-4 PROJECT NEAR-TERM (2020) ONLY PM PEAK HOUR INTERSECTION VOLUMES

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>	<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>
<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>	<p>5 South Dwy. & Long Cyn. Rd.</p>	<p>6 North Dwy. & Long Cyn. Rd.</p>

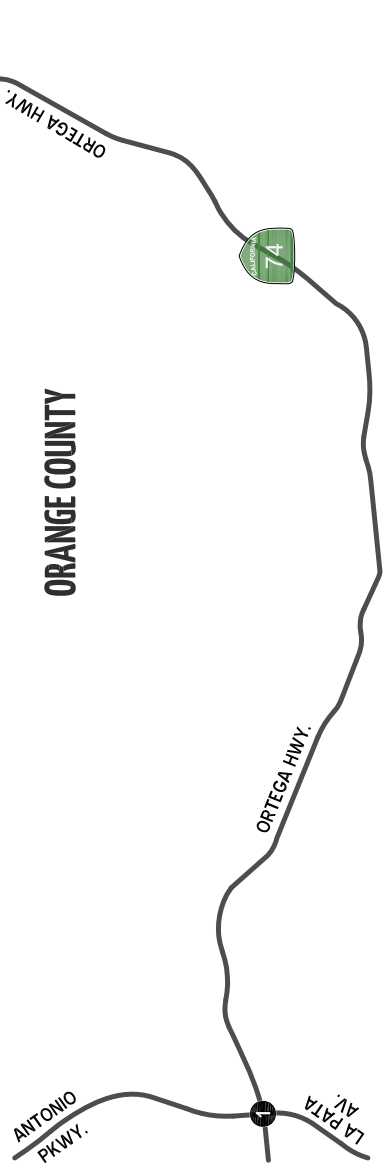
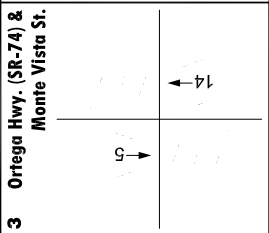
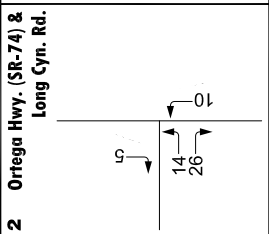
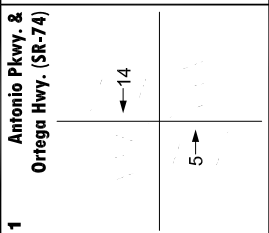

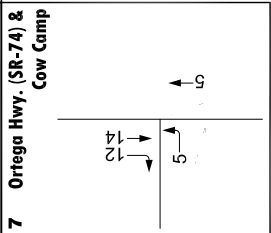
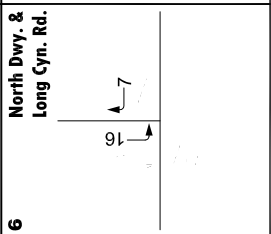
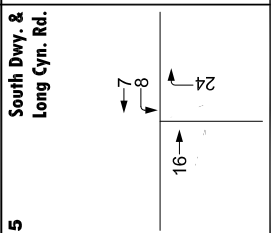


EXHIBIT 3-6
PROJECT LONG RANGE (2035) ONLY
AM PEAK HOUR INTERSECTION VOLUMES

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p> 	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p> 	<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p> 	<p>4 Ortega Hwy. (SR-74) & Grand Av.</p> 
<p>5 South Dwy. & Long Cyn. Rd.</p> 	<p>6 North Dwy. & Long Cyn. Rd.</p> 	<p>7 Ortega Hwy. (SR-74) & Cow Camp</p> 	

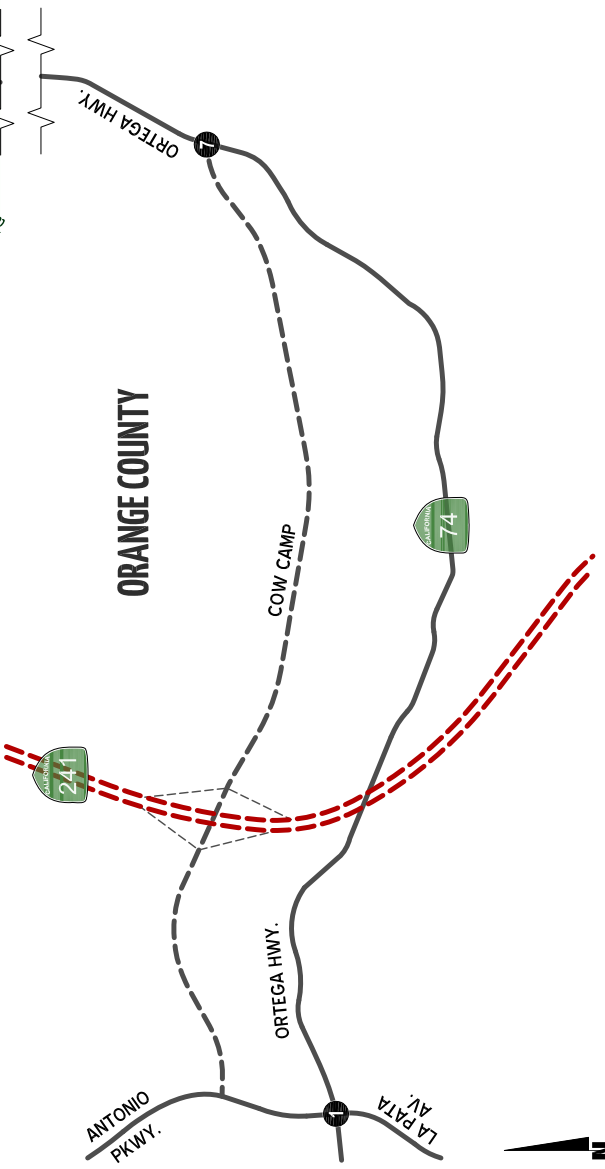
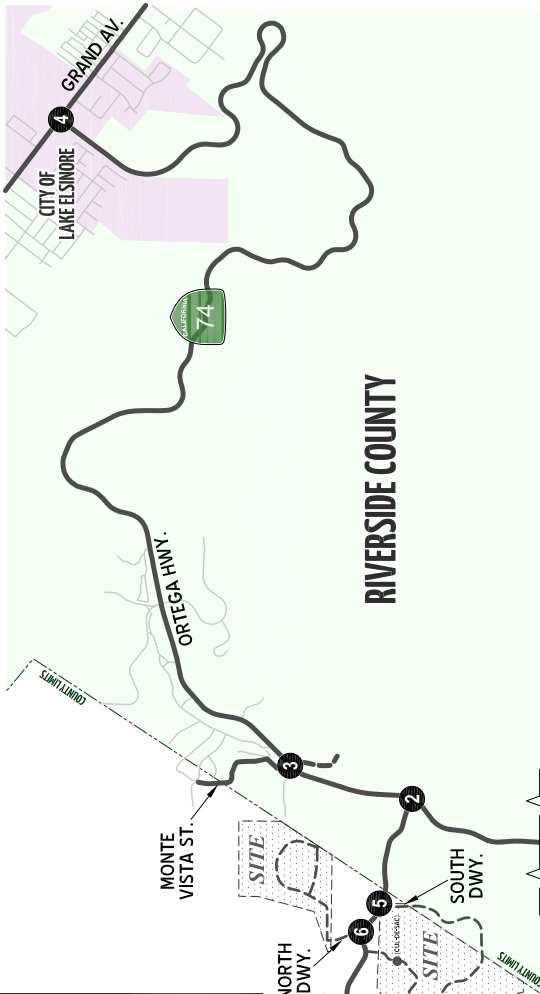
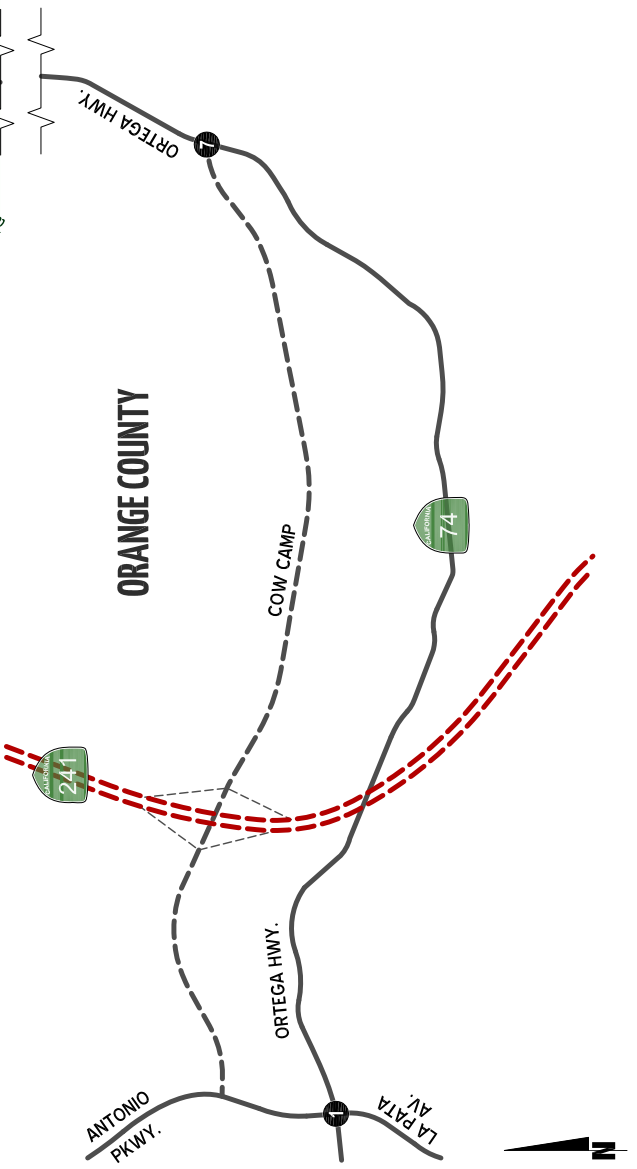
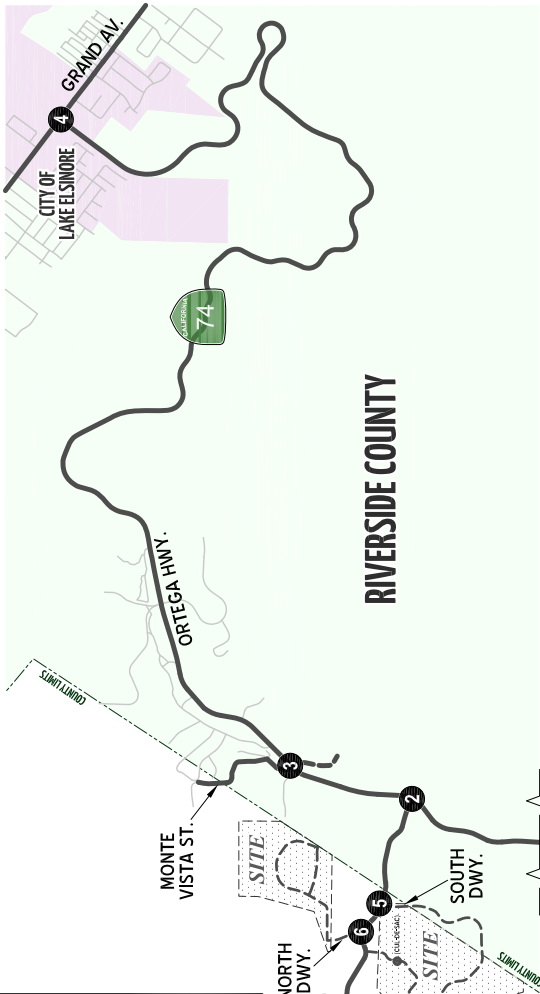


EXHIBIT 3-7 PROJECT LONG RANGE (2035) ONLY PM PEAK HOUR INTERSECTION VOLUMES

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>	<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>	<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>
<p>5 South Dwy. & Long Cyn. Rd.</p>	<p>6 North Dwy. & Long Cyn. Rd.</p>	<p>7 Ortega Hwy. (SR-74) & Cow Camp</p>	



3.4 TOTAL FUTURE TRAFFIC

This analysis assesses the following future traffic conditions:

- Existing (2017) Plus Project Conditions
- 2020 Without Project Conditions
- 2020 With Project Conditions
- 2035 Without Project Conditions
- 2035 With Project Conditions

3.4.1 EXISTING (2017) PLUS PROJECT TRAFFIC

Existing (2017) Plus Project Conditions AM and PM peak hour intersection volumes are shown on Exhibits 3-9 and 3-10, respectively. Average daily traffic (ADT) volumes for Existing (2017) Plus Project Conditions are presented in Exhibit 3-11.

3.4.2 2020 WITHOUT PROJECT TRAFFIC

2020 Without Project Conditions AM and PM peak hour intersection volumes are shown on Exhibits 3-12 and 3-13, respectively. Average daily traffic (ADT) volumes for 2020 Without Project Conditions are presented in Exhibit 3-14.

3.4.3 2020 WITH PROJECT TRAFFIC

2020 With Project Conditions AM and PM peak hour intersection volumes are shown on Exhibits 3-15 and 3-16, respectively. Average daily traffic (ADT) volumes for 2020 With Project Conditions are presented in Exhibit 3-17.

3.4.4 2035 WITHOUT PROJECT TRAFFIC

2035 Without Project Conditions AM and PM peak hour intersection volumes are shown on Exhibits 3-18 and 3-19, respectively. Average daily traffic (ADT) volumes for 2035 Without Project Conditions are presented in Exhibit 3-20.

3.4.5 2035 WITH PROJECT TRAFFIC

2035 With Project Conditions AM and PM peak hour intersection volumes are shown on Exhibits 3-21 and 3-22, respectively. Average daily traffic (ADT) volumes for 2035 With Project Conditions are presented in Exhibit 3-23.

EXHIBIT 3-10 EXISTING PLUS PROJECT PM PEAK HOUR INTERSECTION VOLUMES

1 Antonio Pkwy. & Ortega Hwy. (SR-74)	2 Ortega Hwy. (SR-74) & Long Cyn. Rd.	3 Ortega Hwy. (SR-74) & Monte Vista St.																																													
<table border="1"> <tr> <td>← 142</td> <td>← 345</td> <td>← 35</td> </tr> <tr> <td>← 341</td> <td>← 394</td> <td>← 28</td> </tr> <tr> <td>← 28</td> <td>← 28</td> <td>← 28</td> </tr> <tr> <td>← 347</td> <td>← 347</td> <td>← 347</td> </tr> <tr> <td>← 880</td> <td>← 880</td> <td>← 880</td> </tr> <tr> <td>← 267</td> <td>← 267</td> <td>← 267</td> </tr> <tr> <td>← 300</td> <td>← 300</td> <td>← 300</td> </tr> <tr> <td>← 448</td> <td>← 448</td> <td>← 448</td> </tr> <tr> <td>← 108</td> <td>← 108</td> <td>← 108</td> </tr> </table>	← 142	← 345	← 35	← 341	← 394	← 28	← 28	← 28	← 28	← 347	← 347	← 347	← 880	← 880	← 880	← 267	← 267	← 267	← 300	← 300	← 300	← 448	← 448	← 448	← 108	← 108	← 108	<table border="1"> <tr> <td>← 17</td> <td>← 18</td> </tr> <tr> <td>← 32</td> <td>← 26</td> </tr> <tr> <td>← 1244</td> <td>← 29</td> </tr> </table>	← 17	← 18	← 32	← 26	← 1244	← 29	<table border="1"> <tr> <td>← 132</td> <td>← 0</td> <td>← 0</td> </tr> <tr> <td>← 0</td> <td>← 0</td> <td>← 0</td> </tr> <tr> <td>← 1</td> <td>← 1</td> <td>← 1</td> </tr> <tr> <td>← 1283</td> <td>← 0</td> <td>← 0</td> </tr> </table>	← 132	← 0	← 0	← 0	← 0	← 0	← 1	← 1	← 1	← 1283	← 0	← 0
← 142	← 345	← 35																																													
← 341	← 394	← 28																																													
← 28	← 28	← 28																																													
← 347	← 347	← 347																																													
← 880	← 880	← 880																																													
← 267	← 267	← 267																																													
← 300	← 300	← 300																																													
← 448	← 448	← 448																																													
← 108	← 108	← 108																																													
← 17	← 18																																														
← 32	← 26																																														
← 1244	← 29																																														
← 132	← 0	← 0																																													
← 0	← 0	← 0																																													
← 1	← 1	← 1																																													
← 1283	← 0	← 0																																													
4 Ortega Hwy. (SR-74) & Grand Av.	5 South Dwy. & Long Cyn. Rd.	6 North Dwy. & Long Cyn. Rd.																																													
<table border="1"> <tr> <td>← 458</td> <td>← 47</td> </tr> <tr> <td>← 717</td> <td>← 483</td> </tr> <tr> <td>← 589</td> <td>← 105</td> </tr> </table>	← 458	← 47	← 717	← 483	← 589	← 105	<table border="1"> <tr> <td>← 19</td> <td>← 27</td> </tr> <tr> <td>← 42</td> <td>← 0</td> </tr> <tr> <td>← 10</td> <td>← 30</td> </tr> </table>	← 19	← 27	← 42	← 0	← 10	← 30	<table border="1"> <tr> <td>← 18</td> <td>← 1</td> </tr> <tr> <td>← 0</td> <td>← 12</td> </tr> <tr> <td>← 0</td> <td>← 30</td> </tr> </table>	← 18	← 1	← 0	← 12	← 0	← 30																											
← 458	← 47																																														
← 717	← 483																																														
← 589	← 105																																														
← 19	← 27																																														
← 42	← 0																																														
← 10	← 30																																														
← 18	← 1																																														
← 0	← 12																																														
← 0	← 30																																														

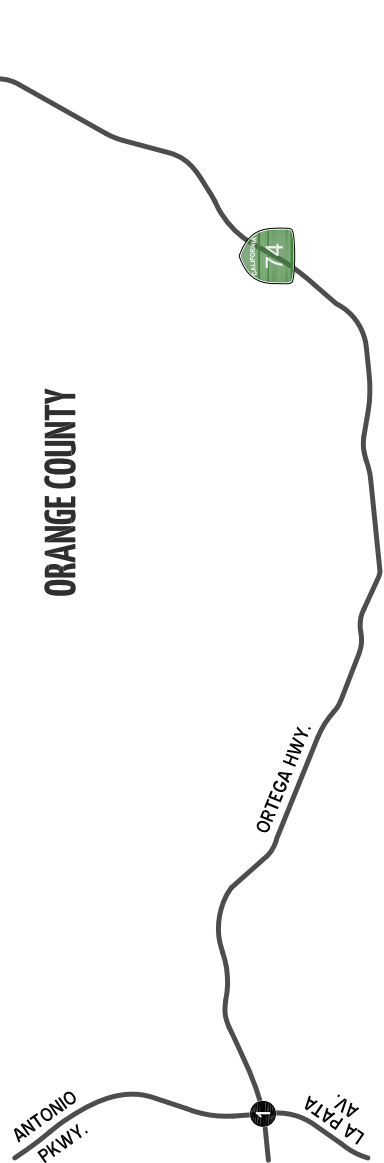


EXHIBIT 3-11
**EXISTING PLUS PROJECT
 AVERAGE DAILY TRAFFIC (ADT)**

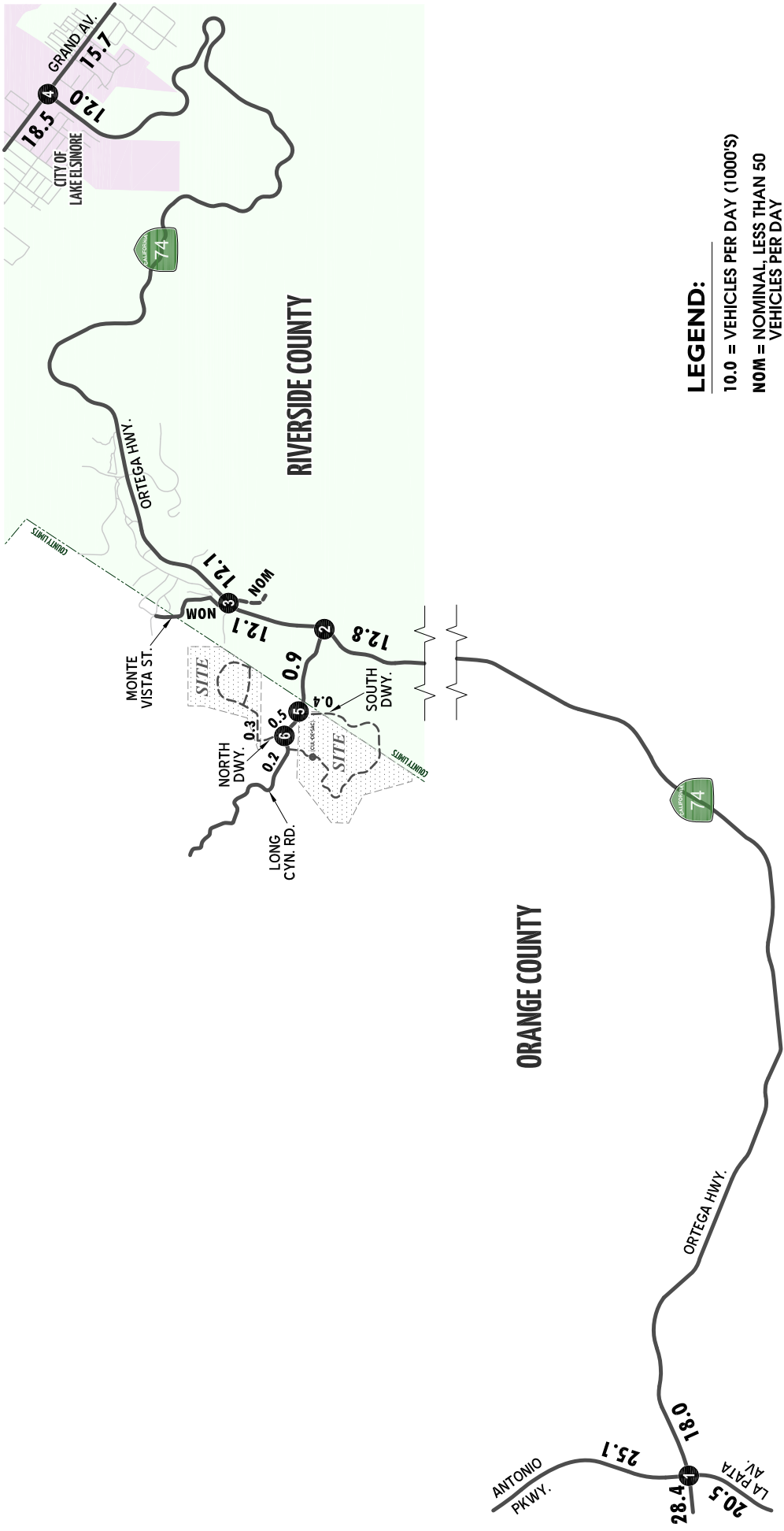


EXHIBIT 3-12 2020 WITHOUT PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>
<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>	<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>

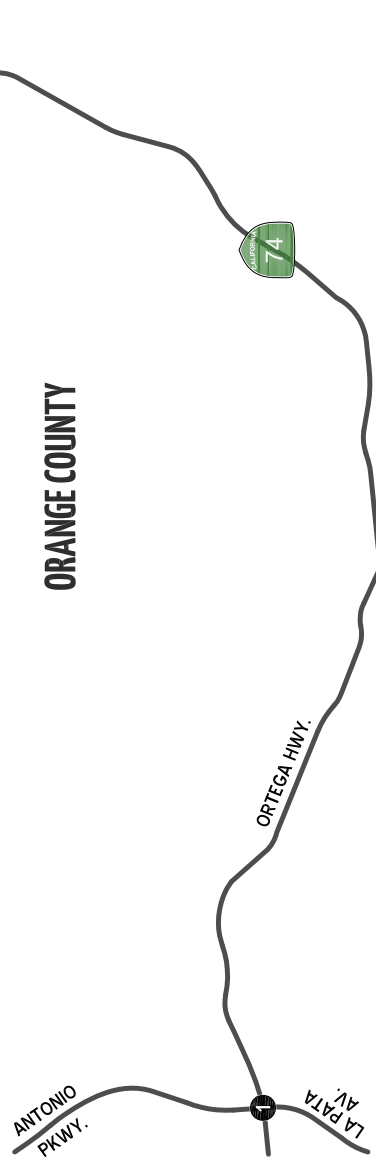
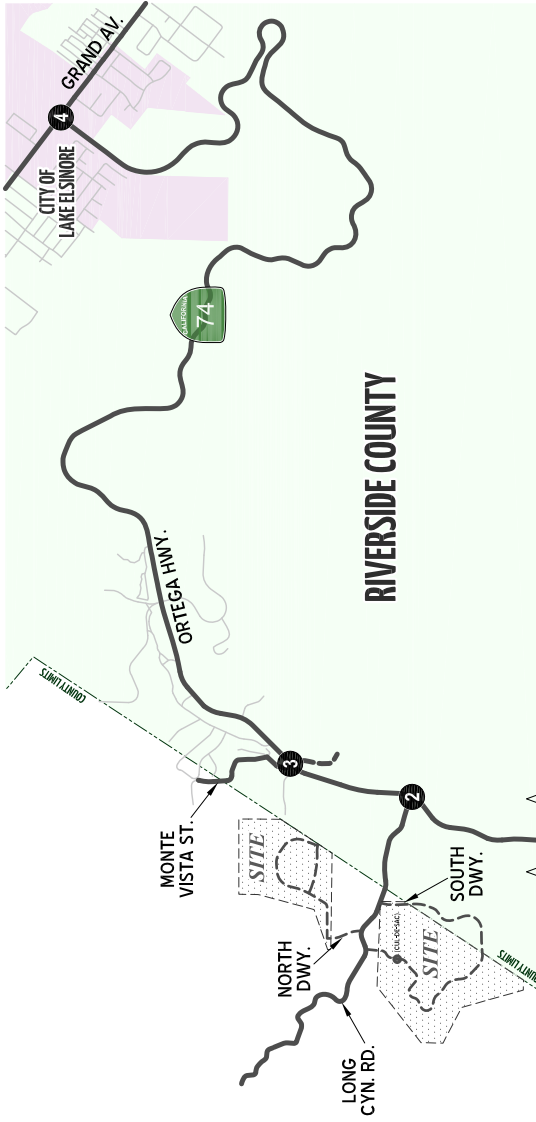
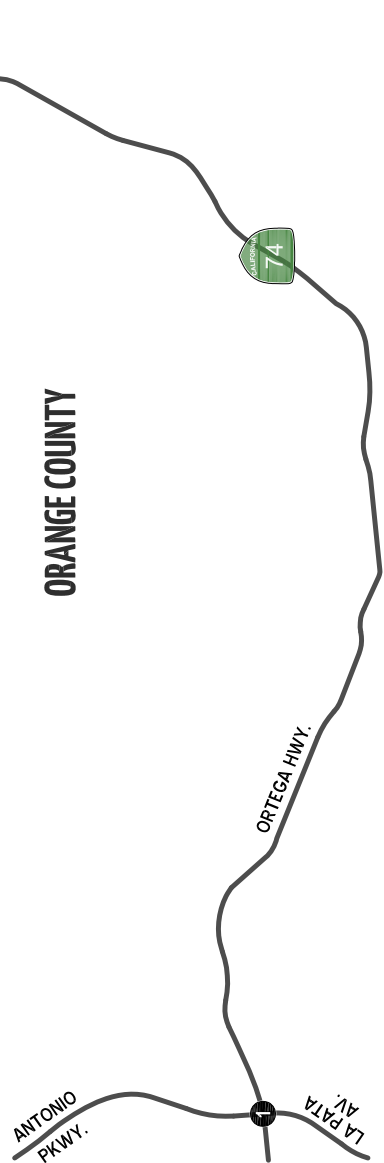
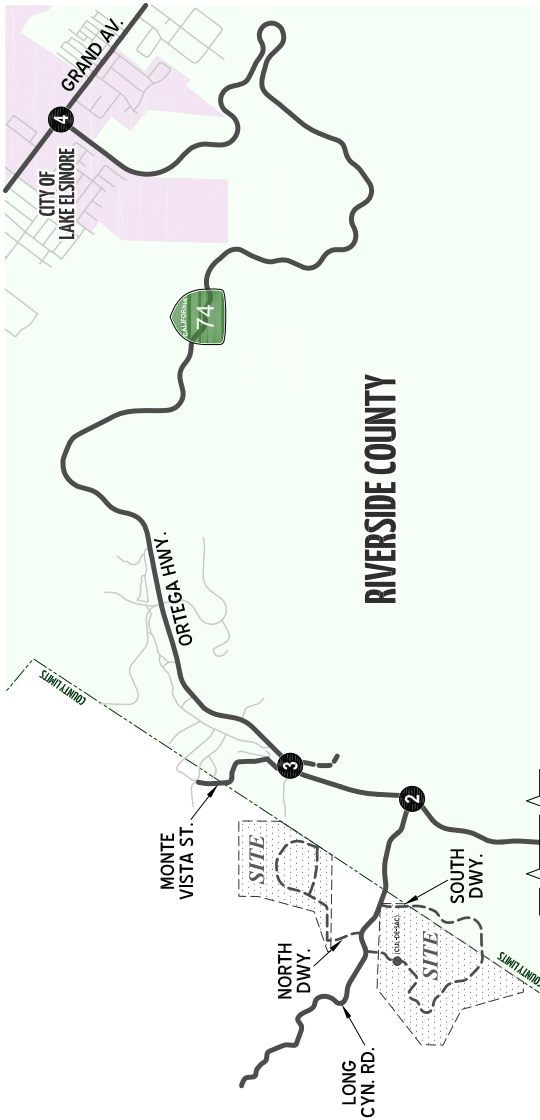


EXHIBIT 3-13 2020 WITHOUT PROJECT CONDITIONS PM PEAK HOUR INTERSECTION VOLUMES

1 Antonio Pkwy. & Ortega Hwy. (SR-74)	← 137 ← 339 ← 38	← 33 ← 47 ← 42 ← 35	← 363 ← 876 ← 301	← 1290 ← 0 ← 135
	← 14 ← 329 ← 17	← 437 ← 472 ← 35	← 301 ← 876 ← 363	← 135 ← 0 ← 0
2 Ortega Hwy. (SR-74) & Long Cyn. Rd.	← 22 ← 8	← 1290 ← 0 ← 135	← 137 ← 339 ← 38	← 33 ← 47 ← 42 ← 35
	← 665 ← 114	← 524 ← 46	← 14 ← 329 ← 17	← 437 ← 472 ← 35
3 Ortega Hwy. (SR-74) & Monte Vista St.	← 0 ← 0	← 0 ← 0	← 0 ← 0	← 0 ← 0
	← 1 ← 0 ← 1	← 1310 ← 30 ← 0	← 35 ← 0 ← 0	← 0 ← 0 ← 0
4 Ortega Hwy. (SR-74) & Grand Av.	← 665 ← 114	← 524 ← 46	← 14 ← 329 ← 17	← 437 ← 472 ← 35
	← 760 ← 488	← 1310 ← 30 ← 0	← 35 ← 0 ← 0	← 0 ← 0 ← 0



The Preserve at San Juan Traffic Impact Analysis
County of Orange, CA (JN - 10784:03 - volumes)



EXHIBIT 3-14 2020 WITHOUT PROJECT CONDITIONS AVERAGE DAILY TRAFFIC (ADT)

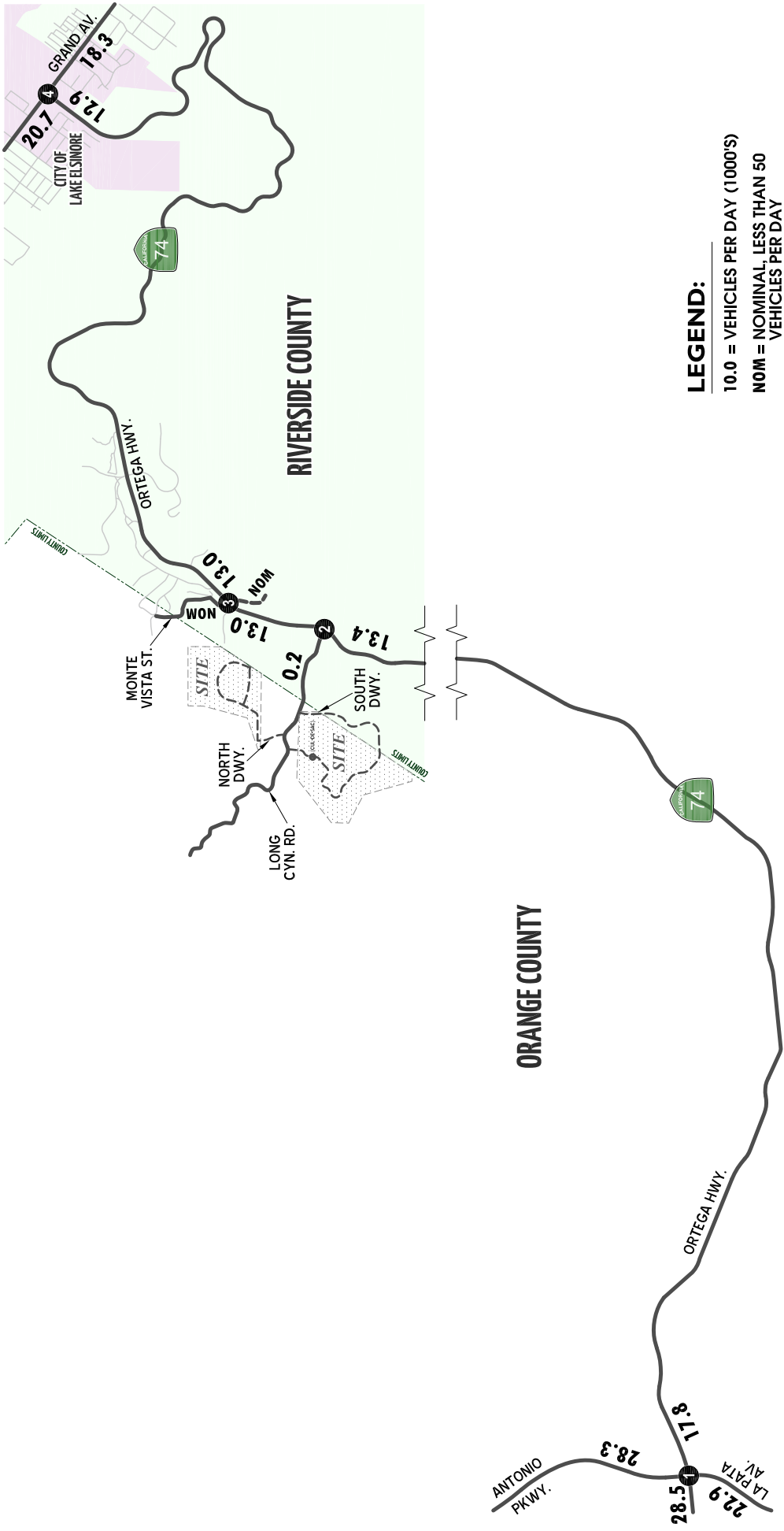


EXHIBIT 3-15 2020 WITH PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>	<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>
<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>	<p>5 North Dwy. & Long Cyn. Rd.</p>	<p>6 South Dwy. & Long Cyn. Rd.</p>

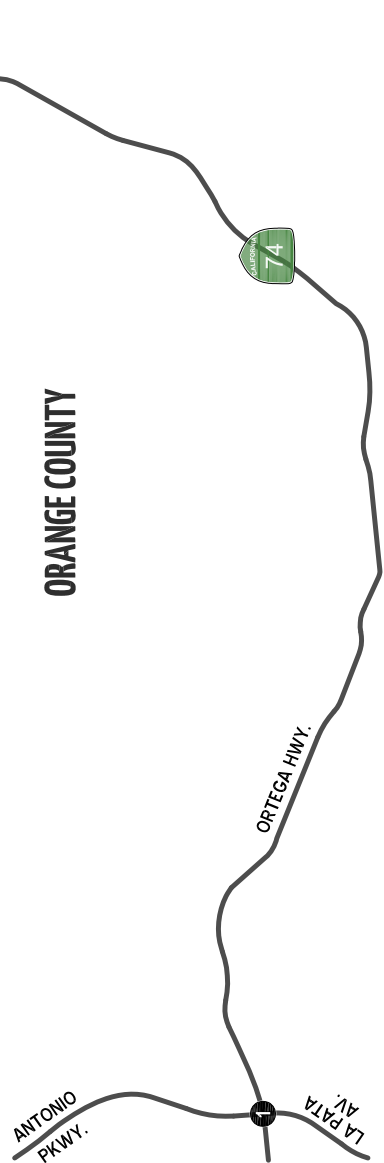


EXHIBIT 3-16 2020 WITH PROJECT CONDITIONS PM PEAK HOUR INTERSECTION VOLUMES

1 Antonio Pkwy. & Ortega Hwy. (SR-74)	2 Ortega Hwy. (SR-74) & Long Cyn. Rd.	3 Ortega Hwy. (SR-74) & Monte Vista St.
4 Ortega Hwy. (SR-74) & Grand Av.	5 South Dwy. & Long Cyn. Rd.	6 North Dwy. & Long Cyn. Rd.

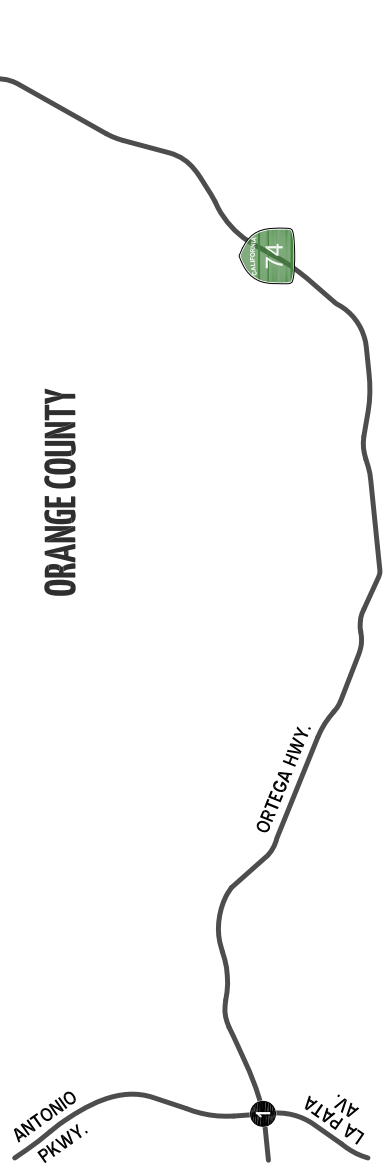


EXHIBIT 3-17
**2020 WITH PROJECT CONDITIONS
 AVERAGE DAILY TRAFFIC (ADT)**

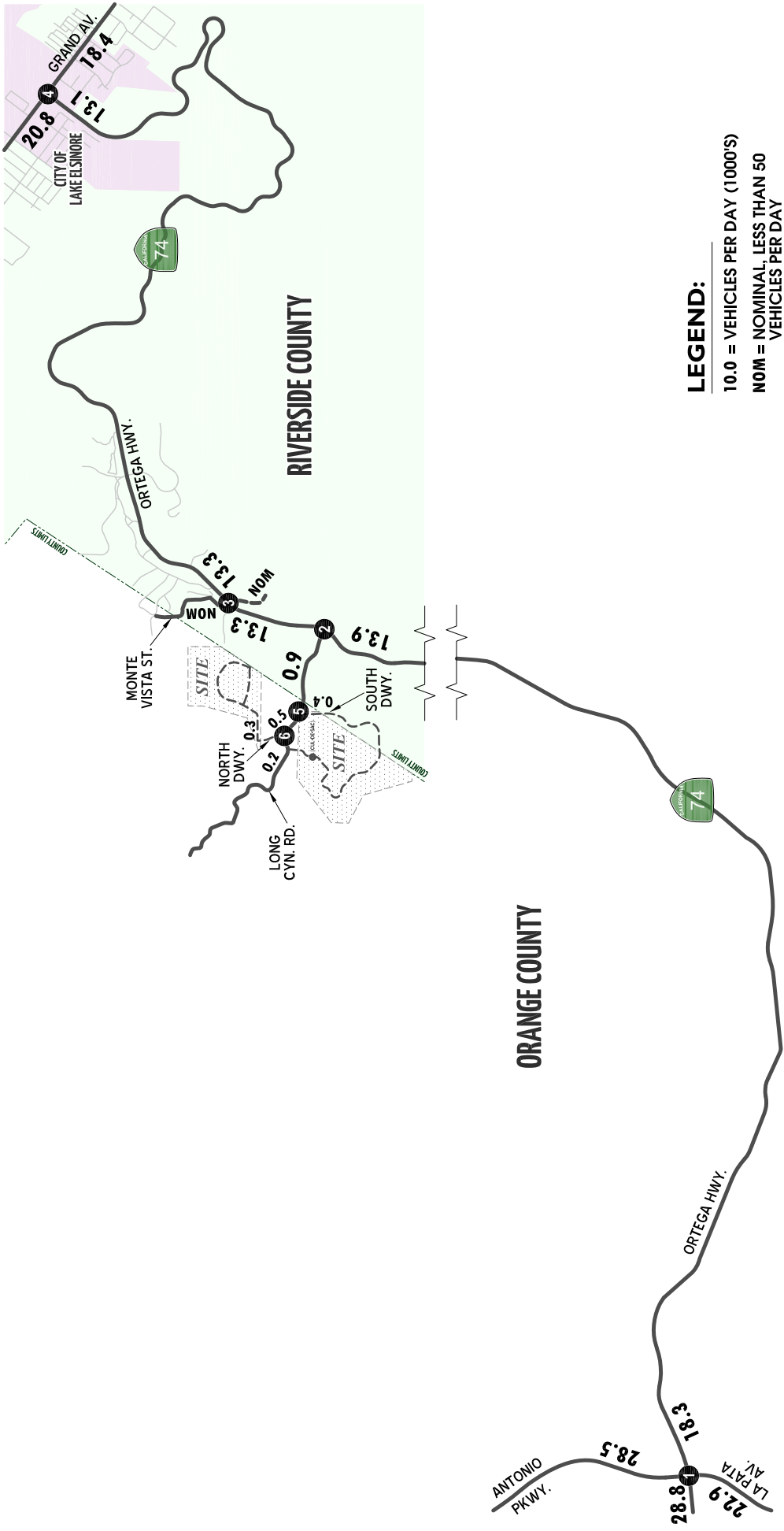


EXHIBIT 3-18 2035 WITHOUT PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>	<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>	<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>
<p>5 South Dwy. & Long Cyn. Rd.</p> <p>Intersection Does Not Exist</p>	<p>6 North Dwy. & Long Cyn. Rd.</p> <p>Intersection Does Not Exist</p>	<p>7 Ortega Hwy. (SR-74) & Cow Camp</p>	

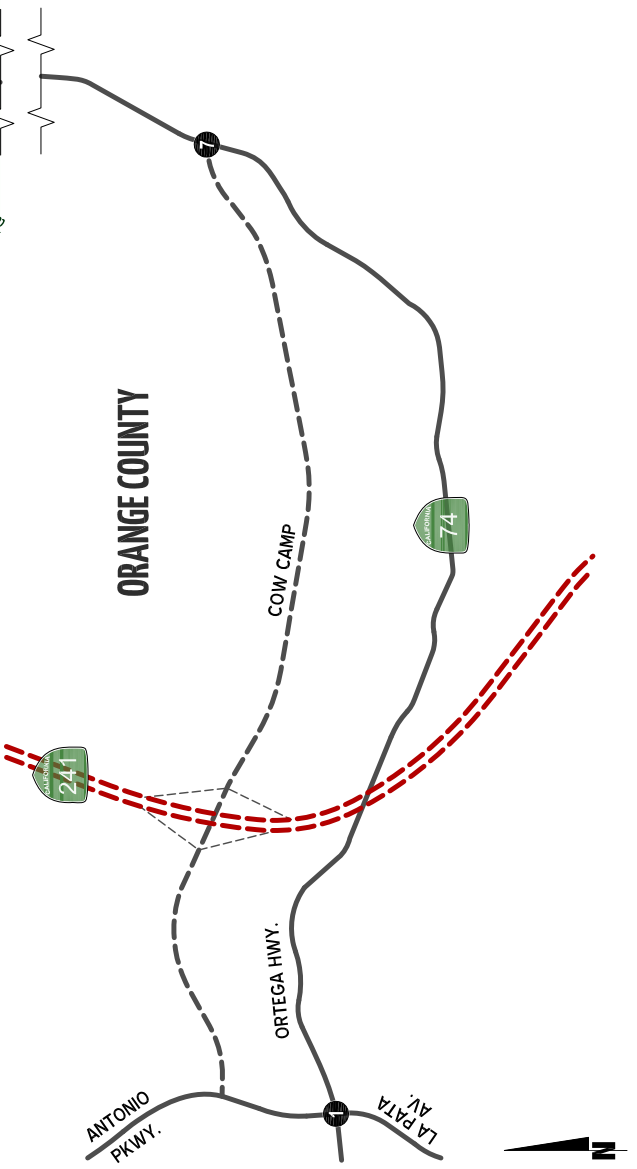
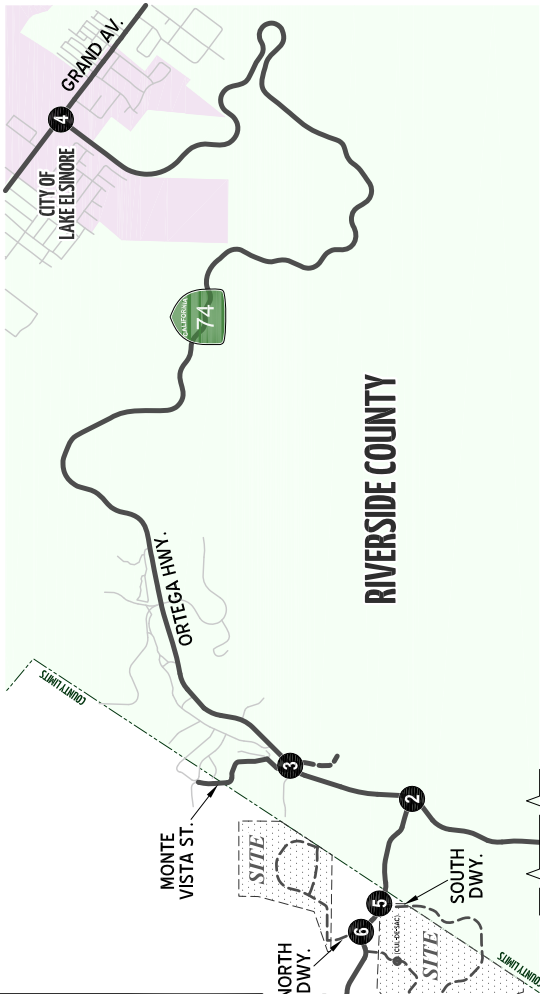


EXHIBIT 3-19 2035 WITHOUT PROJECT CONDITIONS PM PEAK HOUR INTERSECTION VOLUMES

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>	<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>	<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>
<p>5 South Dwy. & Long Cyn. Rd.</p> <p>Intersection Does Not Exist</p>	<p>6 North Dwy. & Long Cyn. Rd.</p> <p>Intersection Does Not Exist</p>	<p>7 Ortega Hwy. (SR-74) & Cow Camp</p>	

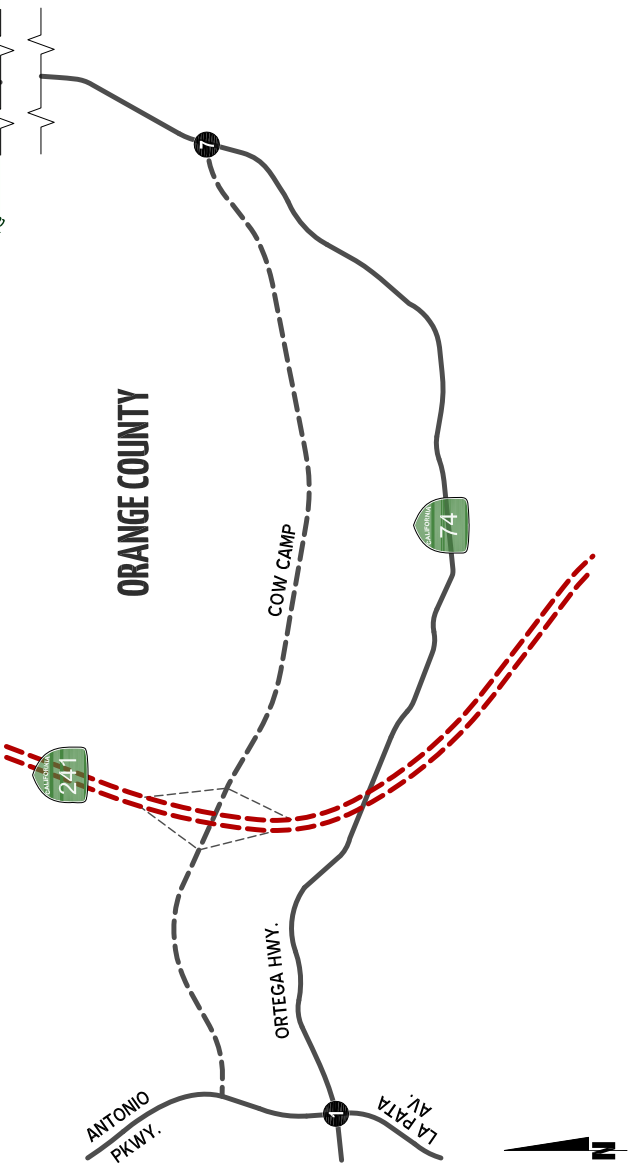
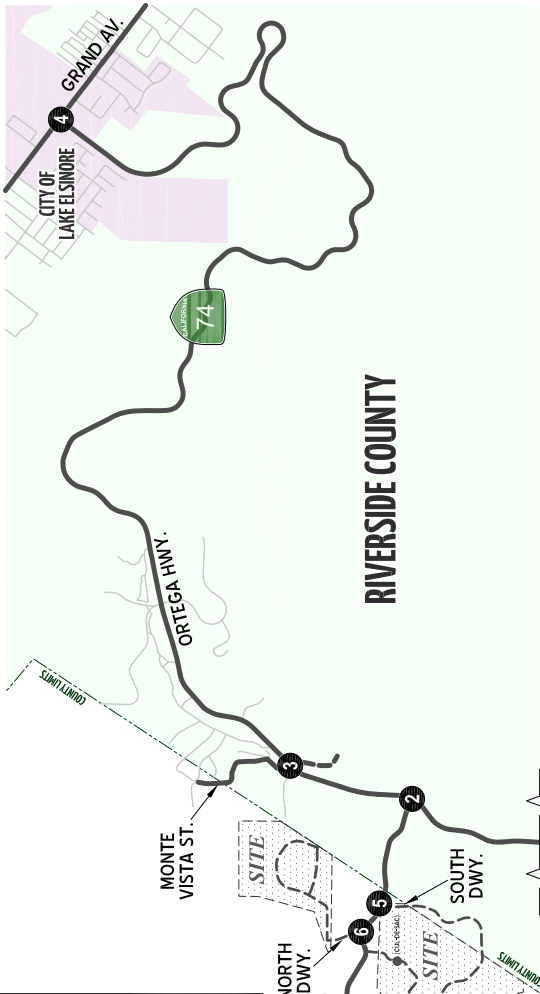


EXHIBIT 3-21 2035 WITH PROJECT CONDITIONS AM PEAK HOUR INTERSECTION VOLUMES

1 Antonio Pkwy. & Ortega Hwy. (SR-74)	2 Ortega Hwy. (SR-74) & Long Cyn. Rd.	3 Ortega Hwy. (SR-74) & Monte Vista St.	4 Ortega Hwy. (SR-74) & Grand Av.
5 South Dwy. & Long Cyn. Rd.	6 North Dwy. & Long Cyn. Rd.	7 Ortega Hwy. (SR-74) & Cow Camp	

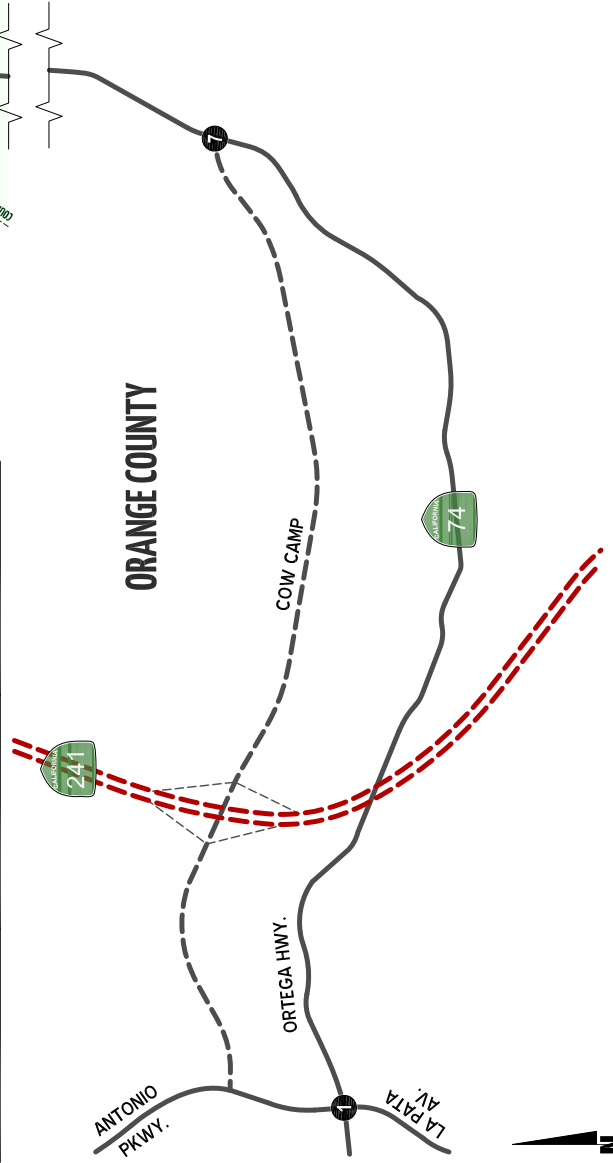
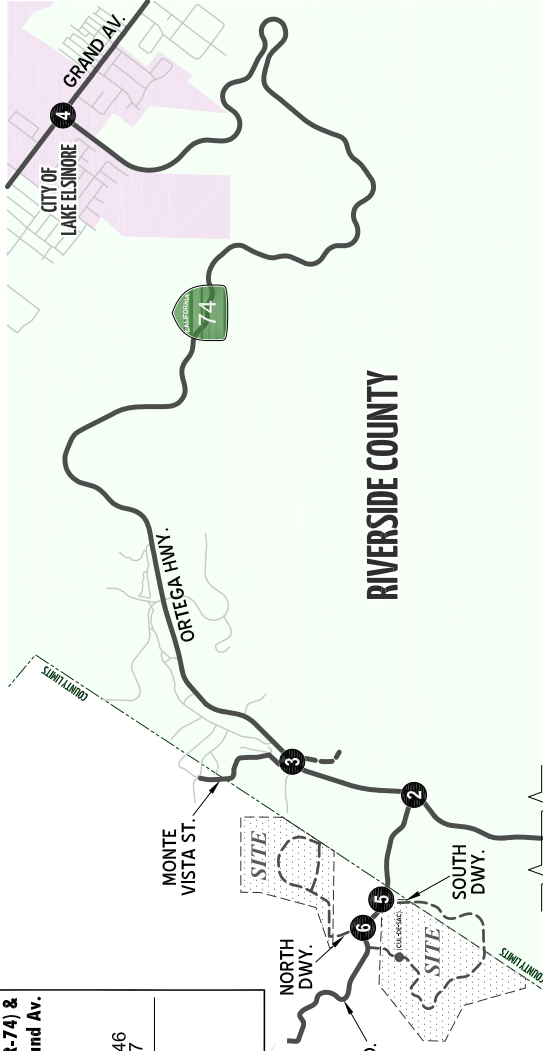


EXHIBIT 3-22
**2035 WITH PROJECT CONDITIONS
 PM PEAK HOUR INTERSECTION VOLUMES**

<p>1 Antonio Pkwy. & Ortega Hwy. (SR-74)</p>	<p>2 Ortega Hwy. (SR-74) & Long Cyn. Rd.</p>	<p>3 Ortega Hwy. (SR-74) & Monte Vista St.</p>	<p>4 Ortega Hwy. (SR-74) & Grand Av.</p>
<p>5 South Dwy. & Long Cyn. Rd.</p>	<p>6 North Dwy. & Long Cyn. Rd.</p>	<p>7 Ortega Hwy. (SR-74) & Cow Camp</p>	

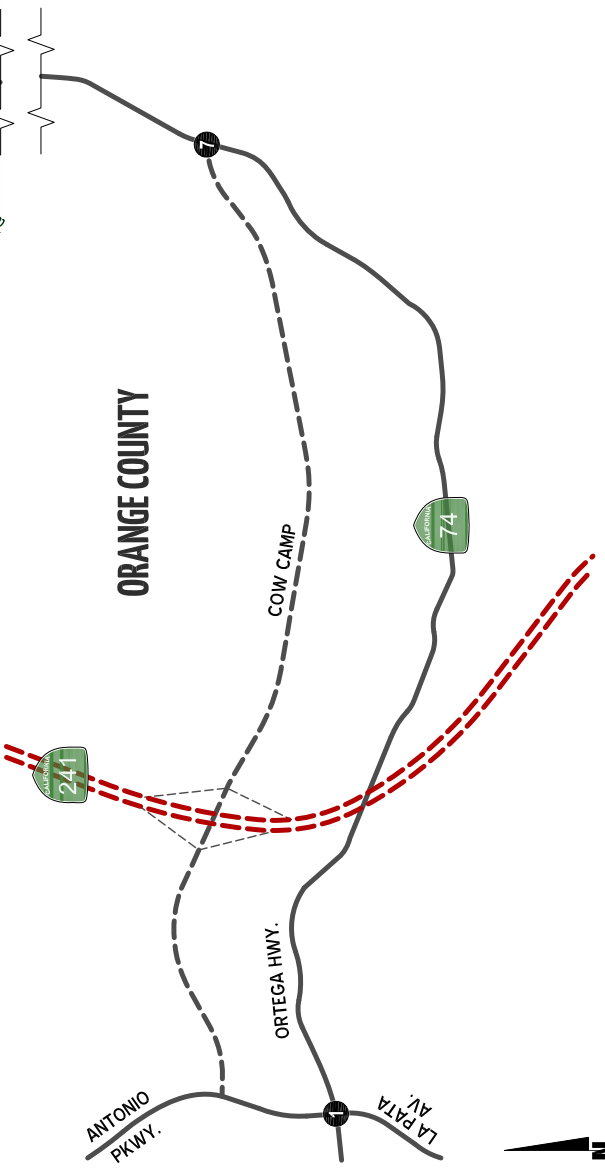
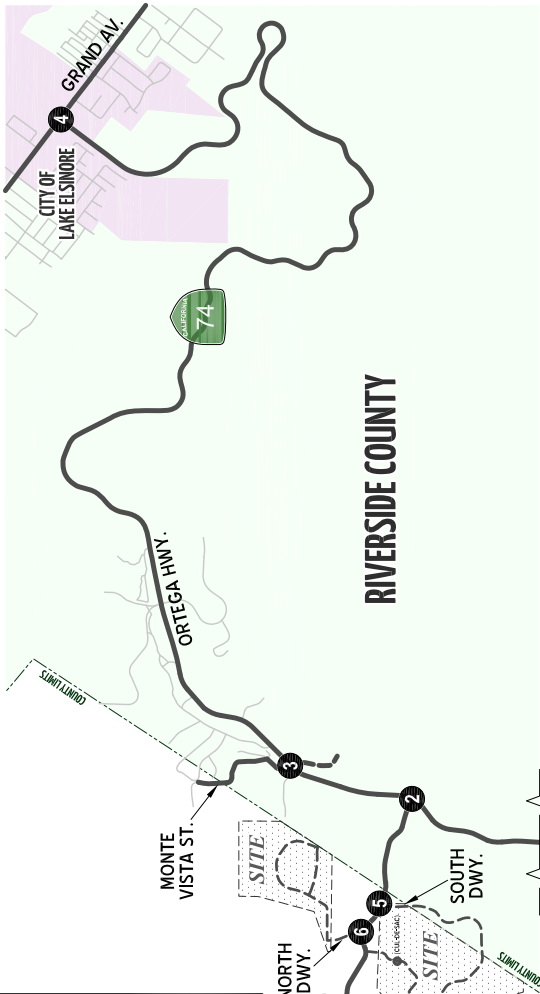
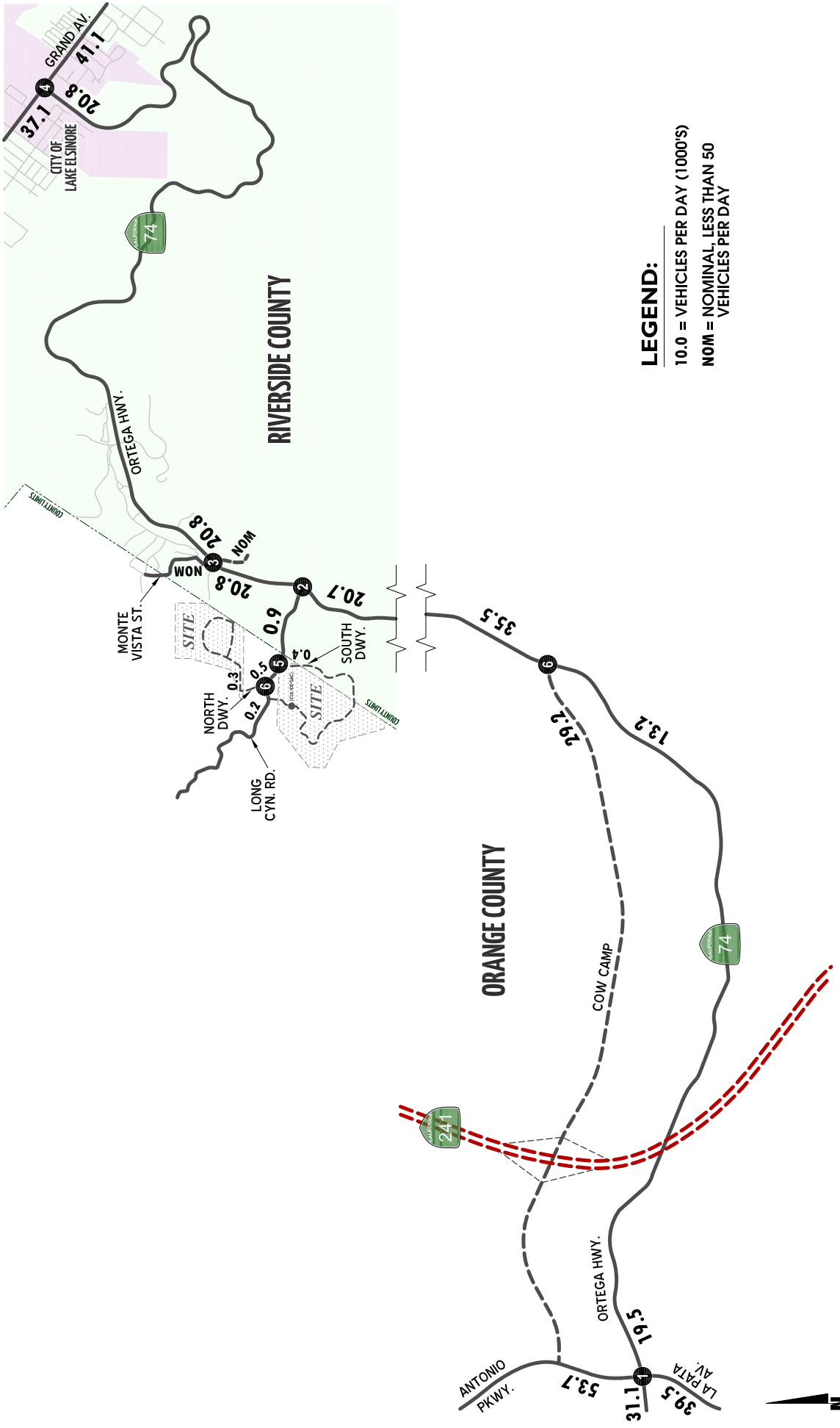


EXHIBIT 3-23
**2035 WITH PROJECT CONDITIONS
 AVERAGE DAILY TRAFFIC (ADT)**



LEGEND:
 10.0 = VEHICLES PER DAY (1000'S)
 NOM = NOMINAL, LESS THAN 50
 VEHICLES PER DAY



This Page Intentionally Left Blank

4 TRAFFIC ANALYSIS METHODOLOGIES

Traffic operations are quantified through the determination of “Level of Service” (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade “A” through “F” is assigned to an infrastructure facility (roadway segment, intersection, or freeway facility) representing progressively worsening traffic conditions. This section presents the LOS definition, LOS criteria, and the methodologies for the Intersection Operations Analysis and the Warrant Analysis Traffic Signal.

4.1 LEVEL OF SERVICE DEFINITION

The definitions of Level of Service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- **LOS "A"**: Completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
- **LOS "B"**: Free flow conditions, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS “A”, but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.
- **LOS "C"**: The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.
- **LOS "D"**: The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
- **LOS "E"**: Operations at or near capacity, an unstable level. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS “F”.
- **LOS "F"**: Forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

4.2 INTERSECTION LEVEL OF SERVICE CRITERIA

County of Orange has identified Level of Service (LOS) D as the minimum traffic level to be considered acceptable for County maintained intersections.

The County of Riverside has established, as a County-wide target, a LOS of C on all County-maintained roads and conventional State Highways. As an exception, LOS D may be allowed in Community Development areas, at intersections of any combination of Secondary Highways, Major Highways, Arterial Highways, Urban Arterial Highways, Expressways, or conventional State Highways. LOS E may be allowed in designated Community Centers to the extent that it would support transit-oriented development and pedestrian communities.

4.3 SIGNIFICANT PROJECT IMPACT CRITERIA

The County of Orange Growth Management Program (GMP) guidelines state that Project traffic volumes resulting in a 1% increase in the Volume/Capacity ratio of a deficient intersection (LOS “E” or “F”) as compared to the No Project condition is considered significantly impacted and mitigation measures are required to reduce the project’s impact to a level of insignificance.

Based on the County of Riverside traffic study guidelines, a “significant” direct traffic impact under California Environmental Quality Act (CEQA) occurs when the addition of project traffic as defined by the E+P scenario causes an intersection that operates at an acceptable level of service under Existing (2017) traffic conditions (i.e., LOS “D” or better) to fall to an unacceptable level of service (i.e., LOS “E” or “F”). Therefore, E+P traffic conditions are compared to Existing (2017) traffic conditions to identify significant project-related impacts according to the following criteria:

- If an intersection is projected to operate at an acceptable level of service (i.e., LOS “D” or better) under Existing (2017) traffic conditions and the addition of project traffic, as measured by 50 or more peak hour trips, is expected to cause the intersection to operate at an unacceptable level of service (i.e., LOS “E” or “F”), the impact is considered a significant direct impact.
- If an intersection is projected to operate at an unacceptable level of service (i.e., LOS “E” or “F”) without the project, and the project contributes 50 or more peak hour trips, the impact is considered a significant direct impact.

A significant cumulative impact is identified when a facility is projected to operate below the level of service standards due to cumulative future traffic AND a project-related traffic increase as measured by 50 or more peak hour trips. Cumulative traffic impacts are created as a result of a combination of the proposed project together with other future developments contributing to the overall traffic impacts requiring additional improvements to maintain acceptable level of service operations with or without the project. Based on this criteria, the project is not anticipated to contribute a significant impact to the off-site intersections north and south of Long Canyon Road (including Antonio Parkway/Ortega Highway) since the project is anticipated to add less than 50 trips to these locations.

4.4 INTERSECTION OPERATIONS ANALYSIS METHODOLOGY

For existing study area intersections located with Orange County, the mitigation needs have been assessed based on the County of Orange Growth Management Plan (GMP) guidelines stated above in Section 4.3 of this report. However, for new study area intersections located with Orange County, the mitigation needs have been assessed based on improvements necessary to achieve acceptable LOS D.

For the study area intersections located with Riverside County (including the City of Lake Elsinore), the mitigation needs have been assessed based on improvements necessary to achieve acceptable levels of service.

4.4.1 INTERSECTION CAPACITY UTILIZATION (ICU) METHOD

For signalized intersections in the County of Orange, the Intersection Capacity Utilization (ICU) method is used to determine intersection performance. To calculate the ICU value for an intersection, the volume of traffic using the intersection is compared with the capacity of the intersection.

The ICU value is usually expressed as a decimal percent (e.g., 0.861). The decimal percent represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

A number of assumptions are required regarding specific input values to the ICU methodology. The specific assumptions include the use of a saturation flow rate of 1,700 vehicles per lane per hour. No capacity adjustments are applied for protected movements with dedicated lanes (including both right and left turns). A lost time factor of 5 percent is applied to the ICU calculations. Finally, a "de facto" right turn lane is assumed to exist when the outermost through lane is 19 feet or greater in width and parking is prohibited.

Signalized study area intersections within the County of Orange have been analyzed using the software package Traffix (Version 8.0 R1, 2008).

4.4.2 HIGHWAY CAPACITY MANUAL (HCM) METHOD

For unsignalized intersections within County of Orange and all intersections within County of Riverside, the current technical guide for the evaluation of traffic operations is the 2010 Highway Capacity Manual (HCM). It should be noted that signalized intersections within the County of Orange have also been evaluated using the HCM methodology per discussion with Caltrans. The HCM defines Level of Service as a qualitative measure, which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate Level of Service (LOS) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service 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 level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control.

The study area intersections that are stop sign controlled with stop control on the minor street only have been analyzed using the HCM's unsignalized intersection methodology. For these intersections, the calculation of level of service is dependent on the frequency and size of gaps occurring in the traffic flow of the main street. Using data collected describing the intersection

configuration and traffic volumes at the study area locations, the level of service has been calculated. The level of service criteria for this type of intersection analysis is based on average total delay per vehicle for the worst minor street movement(s).

The levels of service for the HCM delay methodology, for signalized and unsignalized intersections, are defined as follows:

Level of Service	Average Total Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	0 to 10.00	0 to 10.00
B	10.01 to 20.00	10.01 to 15.00
C	20.01 to 35.00	15.01 to 25.00
D	35.01 to 55.00	25.01 to 35.00
E	55.01 to 80.00	35.01 to 50.00
F	80.01 and up	50.01 and up

The intersection operations analyses are based on calculations using the traffic modeling and signal timing optimization software package Synchro (Version 9.1). Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the Chapter 18 of the HCM2010. 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.

For the intersection operations analysis, the study area includes the intersections shown previously on Exhibit 1-1. The existing conditions intersection operations analysis is presented in previous Section 2.5. The future conditions intersection operations analysis is presented in subsequent Section 5.2 of this report.

4.5 TRAFFIC SIGNAL WARRANTS ANALYSIS METHODOLOGY

To determine whether “significance” should be associated with unsignalized intersection operations, a supplemental traffic signal warrant analysis has been prepared. The term “signal warrants” refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an otherwise unsignalized intersection. This study uses the signal warrant criteria presented in the latest edition of the Federal Highway Administration’s (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), as amended by the MUTCD 2012 California Supplement, for all study area intersections.

The signal warrant criteria for existing conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The California MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. Specifically, the study utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. Since Warrant 3 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 at or above 40 miles per hour), study intersections qualifying for this specialized criteria have been clearly identified on the traffic signal warrant sheet. For the purposes of this study, the speed limit was the basis of determining whether Urban or Rural warrants were used for a given intersection.

For existing unsignalized intersections, peak hour based signal warrant analysis was performed. For new intersections, ADT-based signal warrant analysis was performed. The existing conditions traffic signal warrant analysis is presented in previous Section 2.4, and the future conditions traffic signal warrant analysis is presented in subsequent Section 5.1.

This Page Intentionally Left Blank

5 FUTURE CONDITIONS TRAFFIC ANALYSIS

This study assesses the traffic circulation of the proposed project for existing and future traffic conditions, based on the following analyses:

- Traffic Signal Warrant Analysis
- Intersection Operations Analysis

5.1 FUTURE CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS

A traffic signal warrant analysis has been conducted for each of the following future conditions, based on average daily traffic (ADT) volumes:

- Existing (2017) Plus Project Conditions
- 2020 Without Project Conditions
- 2020 With Project Conditions
- 2035 Without Project Conditions
- 2035 With Project Conditions

A detailed discussion of the methodologies behind the traffic signal warrant analysis is presented in previous Section 4.4 of this report.

Traffic signal warrant analysis is assessed at the following study area intersections because they are either currently unsignalized or future intersections:

ID	Intersection Location	Jurisdiction
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
5	South Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
6	North Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
7	Ortega Hwy. (SR-74) (NS) / Cow Camp (EW) – Future	Unincorporated County of Orange

5.1.1 TRAFFIC SIGNAL WARRANT ANALYSIS, EXISTING (2017) PLUS PROJECT CONDITIONS

Based on Existing (2017) Plus Project Conditions, unsignalized study area intersections are not projected to meet traffic signal warrants.

Traffic signal warrant analysis worksheets for Existing (2017) Plus Project Conditions are included in Appendix 5.1 of this report.

5.1.2 TRAFFIC SIGNAL WARRANT ANALYSIS, 2020 WITHOUT PROJECT CONDITIONS

Based on 2020 Without Project Conditions, unsignalized study area intersections are not projected to meet traffic signal warrants.

Traffic signal warrant analysis worksheets for 2020 Without Project Conditions are included in Appendix 5.2 of this report.

5.1.3 TRAFFIC SIGNAL WARRANT ANALYSIS, 2020 WITH PROJECT CONDITIONS

Based on 2020 With Project Conditions, unsignalized study area intersections are not projected to meet traffic signal warrants.

Traffic signal warrant analysis worksheets for 2020 With Project Conditions are included in Appendix 5.3 of this report.

5.1.4 TRAFFIC SIGNAL WARRANT ANALYSIS, 2035 WITHOUT PROJECT CONDITIONS

Based on 2035 Without Project Conditions, the following new intersection is projected to meet traffic signal warrants:

ID	Intersection Location	Jurisdiction
7	Ortega Hwy. (SR-74) (NS) / Cow Camp (EW) – Future	Unincorporated County of Orange

Traffic signal warrant analysis worksheets for 2035 Without Project Conditions are included in Appendix 5.4 of this report.

5.1.5 TRAFFIC SIGNAL WARRANT ANALYSIS, 2035 WITH PROJECT CONDITIONS

Based on 2035 With Project Conditions, no unsignalized intersections are projected to meet traffic signal warrants, in addition to the ones that are already warranted under previous conditions (2035 Without Project). Traffic signals are not warranted at the following intersections:

ID	Intersection Location	Jurisdiction
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
5	South Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
6	North Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange

Traffic signal warrant analysis worksheets for 2035 With Project Conditions are included in Appendix 5.5 of this report.

5.2 FUTURE CONDITIONS INTERSECTION OPERATIONS ANALYSIS

The intersection operations analysis for the following future conditions has been evaluated, based on Intersection Capacity Utilization (ICU) and Highway Capacity Manual (HCM) methods.

- Existing (2017) Plus Project Conditions
- 2020 Without Project Conditions
- 2020 With Project Conditions
- 2035 Without Project Conditions
- 2035 With Project Conditions

The discussion regarding the intersection operations analysis methodologies is presented in previous Section 4.3 of this report.

5.2.1 INTERSECTION OPERATIONS ANALYSIS, EXISTING (2017) PLUS PROJECT CONDITIONS

Table 5-1 summarizes the intersection operations analysis results at the study area intersections for Existing (2017) Plus Project Conditions, based on the existing geometrics at the intersections. AM and PM peak hour intersection turning movement volumes for Existing (2017) With Project Conditions are shown previously on Exhibits 3-9 and 3-10, respectively.

As shown in Table 5-1, study area intersections are anticipated to operate at acceptable levels of service with existing geometrics, during the peak hours for Existing (2017) Plus Project Conditions. However, since there is a high volume for the northbound and southbound through traffic volume along Ortega Highway (SR-74), a dedicated left turn lane is recommended to serve as a refuge lane (sanctuary) for the northbound left turn movements. A more detailed discussion is included in section 6 of this report.

Existing (2017) Plus Project Conditions intersection operations analysis worksheets are included in Appendix 5.6 of this report.

5.2.2 INTERSECTION OPERATIONS ANALYSIS, 2020 WITHOUT PROJECT CONDITIONS

Table 5-2 summarizes the intersection operations analysis results at the study area intersections for 2020 Without Project Conditions, based on the existing geometrics at the intersections. AM and PM peak hour intersection turning movement volumes for 2020 Without Project Conditions are shown previously on Exhibits 3-12 and 3-13, respectively.

As shown in Table 5-2, study area intersections are anticipated to operate at acceptable levels of service with existing geometrics, during the peak hours for 2020 Without Project Conditions.

2020 Without Project Conditions intersection operations analysis worksheets are included in Appendix 5.7 of this report.

5.2.3 INTERSECTION OPERATIONS ANALYSIS, 2020 WITH PROJECT CONDITIONS

Table 5-3 summarizes the intersection operations analysis results at the study area intersections for 2020 With Project Trade Conditions, based on the existing geometrics at the intersections. AM and PM peak hour intersection turning movement volumes for 2020 With Project Conditions are shown previously on Exhibits 3-15 and 3-16, respectively.

As shown in Table 5-3, study area intersections are anticipated to operate at acceptable levels of service with existing geometrics, during the peak hours for 2020 With Project Conditions.

Similar to Existing Plus Project conditions, a dedicated northbound left turn lane is recommended at the intersection of Long Canyon Road and Ortega Highway (SR-74) to serve as a refuge lane. A more detailed discussion is included in section 6 of this report.

2020 With Project Conditions intersection operations analysis worksheets are included in Appendix 5.8 of this report.

TABLE 5-1

**EXISTING PLUS PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY**

ID	Intersection	Traffic Control ⁵	Intersection Approach Lanes ¹												Weekday Peak Hour						LOS Criteria
			Northbound			Southbound			Eastbound			Westbound			ICU ²		HCM ³		LOS ⁴		
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	
1	Antonio Parkway (NS) at: • Ortega Hwy. (SR-74) (EW)	TS	2	3	1	1	3	2>	2	2	1	1	2	1	0.661	0.618	43.8	32.0	D	C	D
2	Ortega Hwy. (SR-74) (NS) at: • Long Canyon Rd. (EW) - With left turn refuge ⁶	CSS	0	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	19.6	29.4	C	D	D
		CSS	<u>1</u>	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	17.4	19.2	C	C	D
3	Ortega Hwy. (SR-74) (NS) at: • Monte Vista St. (EW) ⁷	CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	18.2	24.5	C	C	D
4	Ortega Hwy. (SR-74) (NS) at: • Grand Ave. (EW)	TS	2	0	1>	0	0	0	0	1	2>	1	1	0	n/a	n/a	14.4	27.8	B	C	D
5	South Dwy. (NS) at: • Long Canyon Rd. (EW)	<u>CSS</u>	0	<u>1</u>	0	0	0	0	0	1	0	0	1	0	n/a	n/a	8.5	8.6	A	A	D
6	North Dwy. (NS) at: • Long Canyon Rd. (EW)	<u>CSS</u>	0	0	0	0	<u>1</u>	0	0	1	0	0	1	0	n/a	n/a	8.7	8.8	A	A	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; 1 = Improvement

² Volume/Capacity Ratio and Level of Service calculated using the TRAFFIX operation analysis software, Traffix Version 8.0 R1 (2008), based on the Intersection Capacity Utilization (ICU) method.

³ Delay (in seconds) and Level of Service calculated using Synchro 9 analysis software based on the 2010 Highway Capacity Manual (HCM) method.

⁴ LOS = Level of Service based on HCM methodology.

⁵ TS = Traffic Signal; CSS = Cross Street Stop

⁶ Although the intersection of Ortega Highway (SR-74) / Long Canyon Road operates at an acceptable level of service, a left turn pocket is recommended on Ortega Highway (SR-74) to provide a refuge lane for the northbound left turn movements due to the high through traffic volume along Ortega Highway (SR-74).

⁷ No "Stop" sign was installed for any of the approaches at the time field reconnaissance was performed for this intersection.

However, for analysis purposes, a cross-street stop has been assumed for the eastbound / westbound approaches of this intersection.

TABLE 5-2

**2020 WITHOUT PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY**

ID	Intersection	Traffic Control ⁵	Intersection Approach Lanes ¹												Weekday Peak Hour						LOS Criteria
			Northbound			Southbound			Eastbound			Westbound			ICU ²		HCM ³		LOS ⁴		
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	
1	Antonio Parkway (NS) at: • Ortega Hwy. (SR-74) (EW)	TS	2	3	1	1	3	2>	2	2	1	1	2	1	0.687	0.632	47.9	30.5	D	C	D
2	Ortega Hwy. (SR-74) (NS) at: • Long Canyon Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	18.5	29.7	C	D	D
3	Ortega Hwy. (SR-74) (NS) at: • Monte Vista St. (EW) ⁶	CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	18.4	25.6	C	D	D
4	Ortega Hwy. (SR-74) (NS) at: • Grand Ave. (EW)	TS	2	0	1>	0	0	0	0	1	2>	1	1	0	n/a	n/a	15.5	29.7	B	C	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

² Volume/Capacity Ratio and Level of Service calculated using the TRAFFIX operation analysis software, Traffix Version 8.0 R1 (2008), based on the Intersection Capacity Utilization (ICU) method.

³ Delay (in seconds) and Level of Service calculated using Synchro 9 analysis software based on the 2010 Highway Capacity Manual (HCM) method.

⁴ LOS = Level of Service based on HCM methodology.

⁵ TS = Traffic Signal; CSS = Cross Street Stop

⁶ No "Stop" sign was installed for any of the approaches at the time field reconnaissance was performed for this intersection.

However, for analysis purposes, a cross-street stop has been assumed for the eastbound / westbound approaches of this intersection.

TABLE 5-3

**2020 WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY**

ID	Intersection	Traffic Control ⁵	Intersection Approach Lanes ¹												Weekday Peak Hour						LOS Criteria
			Northbound			Southbound			Eastbound			Westbound			ICU ²		HCM ³		LOS ⁴		
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	
1	Antonio Parkway (NS) at: • Ortega Hwy. (SR-74) (EW)	TS	2	3	1	1	3	2>	2	2	1	1	2	1	0.692	0.644	49.0	31.5	D	C	D
2	Ortega Hwy. (SR-74) (NS) at: • Long Canyon Rd. (EW) - With left turn refuge ⁶	CSS	0	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	19.8	32.8	C	D	D
		CSS	<u>1</u>	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	17.5	20.3	C	C	D
3	Ortega Hwy. (SR-74) (NS) at: • Monte Vista St. (EW) ⁷	CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	18.8	26.4	C	D	D
4	Ortega Hwy. (SR-74) (NS) at: • Grand Ave. (EW)	TS	2	0	1>	0	0	0	0	1	2>	1	1	0	n/a	n/a	15.6	29.6	B	C	D
5	South Dwy. (NS) at: • Long Canyon Rd. (EW)	<u>CSS</u>	0	<u>1</u>	0	0	0	0	0	1	0	0	1	0	n/a	n/a	8.5	8.6	A	A	D
6	North Dwy. (NS) at: • Long Canyon Rd. (EW)	<u>CSS</u>	0	0	0	0	<u>1</u>	0	0	1	0	0	1	0	n/a	n/a	8.7	8.8	A	A	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; 1 = Improvement

² Volume/Capacity Ratio and Level of Service calculated using the TRAFFIX operation analysis software, Traffix Version 8.0 R1 (2008), based on the Intersection Capacity Utilization (ICU) method.

³ Delay (in seconds) and Level of Service calculated using Synchro 9 analysis software based on the 2010 Highway Capacity Manual (HCM) method.

⁴ LOS = Level of Service based on HCM methodology.

⁵ TS = Traffic Signal; CSS = Cross Street Stop

⁶ Although the intersection of Ortega Highway (SR-74) / Long Canyon Road operates at an acceptable level of service, a left turn pocket is recommended on Ortega Highway (SR-74) to provide a refuge lane for the northbound left turn movements due to the high through traffic volume along Ortega Highway (SR-74).

⁷ No "Stop" sign was installed for any of the approaches at the time field reconnaissance was performed for this intersection.

However, for analysis purposes, a cross-street stop has been assumed for the eastbound / westbound approaches of this intersection.

5.2.4 INTERSECTION OPERATIONS ANALYSIS, 2035 WITHOUT PROJECT CONDITIONS

Table 5-4 summarizes the intersection operations analysis results at the study area intersections for 2035 Without Project Conditions, based on the respective existing geometrics at the intersections. AM and PM peak hour intersection turning movement volumes for 2035 Without Project Conditions are shown previously on Exhibits 3-18 and 3-19, respectively.

As shown in Table 5-4, the following intersections are anticipated to operate at unacceptable levels of service with existing geometrics, during the peak hours for 2035 Without Project Conditions:

ID	Intersection Location	Jurisdiction
1	Antonio Pkwy. - La Pata Av. (NS) / Ortega Hwy. (SR-74) (EW)	Unincorporated County of Orange
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
4	Ortega Hwy. (SR-74) (NS) / Grand Av. (EW)	City of Lake Elsinore

For the intersection of Ortega Highway (SR-74) and Long Canyon Road a left turn pocket is recommended on Ortega Highway (SR-74) to provide a refuge lane (sanctuary) for the northbound left turn movements due to the high through traffic volume along Ortega Highway (SR-74).

For the intersection of Ortega Highway and Monte Vista Street, it should be noted that the deficient level of service is based on the nominal approach volumes on Monte Vista Street and is not anticipated to disrupt the flow of traffic along Ortega Highway (SR-74). In addition, the east leg of this intersection currently exists as a gated (private) driveway, therefore improvements are not recommended.

Exhibit 5-1 summarizes the intersection improvements for 2035 conditions without the project which have been anticipated for the Rancho Mission Viejo (Ranch Plan) and City of Lake Elsinore General Plan.

2035 Without Project Conditions intersection operations analysis worksheets are included in Appendix 5.9 of this report.

5.2.5 INTERSECTION OPERATIONS ANALYSIS, 2035 WITH PROJECT CONDITIONS

Table 5-5 summarizes the intersection operations analysis results at the study area intersections for 2035 With Project Conditions, based on the respective existing geometrics at the intersections. AM and PM peak hour intersection turning movement volumes for 2035 With Project Conditions are shown previously on Exhibits 3-21 and 3-22, respectively.

TABLE 5-4

2035 WITHOUT PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY

ID	Intersection	Traffic Control ⁵	Intersection Approach Lanes ¹												Weekday Peak Hour						LOS Criteria
			Northbound			Southbound			Eastbound			Westbound			ICU ²		HCM ³		LOS ⁴		
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	
1	Antonio Parkway (NS) at: • Ortega Hwy. (SR-74) (EW)	TS	2	3	1	1	3	2>	2	2	1	1	2	1	0.914	0.865	110.1	53.4	F	D	D
2	Ortega Hwy. (SR-74) (NS) at: • Long Canyon Rd. (EW) - With left turn refuge ⁶	CSS	0	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	21.3	57.3	C	F	D
		CSS	<u>1</u>	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	16.4	27.1	C	D	D
3	Ortega Hwy. (SR-74) (NS) at: Monte Vista St. (EW) ^{7,8} • Ortega Hwy. (SR-74) (NS) • Monte Vista St. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	10.0	13.8	A	B	D
		CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	25.2	59.7	D	F	D
4	Ortega Hwy. (SR-74) (NS) at: • Grand Ave. (EW) - With Improvements	TS	2	0	1>	0	0	0	0	1	2>	1	1	0	n/a	n/a	23.6	92.6	C	F	D
		TS	2	0	1>	0	0	0	<u>2</u>	<u>2</u> >	1	<u>2</u>	0	n/a	n/a	12.8	24.6	B	C	D	
7	Ortega Hwy. (SR-74) (NS) at: • Cow Camp (EW) - With Improvements	<u>TS</u>	<u>1</u>	<u>3</u>	0	0	<u>2</u>	<u>2</u>	<u>2</u>	0	<u>1</u>	0	0	0	0.607	0.627	13.6	13.8	B	B	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; 1 = Improvement

² Volume/Capacity Ratio and Level of Service calculated using the TRAFFIX operation analysis software, Traffix Version 8.0 R1 (2008), based on the Intersection Capacity Utilization (ICU) method.

³ Delay (in seconds) and Level of Service calculated using Synchro 9 analysis software based on the 2010 Highway Capacity Manual (HCM) method.

⁴ LOS = Level of Service

⁵ TS = Traffic Signal; CSS = Cross Street Stop

⁶ A left turn pocket is recommended on Ortega Highway (SR-74) to provide a refuge lane for the northbound left turn movements due to the high through traffic volume along Ortega Highway (SR-74).

⁷ No "Stop" sign was installed for any of the approaches at the time field reconnaissance was performed for this intersection.

However, for analysis purposes, a cross-street stop has been assumed for the eastbound / westbound approaches of this intersection.

⁸ It should be noted that the deficient LOS is based on the nominal approach volumes on Monte Vista Street and is not anticipated to disrupt the flow of traffic along Ortega Highway (SR-74). In addition, the east leg of this intersection currently exists as a gated driveway therefore further improvements are not recommended.

TABLE 5-5

**2035 WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS SUMMARY**

ID	Intersection	Traffic Control ⁵	Intersection Approach Lanes ¹												Weekday Peak Hour						LOS Criteria
			Northbound			Southbound			Eastbound			Westbound			ICU ²		HCM ³		LOS ⁴		
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	
1	Antonio Parkway (NS) at: • Ortega Hwy. (SR-74) (EW)	TS	2	3	1	1	3	2>	2	2	1	1	2	1	0.918	0.865	110.6	51.8	F	D	D
2	Ortega Hwy. (SR-74) (NS) at: • Long Canyon Rd. (EW) - With left turn refuge ⁶	CSS	0	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	22.3	109.2	C	F	D
		CSS	1	1	0	0	1	0	0	1	0	0	0	0	n/a	n/a	18.1	28.2	C	D	D
3	Ortega Hwy. (SR-74) (NS) at: Monte Vista St. (EW) ^{7,8} • Ortega Hwy. (SR-74) (NS) • Monte Vista St. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	10.0	13.9	A	B	D
		CSS	0	1	0	0	1	0	0	1	0	0	1	0	n/a	n/a	25.7	62.3	D	F	D
4	Ortega Hwy. (SR-74) (NS) at: • Grand Ave. (EW) - With Improvements	TS	2	0	1>	0	0	0	0	1	2>	1	1	0	n/a	n/a	23.9	93.7	C	F	D
		TS	2	0	1>	0	0	0	0	2	2>	1	2	0	n/a	n/a	14.5	24.9	B	C	D
5	South Dwy. (NS) at: • Long Canyon Rd. (EW)	CSS	0	1	0	0	0	0	0	1	0	0	1	0	n/a	n/a	8.5	8.6	A	A	D
6	North Dwy. (NS) at: • Long Canyon Rd. (EW)	CSS	0	0	0	0	1	0	0	1	0	0	1	0	n/a	n/a	8.7	8.8	A	A	D
7	Ortega Hwy. (SR-74) (NS) at: • Cow Camp (EW) - With Improvements	TS	1	3	0	0	2	2	2	0	1	0	0	0	0.613	0.634	13.7	14.0	B	B	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; 1 = Improvement

² Volume/Capacity Ratio and Level of Service calculated using the TRAFFIX operation analysis software, Traffix Version 8.0 R1 (2008), based on the Intersection Capacity Utilization (ICU) method.

³ Delay (in seconds) and Level of Service calculated using Synchro 9 analysis software based on the 2010 Highway Capacity Manual (HCM) method.

⁴ LOS = Level of Service

⁵ TS = Traffic Signal; CSS = Cross Street Stop

⁶ A left turn pocket is recommended on Ortega Highway (SR-74) to provide a refuge lane for the northbound left turn movements due to the high through traffic volume along Ortega Highway (SR-74).

⁷ No "Stop" sign was installed for any of the approaches at the time field reconnaissance was performed for this intersection. However, for analysis purposes, a cross-street stop has been assumed for the eastbound / westbound approaches of this intersection.

⁸ It should be noted that the deficient LOS is based on the nominal approach volumes on Monte Vista Street and is not anticipated to disrupt the flow of traffic along Ortega Highway (SR-74). In addition, the east leg of this intersection currently exists as a gated driveway therefore further improvements are not recommended.

As shown in Table 5-5, the following intersections are anticipated to operate at deficient levels of service with existing geometrics, during the peak hours for 2035 With Project Conditions:

ID	Intersection Location	Jurisdiction
1	Antonio Pkwy. - La Pata Av. (NS) / Ortega Hwy. (SR-74) (EW)	Unincorporated County of Orange
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
4	Ortega Hwy. (SR-74) (NS) / Grand Av. (EW)	City of Lake Elsinore

For the intersection located in Orange County, no improvements are required for conditions with the project traffic based the County of Orange GMP guidelines.

For the intersection of Ortega Highway (SR-74) and Monte Vista Street, it should be noted that the deficient level of service is based on the nominal approach volumes on Monte Vista Street and is not anticipated to disrupt the flow of traffic along Ortega Highway (SR-74). In addition, the east leg of this intersection currently exists as a gated (private) driveway and the project is anticipated to add less than 50 trips at this intersection, therefore improvements are not recommended.

For the intersection of Ortega Highway (SR-74) and Long Canyon Road a left turn pocket is recommended on Ortega Highway (SR-74) to provide a refuge lane (sanctuary) for the northbound left turn movements due to the high through traffic volume along Ortega Highway (SR-74).

For 2035 With Project conditions, no offsite improvements are anticipated in addition to the ones identified under 2035 Without Project Conditions (See Exhibit 5-1). The 2035 With Project Conditions intersection operations analysis worksheets are included in Appendix 5.10 of this report.

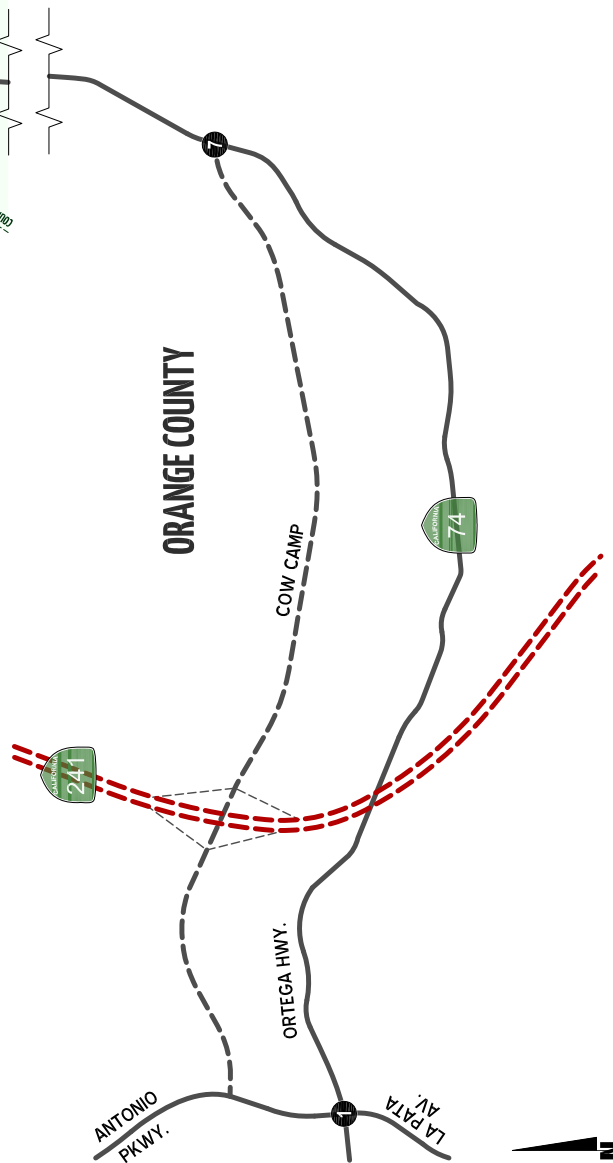
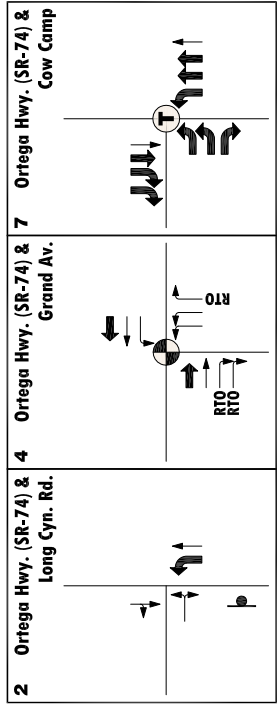
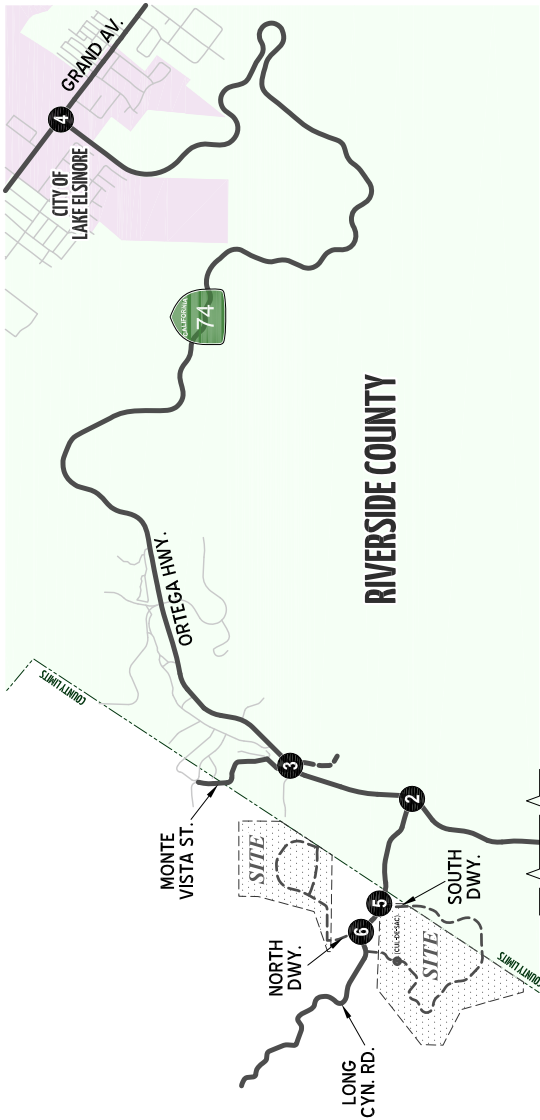
5.3 SIGNIFICANT PROJECT IMPACT ASSESSMENT

For the study area intersections located with Orange County, the mitigation needs have been assessed based on the County of Orange Growth Management Plan (GMP) guidelines which state that the Project traffic resulting in a 1% increase in the Volume/Capacity (V/C) Ratio of a deficient intersection (Level of Service “E” or “F”) as compared to the No Project condition is considered significantly impacted and mitigation measures are required to reduce the project’s impact to a level of insignificance. The discussion regarding the significant impact criteria is included in previous Section 4.3 of this report. The V/C ratios for the analysis scenarios, as well as project-related increases in the V/C ratios are summarized in Table 5-6.

As shown in Table 5-6, the proposed project is not anticipated to contribute a significant impact at the study area intersections located within the orange county.

For study intersections in Riverside County, if an intersection is projected to operate at an unacceptable level of service (i.e., LOS “E” or “F”) without the project, and the project contributes 50 or more peak hour trips, the impact is considered a significant direct impact. Based on this criteria, the project is not anticipated to contribute a significant impact since the project is anticipated to add less than 50 trips to the deficient intersections.

EXHIBIT 5-1 RECOMMENDED IMPROVEMENTS FOR 2035 WITHOUT PROJECT CONDITIONS



- LEGEND:**
- = TRAFFIC SIGNAL
 - = NEW TRAFFIC SIGNAL
 - = EXISTING LANE
 - = LANE IMPROVEMENT
 - = EXISTING RIGHT TURN OVERLAP
 - = INTERSECTION ID



TABLE 5-6

Orange County CMP Significant Project Impact Summary

Traffic Condition	Intersection	Without Project ICU/LOS ¹		With Project ICU/LOS ¹		Change in ICU		Significant Project Impact ²	
		AM	PM	AM	PM	AM	PM	AM	PM
Existing (2017)	#1 Antonio Pkwy. (NS) at: • Ortega Hwy (SR-74) (EW) - Existing Geometry	0.656 D	0.606 C	0.661 D	0.618 C	0.005	0.012	No ³	No ³
2020	#1 Antonio Pkwy. (NS) at: • Ortega Hwy (SR-74) (EW) - Existing Geometry	0.687 D	0.632 C	0.692 D	0.644 C	0.005	0.012	No ³	No ³
2035	#1 Antonio Pkwy. (NS) at: • Ortega Hwy (SR-74) (EW) - Existing Geometry	0.914 F	0.865 D	0.918 F	0.865 D	0.004	0.000	No	No ³
	#7 Ortega Hwy. (SR-74) (NS) at: • Cow Camp (EW) - With Improvements	0.607 B	0.627 B	0.613 B	0.634 B	0.006	0.007	No ³	No ³

¹ ICU = Intersection Capacity Utilization; LOS = Level of Service

² A project is considered to have a significant impact on a study intersection when it causes the ICU to increase 1% or more at an intersection that are projected to operate at Level of Service "E" or "F" without the proposed project.

³ Level of Service "D" or better; No significant project impact.

6 FINDINGS AND CONCLUSIONS

This study assesses the traffic circulation of the proposed The Preserve at San Juan project. The conclusions and recommendations are summarized below.

6.1 PROJECT TRIP GENERATION

The trip generation for the proposed project is shown previously in Table 3-1. The proposed project is expected to generate a total of 690 daily trips with 55 AM peak hour trips and 73 PM peak hour trips.

6.2 TRAFFIC IMPACTS AND LEVEL OF SERVICE

For Existing (2017), Existing (2017) Plus Project, and 2020 Without and With Project Conditions, study area intersections are operating at acceptable levels of service, during the peak hours.

For 2035 Without Project Conditions, the following intersections are anticipated to operate at unacceptable levels of service with existing geometrics, during the peak hours:

ID	Intersection Location	Jurisdiction
1	Antonio Pkwy. - La Pata Av. (NS) / Ortega Hwy. (SR-74) (EW)	Unincorporated County of Orange
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
4	Ortega Hwy. (SR-74) (NS) / Grand Av. (EW)	City of Lake Elsinore

For 2035 With Project Conditions, the study area intersection levels of service do not change during the peak hours in comparison to “without project” conditions.

6.3 TRAFFIC SIGNAL WARRANT ANALYSIS RESULTS

Traffic signal warrant analysis has been performed for the following study area intersections:

ID	Intersection Location	Jurisdiction
2	Ortega Hwy. (SR-74) (NS) / Long Canyon Rd. (EW)	Unincorporated County of Riverside
3	Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)	Unincorporated County of Riverside
5	South Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
6	North Dwy. (NS) / Long Canyon Rd. (EW) – Future	Unincorporated County of Orange
7	Ortega Hwy. (SR-74) (NS) / Cow Camp (EW) – Future	Unincorporated County of Orange

Based on the traffic signal warrants presented in Section 5 of this report, only the intersection of Ortega Highway (SR-74) / Cow Camp is anticipated to meet warrants under 2035 without project conditions.

6.4 CIRCULATION RECOMMENDATIONS

Pursuant to the goal of providing green infrastructure and minimizing the use of non-permeable surfaces such as paved roads, minimum pavement widths needed to efficiently serve project traffic are proposed, for the project access road and on-site roads.

6.4.1 ON-SITE IMPROVEMENTS

- For Vesting Tentative Tract (VTT) 17269 (North Parcel), request deviation to OCPW Std Plan 1107 to allow “A” Street and “C” Street to be constructed with curb to curb widths of 32’ and 28’ respectively instead of the required 36’.
- For VTT 17270 (South Parcel), request deviation to OCPW Std Plan 1107 to allow “B”, “C” & “E” Streets to be constructed with curb to curb widths of 28, 32’ and 28’ respectively instead of the required 36’.
- Install cross-street stop controls at the project access road intersection on Long Canyon Road for the northbound/southbound approaches, and construct each project access road with the approach geometrics (minimum) of one shared left-through-right turn lane (northbound approach and southbound approach).
- Prior to issuance of any grading permits, the applicant shall provide adequate sight distance at all street intersections per Standard Plan 1117, and at all driveways in a manner meeting the approval of the Manager, Traffic Engineer. This includes any necessary revisions to the plan such as removing slopes or other encroachments from the limited use area.
- Prior to the recordation of a subdivision map, the subdivider shall place a note on the map, in a manner that meets the approval of the Manager, Subdivision and Grading Services that states: “The private streets constructed within this map shall be owned, operated and maintained by the developer, successor or assigns. The County of Orange shall have no responsibility therefore unless pursuant to appropriate sections of the Streets and Highway Code of the State of California, the said streets have been accepted into the County Road System by appropriate resolution of the Orange County Board of Supervisors”.
- Prior to the recordation of a subdivision map, the subdivider shall design and construct the following improvements in accordance with plans and specifications meeting the approval of the Manager, Subdivision and Grading.
 - (a) Streets, bus stops, on-road bicycle trails, street names, signs, striping and stenciling.
 - (b) The water distribution system and appurtenance that shall also conform to the applicable laws and adopted regulations enforced by the County Fire Chief.
 - (c) Underground utilities (including gas, cable, electric and telephone), street lights and mailboxes.

6.4.2 OFF-SITE IMPROVEMENTS

For VTT 17269 (North Parcel), proof of legal access to VTT 17269 thru “A” Street between Long Canyon Road and the tract boundary is to be provided prior to approval of the tract map.

For VTT 17270 (South Parcel), proof of legal access to the tract from Long Canyon Rd over that portion of "A" Street located within Riverside County is required prior to approval of the tract map.

Prior to the recordation of a subdivision map, the subdivider shall request deviation to OCPW Std Plan 1109 to allow Long Canyon Rd from "A" Street to Ortega Hwy to be maintained with curb to curb width of 26' instead of the typically required 40', in a manner meeting the approval of the Manager, Traffic Engineering. Essentially, approval of this deviation would allow the existing pavement to remain, rather than requiring widening of the existing Long Canyon Road. Additional pavement for roadway widening along this segment is not necessary to provide adequate level of service. The benefits of maintaining the existing roadway width include the avoidance of increases in the impermeable surface area and less disruption of existing hydrology. It is also noteworthy that the project does not require on-street parking on this low volume access road.

Prior to the recordation of a subdivision map, the subdivider shall construct the following improvements on Ortega Hwy in a manner meeting the approval of the Manager, Traffic Engineering:

- (a) A northbound 12' striped median refuge lane @ Long Canyon Rd
- (b) A northbound 12' left turn lane @ Long Canyon Rd
- (c) Provide a minimum 22' southbound travel lane from Long Canyon Rd to 160' northerly.

Access design features at the Long Canyon Road/Ortega Highway (SR-74) intersection will be further evaluated as street improvement plans are prepared pursuant to these recommendations. Lane recommendations include 1 northbound left turn lane, 1 northbound through lane, 1 southbound shared through-right lane, and 1 eastbound shared left-right lane.

The following off-site improvements have been anticipated for the Rancho Mission Viejo (Ranch Plan) and City of Lake Elsinore General Plan:

Ortega Highway (SR-74) (NS) / Grand Avenue (EW) [#4]

Jurisdiction: City of Lake Elsinore

- Construct a 2nd eastbound through lane
- Construct a 2nd westbound through lane

Ortega Highway (SR-74) (NS) / Cow Camp (EW) [#6]

Jurisdiction: County of Orange

- Install a traffic signal
- Construct a northbound left turn lane
- Construct a 2nd and 3rd northbound through lanes
- Construct a 2nd southbound through lane
- Construct a 1st and 2nd southbound right turn lanes
- Construct a 1st and 2nd eastbound left turn lanes
- Construct an eastbound right turn lane.

6.5 IMPROVEMENT FUNDING MECHANISMS

Table 6-1 summarizes the recommended intersection improvements and the applicable improvement funding sources for each intersection.

There are several funded roadway improvement programs that are in place to improve the roadway infrastructure in the study area. For the County of Orange, the following two roadway improvement programs are currently in place: the Avenida La Pata Supplemental Roadway Fee Program and the South County Roadway Improvement Program. For the County of Riverside, there is the Transportation Uniform Mitigation Fees (TUMF) program. These programs provide key funding sources for General Plan roadway improvements in the study area.

The Avenida La Pata Supplemental Roadway Fee Program was adopted by the County of Orange Board of Supervisors, and it is administered by the County of Orange Resources and Development Management Department (RDMD). The purpose of this fee program is to construct Avenida La Pata from Ortega Highway to the City of San Clemente city limits.

The South County Roadway Improvement Program (SCRIP) (October 18, 2005) was adopted by the County of Orange with the approval of the General Plan Amendment for the project proposed by Rancho Mission Viejo and commonly referred to as the “Ranch Plan”. The SCRIP establishes a comprehensive framework for implementing transportation improvements throughout an “area of benefit” in south Orange County. The following study area roadway facilities are programmed for improvement under SCRIP (see Appendix 6.1):

- Ortega Highway from I-5 Freeway to Antonio Parkway/La Pata Avenue
- Antonio Parkway from Ortega Highway to Ladera Ranch
- La Pata Avenue from Ortega Highway to Avenida Hermosa
- Cow Camp from Antonio Parkway to Ortega Highway
- Intersection of Antonio Parkway/La Pata Avenue and Ortega Highway

The Transportation Uniform Mitigation Fees (TUMF) program is adopted by the Riverside County Board of Supervisors, and it is administered by the Western Riverside County Council of Governments (WRCOG). TUMF, which includes a network of regional facilities, endeavors to spread the cost of improvements on a regional basis through participation of the County and individual cities. The fees are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases. The following study area roadway segments are programmed for improvement under TUMF (see Appendix 6.2):

- Ortega Highway south of Grand Avenue
- Grand Avenue

**TABLE 6-1
IMPROVEMENTS AND FUNDING SOURCES**

Intersection	Jurisdiction	Intersection Improvements ¹				Funding Source ²	
		2017 With Project	2017 Without Project	2017 With Project	2035 Without Project	2035 With Project	
2 Ortega Hwy. (SR-74) (NS) at: • Long Canyon Rd.(EW)	City of Lake Elsinore	• NB left turn lane	• None	• Same	• Same	• Same	Project
4 Ortega Hwy. (SR-74) (NS) at: • Grand Ave. (EW)	City of Lake Elsinore	• None	• None	• None	• 2nd EB through lane • 2nd WB through lane	• Same • Same	TUMF
5 South Dwy. (NS) at: • Long Canyon Rd. (EW)	County of Orange	• NB stop sign • NB travel lane	• None	• Same • Same	• None	• Same • Same	Project
6 North Dwy. (NS) at: • Long Canyon Rd. (EW)	County of Orange	• SB stop sign • SB travel lane	• None	• Same • Same	• None	• Same • Same	Project
7 Ortega Hwy. (SR-74) (NS) at: • Cow Camp (EW)	County of Orange	• Does not exist	• Does not exist	• Does not exist	• Traffic Signal • NB left turn lane • 2nd NB through lane • 3rd NB through lane • 2nd SB through lane • 2 SB right turn lanes • 2 EB left turn lanes • 1 EB right turn lane	• Same • Same • Same • Same • Same • Same • Same • Same	SCRIP

¹ NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound

² Project = 100% Project Responsibility; SCRIP = South County Roadway Improvement Program (Orange County);

TUMF = Transportation Uniform Mitigation Fees (Western Riverside County)

6.6 PROJECT FAIR SHARE CONTRIBUTION

The project fair share calculations are based on the proportion of project peak hour traffic relative to the total new peak hour traffic volumes at off-site improvement locations, as shown in Table 6-2. Total new traffic is calculated based on the total future (2035 With project) traffic minus the Existing (2017) traffic. As shown in Table 6-2, the project generally contributes less than 2% to new traffic at the study area intersections.

TABLE 6-2

PROJECT FAIR SHARE CALCULATIONS

Intersection		Peak Hour	Existing (2017) Traffic	Project Only (2035) Traffic	2035 With Project Traffic	Total New Traffic ¹	Project Fair Share ² (%)
1	Antonio Pkwy/La Pata Ave. (NS) at:	AM	4,695	19	7,002	2,307	0.8%
	• Ortega Hwy. (SR-74) (EW)	PM	3,988	26	6,536	2,548	1.0%
2	Ortega Hwy. (SR-74) (NS) at:	AM	880	55	1,070	190	28.9%
	• Long Canyon Rd. (EW)	PM	1,393	73	1,919	526	13.9%
3	Ortega Hwy. (SR-74) (NS) at:	AM	868	19	1,148	280	6.8%
	• Monte Vista St. (EW)	PM	1,395	26	1,866	471	5.5%
4	Ortega Hwy. (SR-74) (NS) at:	AM	1,974	17	3,223	1,249	1.4%
	• Grand Ave. (EW)	PM	2,376	23	4,208	1,832	1.3%
7	Ortega Hwy. (SR-74) (NS) at:	AM	865	36	2,986	2,121	1.7%
	• Cow Camp (EW)	PM	1,370	48	3,738	2,368	2.0%

¹ Total New Traffic = 2035 With Project - Existing (2017) Traffic

² Percent Project Fair Share = Project Traffic / Total New Traffic

6.7 SIGNIFICANT PROJECT IMPACT

For the study area intersections located within Orange County, the mitigation needs have been assessed based on the County of Orange Growth Management Plan (GMP) guidelines which state that the Project traffic resulting in a 1% increase in the Volume/Capacity (V/C) Ratio of a deficient intersection (Level of Service "E" or "F") as compared to the No Project condition is considered significantly impacted and mitigation measures are required to reduce the project's impact to a level of insignificance.

For intersections in Riverside County, if an intersection is projected to operate at an unacceptable level of service (i.e., LOS "E" or "F") without the project, and the project contributes 50 or more peak hour trips, the impact is considered a significant direct impact. A significant cumulative impact is identified when a facility is projected to operate below the level of service standards due to cumulative future traffic AND a project-related traffic increase as measured by 50 or more peak hour trips. Cumulative traffic impacts are created as a result of a combination of the proposed project together with other future developments contributing to the overall traffic impacts requiring additional improvements to maintain acceptable level of service operations with or without the project.

As mentioned previously in Section 5 of this report, the proposed project is not anticipated to contribute a direct significant impact or cumulative impact at the study area intersections.

APPENDIX 2.1:
TRAFFIC COUNT DATA SHEETS

This Page Intentionally Left Blank

EXISTING (2017) RAW COUNTS SUMMARY

1: Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

AM/IPM Count Date: 2/22/2017

	AM PEAK HOUR												PM PEAK HOUR													
	PHF: 0.82						PHF: 0.96						PHF: 0.82						PHF: 0.96							
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR		
2013 Total	469	533	29	141	723	523	376	230	417	106	670	315	4,532	297	447	93	324	393	424	346	816	265	34	311	128	3,878
Auto	451	527	15	137	716	513	365	202	398	102	631	305	4,362	293	445	79	319	392	420	344	769	263	33	287	121	3,765
Raw (2-Axle)	12	5	1	2	4	7	8	8	12	2	16	5	82	3	2	0	2	0	2	2	14	1	1	7	2	36
Raw (3-Axle)	4	1	2	1	3	2	1	14	4	2	17	5	56	1	0	13	1	1	1	0	27	1	0	15	4	64
Raw (4-Axle)	2	0	11	1	0	1	2	6	3	0	6	0	32	0	0	1	2	0	1	0	6	0	0	2	1	13
PCE (2-Axle)	18	8	2	3	6	11	12	12	18	3	24	8	125	5	3	0	3	0	3	3	21	2	2	11	3	56
PCE (3-Axle)	8	2	4	2	6	4	2	28	8	4	34	10	112	2	0	26	2	2	2	0	54	2	0	30	8	128
PCE (4-Axle)	6	0	33	3	0	3	6	18	9	0	18	0	96	0	0	3	6	0	3	0	18	0	0	6	3	39
PCE Total	483	537	54	145	728	531	385	260	433	109	707	323	4,695	300	448	108	330	394	428	347	862	267	35	334	135	3,988

2: Ortega Hwy. (SR-74) (NS) / Long Cyn. Rd. (EW)

AM/IPM Count Date: 2/22/2017

	AM PEAK HOUR												PM PEAK HOUR													
	PHF: 0.87						PHF: 0.87						PHF: 0.96						PHF: 0.96							
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR		
2013 Total	2	86	0	0	757	8	4	0	1	0	0	0	858	0	1,226	0	0	117	1	20	0	7	0	0	0	1,371
Auto	1	78	0	0	747	7	2	0	1	0	0	0	836	0	1,199	0	0	115	1	17	0	6	0	0	0	1,338
Raw (2-Axle)	1	3	0	0	8	0	2	0	0	0	0	0	14	0	23	0	0	2	0	2	0	1	0	0	0	28
Raw (3-Axle)	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	1	0	0	0	0	0	3
Raw (4-Axle)	0	4	0	0	1	1	0	0	0	0	0	0	6	0	2	0	0	0	0	0	0	0	0	0	0	2
PCE (2-Axle)	2	5	0	0	12	0	3	0	0	0	0	0	22	0	35	0	0	3	0	3	0	2	0	0	0	43
PCE (3-Axle)	0	2	0	0	2	0	0	0	0	0	0	0	4	0	4	0	0	0	0	2	0	0	0	0	0	6
PCE (4-Axle)	0	12	0	0	3	3	0	0	0	0	0	0	18	0	6	0	0	0	0	0	0	0	0	0	0	6
PCE Total	3	97	0	0	764	10	5	0	1	0	0	0	880	0	1,244	0	0	118	1	22	0	8	0	0	0	1,393

EXISTING (2017) RAW COUNTS SUMMARY

3: Ortega Hwy. (SR-74) (NS) / Monte Vista St. (EW)

AM/PM Count Date: 2/22/2017

	AM PEAK HOUR														PM PEAK HOUR													
	PHF: 0.89							PHF: 0.96							PHF: 0.92							PHF: 0.95						
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	AM TOTAL	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	PM TOTAL
2013 Total	0	91	0	0	751	1	1	0	1	0	0	0	845	845	0	1,252	0	1	115	3	1	0	1	0	0	0	1,373	1,373
Auto	0	81	0	0	738	1	1	0	1	0	0	0	822	822	0	1,219	0	1	113	3	1	0	1	0	0	0	1,338	1,338
Raw (2-Axle)	0	5	0	0	10	0	0	0	0	0	0	15	15	0	29	0	0	2	0	0	0	0	0	0	0	31	31	
Raw (3-Axle)	0	0	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	2	2		
Raw (4-Axle)	0	5	0	0	2	0	0	0	0	0	0	7	7	0	2	0	0	0	0	0	0	0	0	0	2	2		
PCE (2-Axle)	0	8	0	0	15	0	0	0	0	0	0	23	23	0	44	0	0	3	0	0	0	0	0	0	0	47	47	
PCE (3-Axle)	0	0	0	0	2	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	0	4	4		
PCE (4-Axle)	0	15	0	0	6	0	0	0	0	0	0	21	21	0	6	0	0	0	0	0	0	0	0	0	6	6		
PCE Total	0	104	0	0	761	1	1	0	1	0	0	868	868	0	1,273	0	1	116	3	1	0	1	0	0	0	1,395	1,395	

4: Ortega Hwy. (SR-74) (NS) / Grand Av. (EW)

AM/PM Count Date: 2/22/2017

	AM PEAK HOUR														PM PEAK HOUR													
	PHF: 0.92							PHF: 0.95							PHF: 0.92							PHF: 0.95						
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	AM TOTAL	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL	PM TOTAL
2013 Total	94	0	56	0	0	0	0	449	466	274	591	1,930	1,930	695	0	476	0	0	0	0	581	94	41	451	2,338	2,338		
Auto	86	0	56	0	0	0	0	435	454	269	574	1,874	1,874	671	0	469	0	0	0	568	93	39	443	2,283	2,283			
Raw (2-Axle)	2	0	0	0	0	0	0	12	11	5	11	41	41	21	0	7	0	0	0	12	0	2	6	48	48			
Raw (3-Axle)	1	0	0	0	0	0	0	2	1	0	4	8	8	1	0	0	0	0	0	0	0	0	0	0	1	1		
Raw (4-Axle)	5	0	0	0	0	0	0	0	0	0	2	7	7	2	0	0	0	0	0	1	1	0	2	6	6			
PCE (2-Axle)	3	0	0	0	0	0	0	18	17	8	17	63	63	32	0	11	0	0	0	18	0	3	9	73	73			
PCE (3-Axle)	2	0	0	0	0	0	0	4	2	0	8	16	16	2	0	0	0	0	0	0	0	0	0	0	2	2		
PCE (4-Axle)	15	0	0	0	0	0	0	0	0	0	6	21	21	6	0	0	0	0	3	3	3	0	6	18	18			
PCE Total	106	0	56	0	0	0	0	457	473	277	605	1,974	1,974	711	0	480	0	0	0	589	96	42	458	2,376	2,376			

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

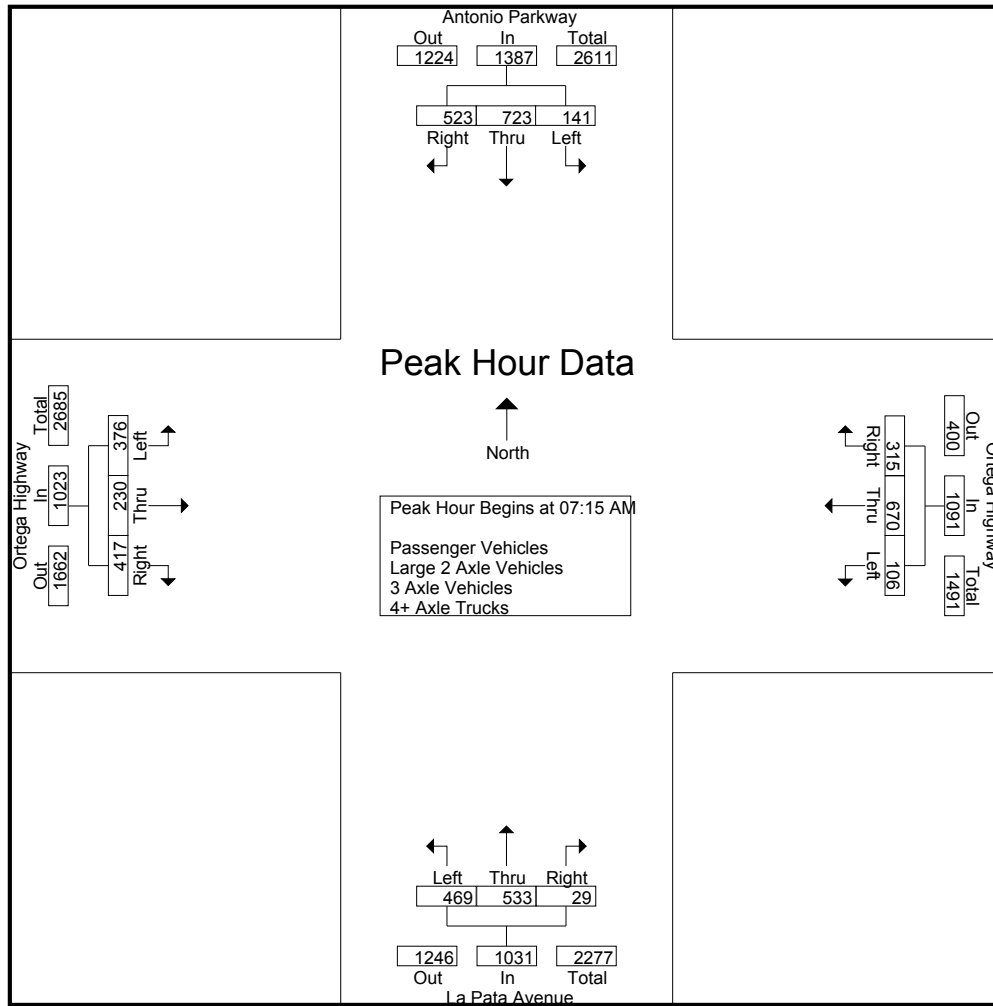
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	22	74	74	170	35	183	96	314	77	62	6	145	71	53	79	203	832
07:15 AM	25	226	98	349	18	198	76	292	82	72	8	162	83	54	143	280	1083
07:30 AM	44	282	131	457	38	183	99	320	121	155	9	285	87	72	169	328	1390
07:45 AM	38	122	138	298	33	141	76	250	148	220	7	375	119	51	69	239	1162
Total	129	704	441	1274	124	705	347	1176	428	509	30	967	360	230	460	1050	4467
08:00 AM	34	93	156	283	17	148	64	229	118	86	5	209	87	53	36	176	897
08:15 AM	26	74	123	223	7	87	25	119	64	53	6	123	74	43	47	164	629
08:30 AM	26	74	122	222	23	124	39	186	62	78	2	142	87	44	42	173	723
08:45 AM	22	61	154	237	16	137	53	206	72	56	3	131	86	45	44	175	749
Total	108	302	555	965	63	496	181	740	316	273	16	605	334	185	169	688	2998
Grand Total	237	1006	996	2239	187	1201	528	1916	744	782	46	1572	694	415	629	1738	7465
Apprch %	10.6	44.9	44.5		9.8	62.7	27.6		47.3	49.7	2.9		39.9	23.9	36.2		
Total %	3.2	13.5	13.3	30	2.5	16.1	7.1	25.7	10	10.5	0.6	21.1	9.3	5.6	8.4	23.3	
Passenger Vehicles	227	990	973	2190	162	1112	502	1776	715	769	26	1510	669	357	594	1620	7096
% Passenger Vehicles	95.8	98.4	97.7	97.8	86.6	92.6	95.1	92.7	96.1	98.3	56.5	96.1	96.4	86	94.4	93.2	95.1
Large 2 Axle Vehicles	2	11	14	27	7	30	15	52	20	11	2	33	13	14	22	49	161
% Large 2 Axle Vehicles	0.8	1.1	1.4	1.2	3.7	2.5	2.8	2.7	2.7	1.4	4.3	2.1	1.9	3.4	3.5	2.8	2.2
3 Axle Vehicles	5	5	6	16	8	43	8	59	5	2	3	10	1	28	7	36	121
% 3 Axle Vehicles	2.1	0.5	0.6	0.7	4.3	3.6	1.5	3.1	0.7	0.3	6.5	0.6	0.1	6.7	1.1	2.1	1.6
4+ Axle Trucks	3	0	3	6	10	16	3	29	4	0	15	19	11	16	6	33	87
% 4+ Axle Trucks	1.3	0	0.3	0.3	5.3	1.3	0.6	1.5	0.5	0	32.6	1.2	1.6	3.9	1	1.9	1.2

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	25	226	98	349	18	198	76	292	82	72	8	162	83	54	143	280	1083
07:30 AM	44	282	131	457	38	183	99	320	121	155	9	285	87	72	169	328	1390
07:45 AM	38	122	138	298	33	141	76	250	148	220	7	375	119	51	69	239	1162
08:00 AM	34	93	156	283	17	148	64	229	118	86	5	209	87	53	36	176	897
Total Volume	141	723	523	1387	106	670	315	1091	469	533	29	1031	376	230	417	1023	4532
% App. Total	10.2	52.1	37.7		9.7	61.4	28.9		45.5	51.7	2.8		36.8	22.5	40.8		
PHF	.801	.641	.838	.759	.697	.846	.795	.852	.792	.606	.806	.687	.790	.799	.617	.780	.815

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 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				07:15 AM				07:00 AM			
+0 mins.	25	226	98	349	35	183	96	314	82	72	8	162	71	53	79	203
+15 mins.	44	282	131	457	18	198	76	292	121	155	9	285	83	54	143	280
+30 mins.	38	122	138	298	38	183	99	320	148	220	7	375	87	72	169	328
+45 mins.	34	93	156	283	33	141	76	250	118	86	5	209	119	51	69	239
Total Volume	141	723	523	1387	124	705	347	1176	469	533	29	1031	360	230	460	1050
% App. Total	10.2	52.1	37.7		10.5	59.9	29.5		45.5	51.7	2.8		34.3	21.9	43.8	
PHF	.801	.641	.838	.759	.816	.890	.876	.919	.792	.606	.806	.687	.756	.799	.680	.800

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

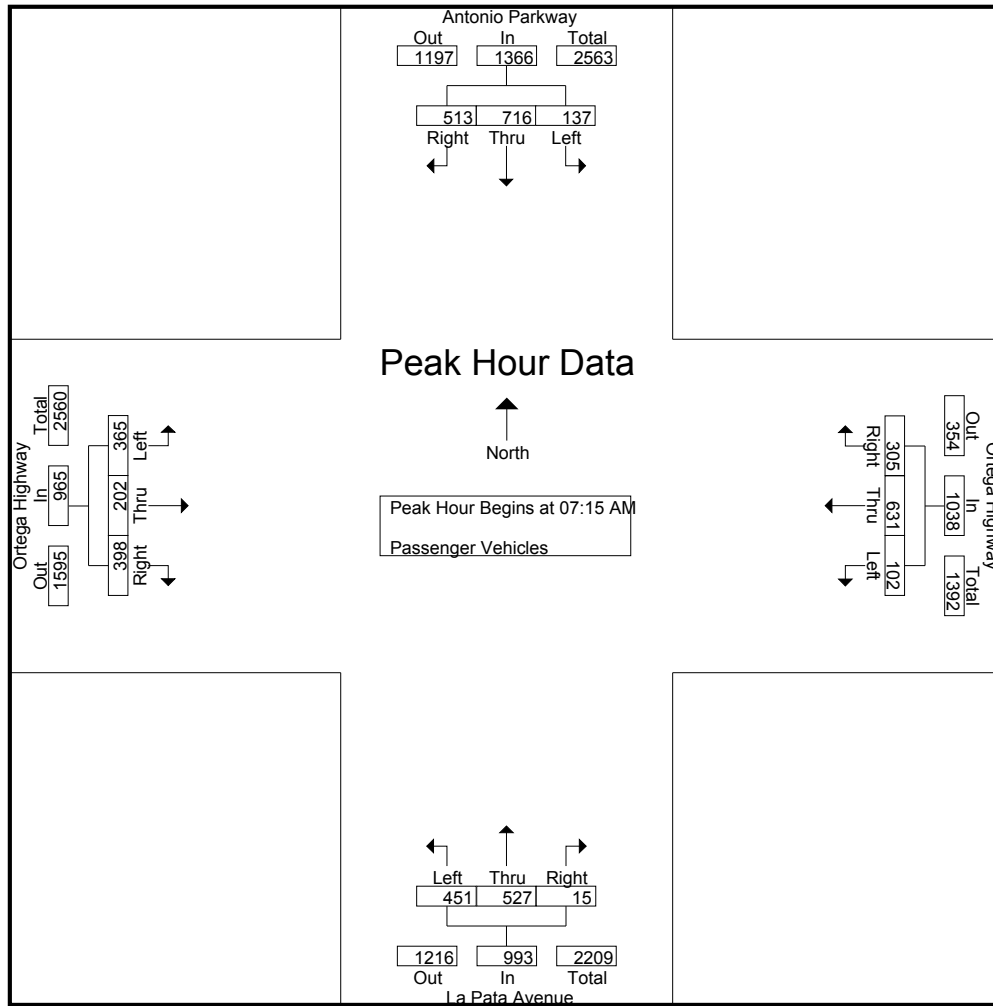
Groups Printed- Passenger Vehicles

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	22	73	73	168	27	156	87	270	75	62	4	141	69	47	74	190	769
07:15 AM	24	225	97	346	15	184	73	272	79	69	4	152	81	50	138	269	1039
07:30 AM	44	281	128	453	38	172	96	306	116	153	4	273	84	61	163	308	1340
07:45 AM	37	119	133	289	32	135	75	242	142	220	4	366	114	48	64	226	1123
Total	127	698	431	1256	112	647	331	1090	412	504	16	932	348	206	439	993	4271
08:00 AM	32	91	155	278	17	140	61	218	114	85	3	202	86	43	33	162	860
08:15 AM	23	71	119	213	6	80	23	109	59	52	4	115	71	34	42	147	584
08:30 AM	23	72	117	212	16	121	35	172	59	74	1	134	82	36	39	157	675
08:45 AM	22	58	151	231	11	124	52	187	71	54	2	127	82	38	41	161	706
Total	100	292	542	934	50	465	171	686	303	265	10	578	321	151	155	627	2825
Grand Total	227	990	973	2190	162	1112	502	1776	715	769	26	1510	669	357	594	1620	7096
Apprch %	10.4	45.2	44.4		9.1	62.6	28.3		47.4	50.9	1.7		41.3	22	36.7		
Total %	3.2	14	13.7	30.9	2.3	15.7	7.1	25	10.1	10.8	0.4	21.3	9.4	5	8.4	22.8	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	24	225	97	346	15	184	73	272	79	69	4	152	81	50	138	269	1039
07:30 AM	44	281	128	453	38	172	96	306	116	153	4	273	84	61	163	308	1340
07:45 AM	37	119	133	289	32	135	75	242	142	220	4	366	114	48	64	226	1123
08:00 AM	32	91	155	278	17	140	61	218	114	85	3	202	86	43	33	162	860
Total Volume	137	716	513	1366	102	631	305	1038	451	527	15	993	365	202	398	965	4362
% App. Total	10	52.4	37.6		9.8	60.8	29.4		45.4	53.1	1.5		37.8	20.9	41.2		
PHF	.778	.637	.827	.754	.671	.857	.794	.848	.794	.599	.938	.678	.800	.828	.610	.783	.814

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	24	225	97	346	15	184	73	272	79	69	4	152	81	50	138	269
+15 mins.	44	281	128	453	38	172	96	306	116	153	4	273	84	61	163	308
+30 mins.	37	119	133	289	32	135	75	242	142	220	4	366	114	48	64	226
+45 mins.	32	91	155	278	17	140	61	218	114	85	3	202	86	43	33	162
Total Volume	137	716	513	1366	102	631	305	1038	451	527	15	993	365	202	398	965
% App. Total	10	52.4	37.6		9.8	60.8	29.4		45.4	53.1	1.5		37.8	20.9	41.2	
PHF	.778	.637	.827	.754	.671	.857	.794	.848	.794	.599	.938	.678	.800	.828	.610	.783

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

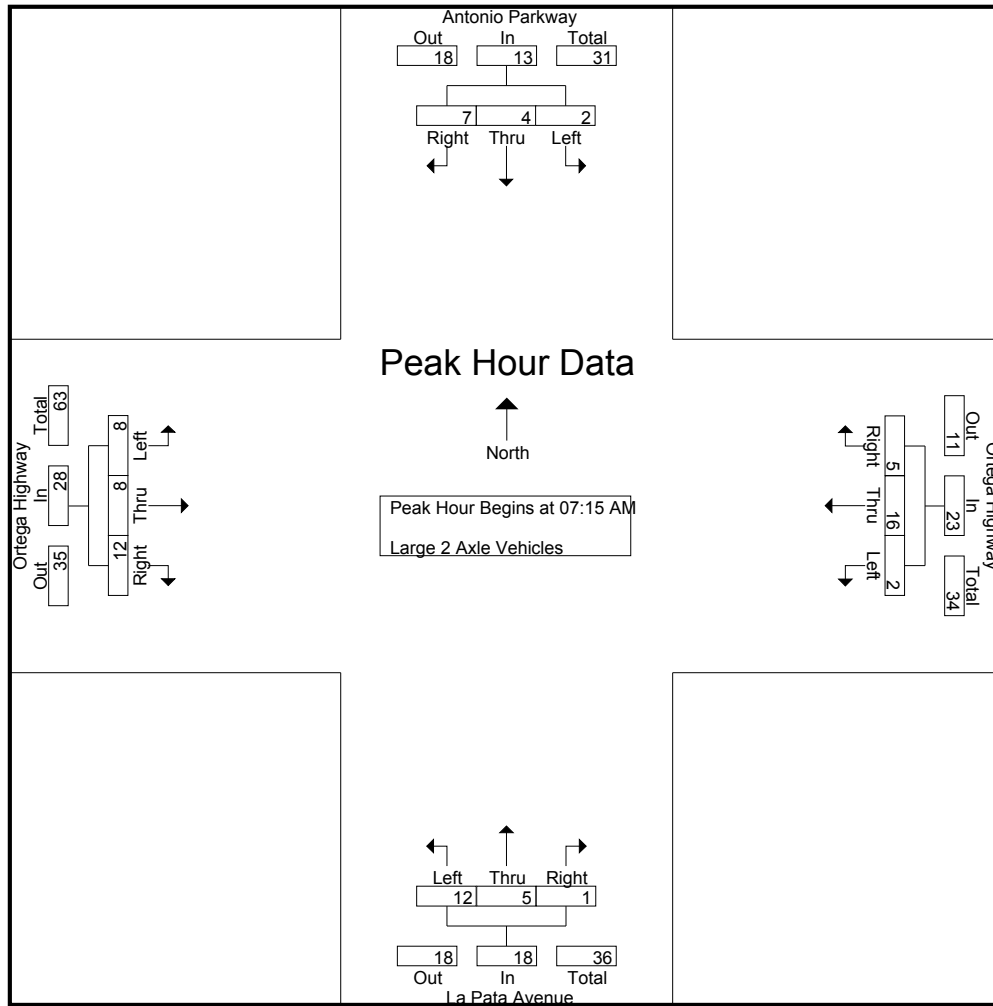
Groups Printed- Large 2 Axle Vehicles

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	1	2	4	10	7	21	2	0	0	2	0	1	2	3	28
07:15 AM	1	0	1	2	1	4	0	5	3	3	0	6	1	1	3	5	18
07:30 AM	0	1	3	4	0	6	1	7	1	1	0	2	2	5	4	11	24
07:45 AM	0	2	3	5	1	4	1	6	6	0	1	7	4	1	4	9	27
Total	1	4	8	13	6	24	9	39	12	4	1	17	7	8	13	28	97
08:00 AM	1	1	0	2	0	2	3	5	2	1	0	3	1	1	1	3	13
08:15 AM	0	2	2	4	0	2	1	3	4	1	0	5	0	3	4	7	19
08:30 AM	0	2	3	5	0	1	2	3	2	4	1	7	3	2	2	7	22
08:45 AM	0	2	1	3	1	1	0	2	0	1	0	1	2	0	2	4	10
Total	1	7	6	14	1	6	6	13	8	7	1	16	6	6	9	21	64
Grand Total	2	11	14	27	7	30	15	52	20	11	2	33	13	14	22	49	161
Apprch %	7.4	40.7	51.9		13.5	57.7	28.8		60.6	33.3	6.1		26.5	28.6	44.9		
Total %	1.2	6.8	8.7	16.8	4.3	18.6	9.3	32.3	12.4	6.8	1.2	20.5	8.1	8.7	13.7	30.4	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	1	2	1	4	0	5	3	3	0	6	1	1	3	5	18
07:30 AM	0	1	3	4	0	6	1	7	1	1	0	2	2	5	4	11	24
07:45 AM	0	2	3	5	1	4	1	6	6	0	1	7	4	1	4	9	27
08:00 AM	1	1	0	2	0	2	3	5	2	1	0	3	1	1	1	3	13
Total Volume	2	4	7	13	2	16	5	23	12	5	1	18	8	8	12	28	82
% App. Total	15.4	30.8	53.8		8.7	69.6	21.7		66.7	27.8	5.6		28.6	28.6	42.9		
PHF	.500	.500	.583	.650	.500	.667	.417	.821	.500	.417	.250	.643	.500	.400	.750	.636	.759

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	1	0	1	2	1	4	0	5	3	3	0	6	1	1	3	5
+15 mins.	0	1	3	4	0	6	1	7	1	1	0	2	2	5	4	11
+30 mins.	0	2	3	5	1	4	1	6	6	0	1	7	4	1	4	9
+45 mins.	1	1	0	2	0	2	3	5	2	1	0	3	1	1	1	3
Total Volume	2	4	7	13	2	16	5	23	12	5	1	18	8	8	12	28
% App. Total	15.4	30.8	53.8		8.7	69.6	21.7		66.7	27.8	5.6		28.6	28.6	42.9	
PHF	.500	.500	.583	.650	.500	.667	.417	.821	.500	.417	.250	.643	.500	.400	.750	.636

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

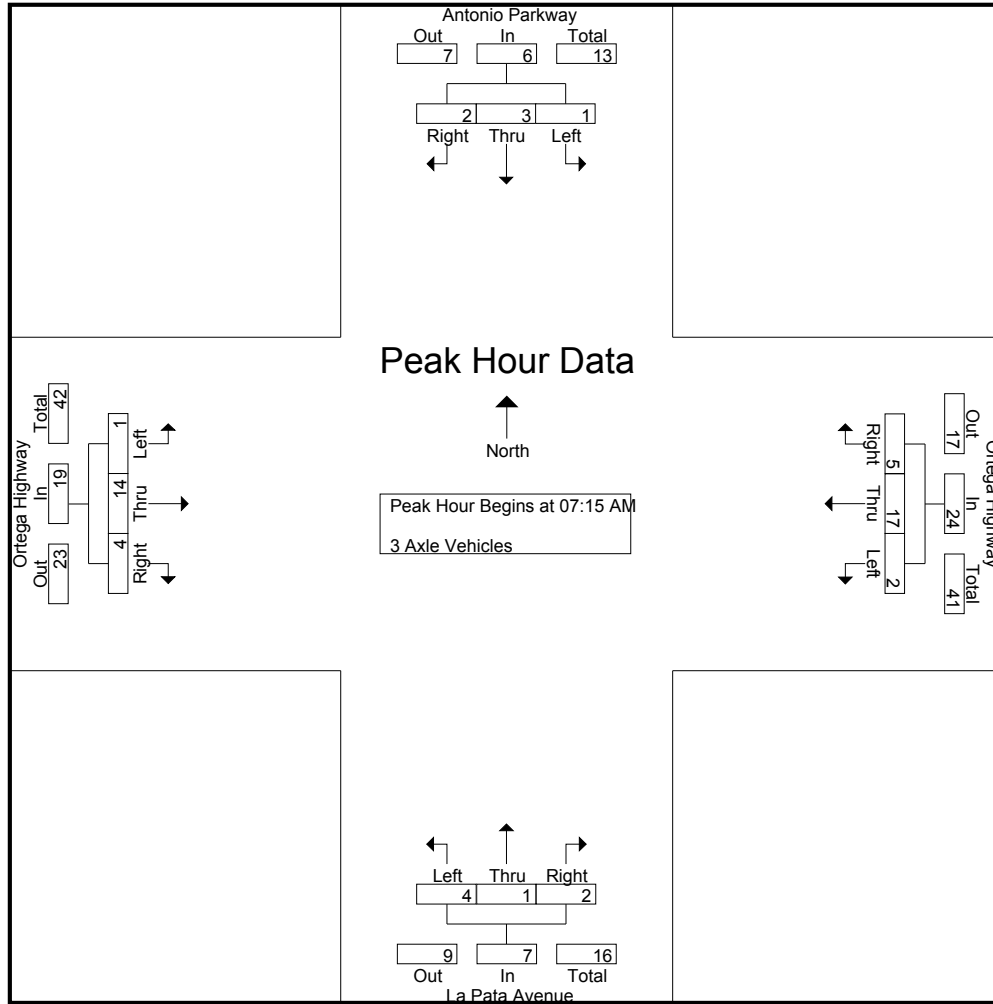
Groups Printed- 3 Axle Vehicles

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	4	14	1	19	0	0	1	1	0	4	1	5	25
07:15 AM	0	1	0	1	2	6	3	11	0	0	1	1	1	2	2	5	18
07:30 AM	0	0	0	0	0	3	2	5	2	1	0	3	0	3	0	3	11
07:45 AM	0	1	1	2	0	2	0	2	0	0	0	0	0	2	1	3	7
Total	0	2	1	3	6	25	6	37	2	1	2	5	1	11	4	16	61
08:00 AM	1	1	1	3	0	6	0	6	2	0	1	3	0	7	1	8	20
08:15 AM	3	1	2	6	0	3	0	3	1	0	0	1	0	4	0	4	14
08:30 AM	1	0	2	3	1	2	1	4	0	0	0	0	0	3	1	4	11
08:45 AM	0	1	0	1	1	7	1	9	0	1	0	1	0	3	1	4	15
Total	5	3	5	13	2	18	2	22	3	1	1	5	0	17	3	20	60
Grand Total	5	5	6	16	8	43	8	59	5	2	3	10	1	28	7	36	121
Apprch %	31.2	31.2	37.5		13.6	72.9	13.6		50	20	30		2.8	77.8	19.4		
Total %	4.1	4.1	5	13.2	6.6	35.5	6.6	48.8	4.1	1.7	2.5	8.3	0.8	23.1	5.8	29.8	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	1	0	1	2	6	3	11	0	0	1	1	1	2	2	5	18
07:30 AM	0	0	0	0	0	3	2	5	2	1	0	3	0	3	0	3	11
07:45 AM	0	1	1	2	0	2	0	2	0	0	0	0	0	2	1	3	7
08:00 AM	1	1	1	3	0	6	0	6	2	0	1	3	0	7	1	8	20
Total Volume	1	3	2	6	2	17	5	24	4	1	2	7	1	14	4	19	56
% App. Total	16.7	50	33.3		8.3	70.8	20.8		57.1	14.3	28.6		5.3	73.7	21.1		
PHF	.250	.750	.500	.500	.250	.708	.417	.545	.500	.250	.500	.583	.250	.500	.500	.594	.700

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 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	1	0	1	2	6	3	11	0	0	1	1	1	2	2	5
+15 mins.	0	0	0	0	0	3	2	5	2	1	0	3	0	3	0	3
+30 mins.	0	1	1	2	0	2	0	2	0	0	0	0	0	2	1	3
+45 mins.	1	1	1	3	0	6	0	6	2	0	1	3	0	7	1	8
Total Volume	1	3	2	6	2	17	5	24	4	1	2	7	1	14	4	19
% App. Total	16.7	50	33.3		8.3	70.8	20.8		57.1	14.3	28.6		5.3	73.7	21.1	
PHF	.250	.750	.500	.500	.250	.708	.417	.545	.500	.250	.500	.583	.250	.500	.500	.594

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

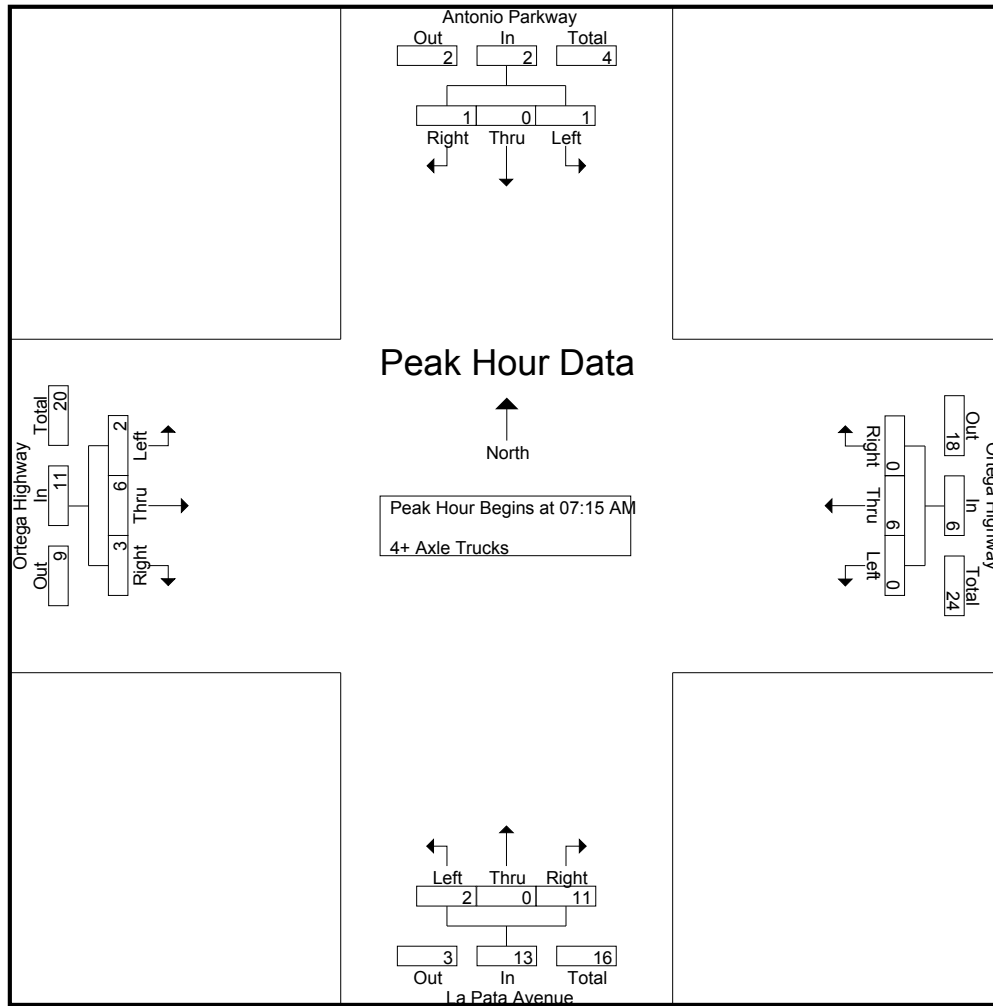
Groups Printed- 4+ Axle Trucks

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	3	1	4	0	0	1	1	2	1	2	5	10
07:15 AM	0	0	0	0	0	4	0	4	0	0	3	3	0	1	0	1	8
07:30 AM	0	0	0	0	0	2	0	2	2	0	5	7	1	3	2	6	15
07:45 AM	1	0	1	2	0	0	0	0	0	0	2	2	1	0	0	1	5
Total	1	0	1	2	0	9	1	10	2	0	11	13	4	5	4	13	38
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	3	4
08:15 AM	0	0	0	0	1	2	1	4	0	0	2	2	3	2	1	6	12
08:30 AM	2	0	0	2	6	0	1	7	1	0	0	1	2	3	0	5	15
08:45 AM	0	0	2	2	3	5	0	8	1	0	1	2	2	4	0	6	18
Total	2	0	2	4	10	7	2	19	2	0	4	6	7	11	2	20	49
Grand Total	3	0	3	6	10	16	3	29	4	0	15	19	11	16	6	33	87
Apprch %	50	0	50		34.5	55.2	10.3		21.1	0	78.9		33.3	48.5	18.2		
Total %	3.4	0	3.4	6.9	11.5	18.4	3.4	33.3	4.6	0	17.2	21.8	12.6	18.4	6.9	37.9	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 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	4	0	4	0	0	3	3	0	1	0	1	8
07:30 AM	0	0	0	0	0	2	0	2	2	0	5	7	1	3	2	6	15
07:45 AM	1	0	1	2	0	0	0	0	0	0	2	2	1	0	0	1	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	3	4
Total Volume	1	0	1	2	0	6	0	6	2	0	11	13	2	6	3	11	32
% App. Total	50	0	50		0	100	0		15.4	0	84.6		18.2	54.5	27.3		
PHF	.250	.000	.250	.250	.000	.375	.000	.375	.250	.000	.550	.464	.500	.500	.375	.458	.533

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74AM
 Site Code : 05117038
 Start Date : 2/22/2017
 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	0	0	0	0	4	0	4	0	0	3	3	0	1	0	1
+15 mins.	0	0	0	0	0	2	0	2	2	0	5	7	1	3	2	6
+30 mins.	1	0	1	2	0	0	0	0	0	0	2	2	1	0	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	3
Total Volume	1	0	1	2	0	6	0	6	2	0	11	13	2	6	3	11
% App. Total	50	0	50		0	100	0		15.4	0	84.6		18.2	54.5	27.3	
PHF	.250	.000	.250	.250	.000	.375	.000	.375	.250	.000	.550	.464	.500	.500	.375	.458

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

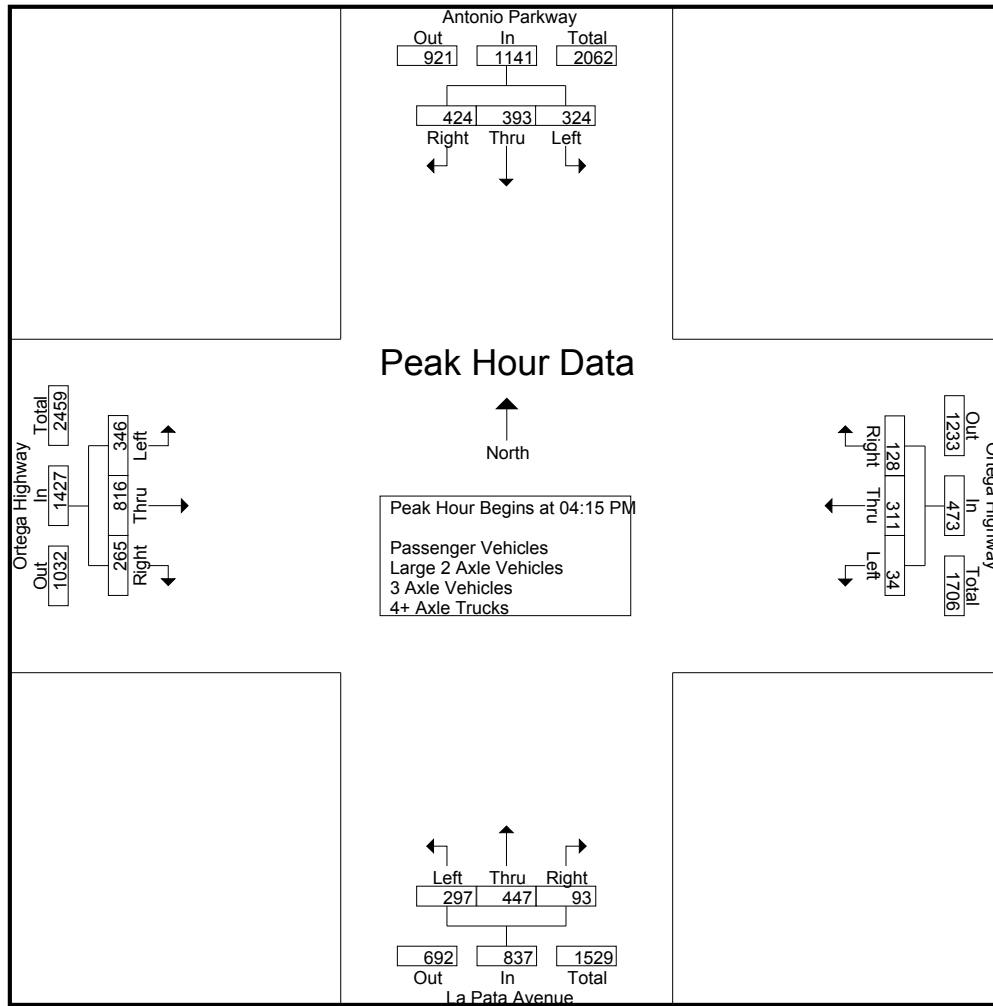
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	79	90	134	303	5	79	18	102	52	89	20	161	54	226	68	348	914
04:15 PM	100	117	108	325	8	74	29	111	70	114	29	213	66	201	91	358	1007
04:30 PM	93	101	86	280	9	76	32	117	73	92	22	187	86	211	73	370	954
04:45 PM	82	102	120	304	6	68	33	107	88	123	23	234	75	206	58	339	984
Total	354	410	448	1212	28	297	112	437	283	418	94	795	281	844	290	1415	3859
05:00 PM	49	73	110	232	11	93	34	138	66	118	19	203	119	198	43	360	933
05:15 PM	99	103	141	343	10	64	16	90	75	122	14	211	93	170	58	321	965
05:30 PM	54	101	131	286	13	50	18	81	44	93	15	152	127	173	49	349	868
05:45 PM	55	107	132	294	5	47	11	63	47	101	13	161	110	142	59	311	829
Total	257	384	514	1155	39	254	79	372	232	434	61	727	449	683	209	1341	3595
Grand Total	611	794	962	2367	67	551	191	809	515	852	155	1522	730	1527	499	2756	7454
Apprch %	25.8	33.5	40.6		8.3	68.1	23.6		33.8	56	10.2		26.5	55.4	18.1		
Total %	8.2	10.7	12.9	31.8	0.9	7.4	2.6	10.9	6.9	11.4	2.1	20.4	9.8	20.5	6.7	37	
Passenger Vehicles	593	789	950	2332	66	512	183	761	507	847	135	1489	727	1448	494	2669	7251
% Passenger Vehicles	97.1	99.4	98.8	98.5	98.5	92.9	95.8	94.1	98.4	99.4	87.1	97.8	99.6	94.8	99	96.8	97.3
Large 2 Axle Vehicles	5	2	8	15	1	8	3	12	4	4	2	10	3	25	2	30	67
% Large 2 Axle Vehicles	0.8	0.3	0.8	0.6	1.5	1.5	1.6	1.5	0.8	0.5	1.3	0.7	0.4	1.6	0.4	1.1	0.9
3 Axle Vehicles	9	3	3	15	0	26	4	30	3	1	17	21	0	46	3	49	115
% 3 Axle Vehicles	1.5	0.4	0.3	0.6	0	4.7	2.1	3.7	0.6	0.1	11	1.4	0	3	0.6	1.8	1.5
4+ Axle Trucks	4	0	1	5	0	5	1	6	1	0	1	2	0	8	0	8	21
% 4+ Axle Trucks	0.7	0	0.1	0.2	0	0.9	0.5	0.7	0.2	0	0.6	0.1	0	0.5	0	0.3	0.3

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	100	117	108	325	8	74	29	111	70	114	29	213	66	201	91	358	1007
04:30 PM	93	101	86	280	9	76	32	117	73	92	22	187	86	211	73	370	954
04:45 PM	82	102	120	304	6	68	33	107	88	123	23	234	75	206	58	339	984
05:00 PM	49	73	110	232	11	93	34	138	66	118	19	203	119	198	43	360	933
Total Volume	324	393	424	1141	34	311	128	473	297	447	93	837	346	816	265	1427	3878
% App. Total	28.4	34.4	37.2		7.2	65.8	27.1		35.5	53.4	11.1		24.2	57.2	18.6		
PHF	.810	.840	.883	.878	.773	.836	.941	.857	.844	.909	.802	.894	.727	.967	.728	.964	.963

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



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

	04:00 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	79	90	134	303	8	74	29	111	70	114	29	213	66	201	91	358
+15 mins.	100	117	108	325	9	76	32	117	73	92	22	187	86	211	73	370
+30 mins.	93	101	86	280	6	68	33	107	88	123	23	234	75	206	58	339
+45 mins.	82	102	120	304	11	93	34	138	66	118	19	203	119	198	43	360
Total Volume	354	410	448	1212	34	311	128	473	297	447	93	837	346	816	265	1427
% App. Total	29.2	33.8	37		7.2	65.8	27.1		35.5	53.4	11.1		24.2	57.2	18.6	
PHF	.885	.876	.836	.932	.773	.836	.941	.857	.844	.909	.802	.894	.727	.967	.728	.964

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

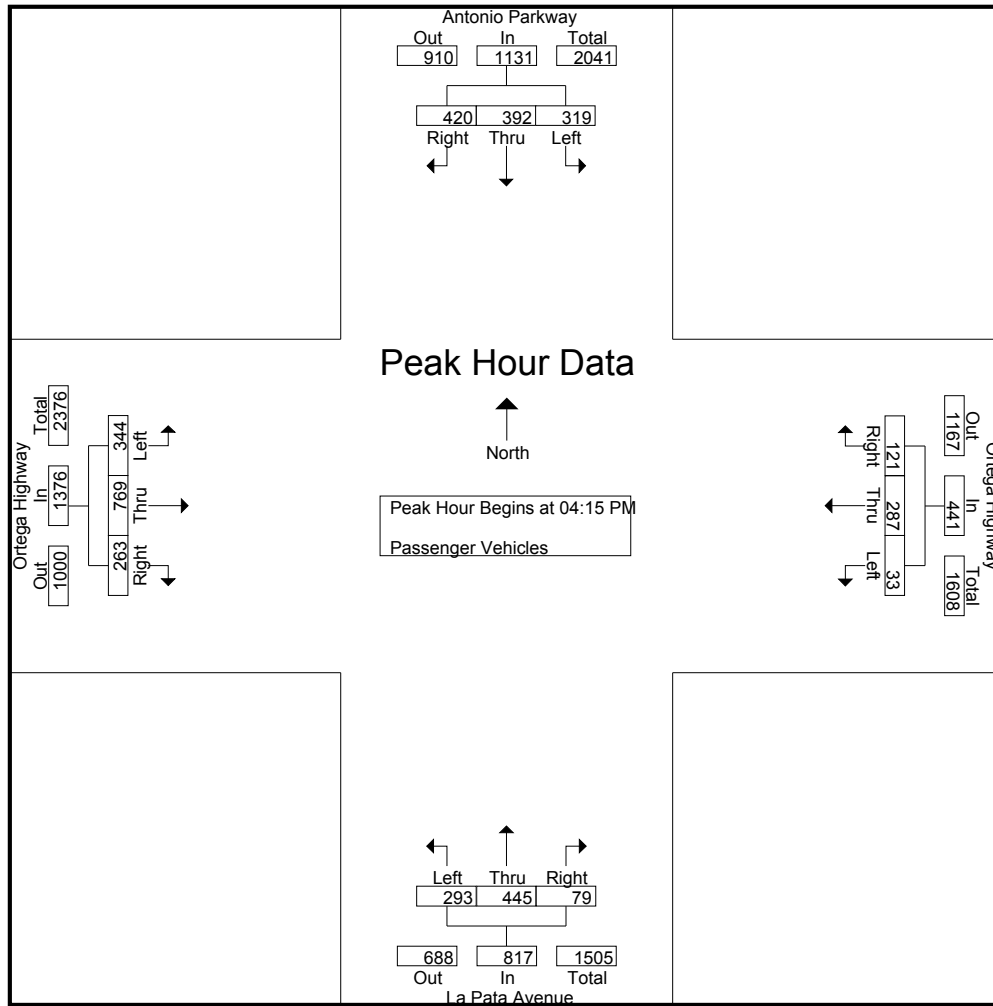
Groups Printed- Passenger Vehicles

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	74	86	131	291	5	70	17	92	50	87	18	155	54	212	65	331	869
04:15 PM	98	117	107	322	8	66	27	101	69	113	26	208	66	190	90	346	977
04:30 PM	91	100	83	274	8	69	31	108	71	92	20	183	84	195	72	351	916
04:45 PM	81	102	120	303	6	62	30	98	88	122	19	229	75	197	58	330	960
Total	344	405	441	1190	27	267	105	399	278	414	83	775	279	794	285	1358	3722
05:00 PM	49	73	110	232	11	90	33	134	65	118	14	197	119	187	43	349	912
05:15 PM	95	103	136	334	10	62	16	88	73	122	13	208	93	163	58	314	944
05:30 PM	54	101	131	286	13	48	18	79	44	93	15	152	126	167	49	342	859
05:45 PM	51	107	132	290	5	45	11	61	47	100	10	157	110	137	59	306	814
Total	249	384	509	1142	39	245	78	362	229	433	52	714	448	654	209	1311	3529
Grand Total	593	789	950	2332	66	512	183	761	507	847	135	1489	727	1448	494	2669	7251
Apprch %	25.4	33.8	40.7		8.7	67.3	24		34	56.9	9.1		27.2	54.3	18.5		
Total %	8.2	10.9	13.1	32.2	0.9	7.1	2.5	10.5	7	11.7	1.9	20.5	10	20	6.8	36.8	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	98	117	107	322	8	66	27	101	69	113	26	208	66	190	90	346	977
04:30 PM	91	100	83	274	8	69	31	108	71	92	20	183	84	195	72	351	916
04:45 PM	81	102	120	303	6	62	30	98	88	122	19	229	75	197	58	330	960
05:00 PM	49	73	110	232	11	90	33	134	65	118	14	197	119	187	43	349	912
Total Volume	319	392	420	1131	33	287	121	441	293	445	79	817	344	769	263	1376	3765
% App. Total	28.2	34.7	37.1		7.5	65.1	27.4		35.9	54.5	9.7		25	55.9	19.1		
PHF	.814	.838	.875	.878	.750	.797	.917	.823	.832	.912	.760	.892	.723	.976	.731	.980	.963

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	98	117	107	322	8	66	27	101	69	113	26	208	66	190	90	346
+15 mins.	91	100	83	274	8	69	31	108	71	92	20	183	84	195	72	351
+30 mins.	81	102	120	303	6	62	30	98	88	122	19	229	75	197	58	330
+45 mins.	49	73	110	232	11	90	33	134	65	118	14	197	119	187	43	349
Total Volume	319	392	420	1131	33	287	121	441	293	445	79	817	344	769	263	1376
% App. Total	28.2	34.7	37.1		7.5	65.1	27.4		35.9	54.5	9.7		25	55.9	19.1	
PHF	.814	.838	.875	.878	.750	.797	.917	.823	.832	.912	.760	.892	.723	.976	.731	.980

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

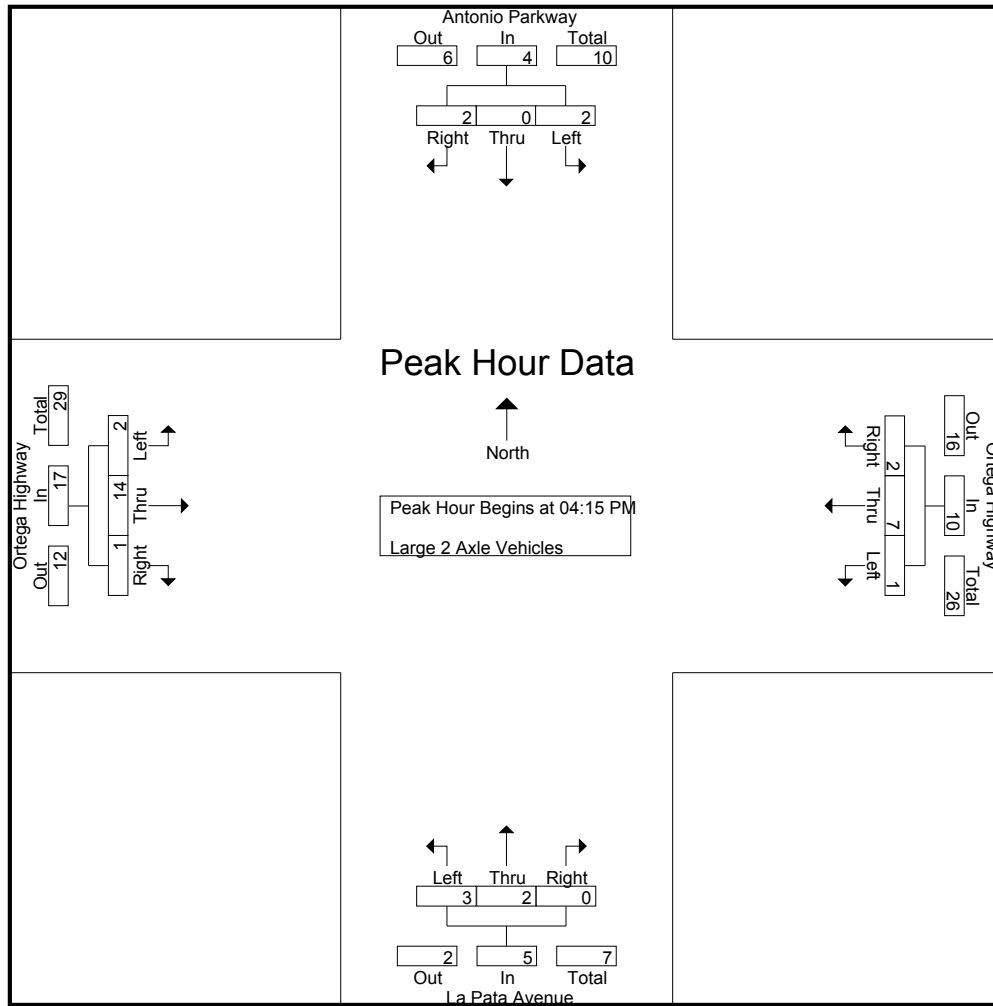
Groups Printed- Large 2 Axle Vehicles

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	1	2	3	6	0	0	1	1	1	1	1	3	0	6	1	7	17
04:15 PM	1	0	0	1	0	1	1	2	1	1	0	2	0	6	1	7	12
04:30 PM	1	0	2	3	1	4	0	5	1	0	0	1	2	4	0	6	15
04:45 PM	0	0	0	0	0	1	1	2	0	1	0	1	0	3	0	3	6
Total	3	2	5	10	1	6	3	10	3	3	1	7	2	19	2	23	50
05:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1	3
05:15 PM	2	0	3	5	0	1	0	1	0	0	0	0	0	3	0	3	9
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
05:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
Total	2	0	3	5	0	2	0	2	1	1	1	3	1	6	0	7	17
Grand Total	5	2	8	15	1	8	3	12	4	4	2	10	3	25	2	30	67
Apprch %	33.3	13.3	53.3		8.3	66.7	25		40	40	20		10	83.3	6.7		
Total %	7.5	3	11.9	22.4	1.5	11.9	4.5	17.9	6	6	3	14.9	4.5	37.3	3	44.8	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	1	0	0	1	0	1	1	2	1	1	0	2	0	6	1	7	12
04:30 PM	1	0	2	3	1	4	0	5	1	0	0	1	2	4	0	6	15
04:45 PM	0	0	0	0	0	1	1	2	0	1	0	1	0	3	0	3	6
05:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1	3
Total Volume	2	0	2	4	1	7	2	10	3	2	0	5	2	14	1	17	36
% App. Total	50	0	50		10	70	20		60	40	0		11.8	82.4	5.9		
PHF	.500	.000	.250	.333	.250	.438	.500	.500	.750	.500	.000	.625	.250	.583	.250	.607	.600

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	1	0	0	1	0	1	1	2	1	1	0	2	0	6	1	7
+15 mins.	1	0	2	3	1	4	0	5	1	0	0	1	2	4	0	6
+30 mins.	0	0	0	0	0	1	1	2	0	1	0	1	0	3	0	3
+45 mins.	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1
Total Volume	2	0	2	4	1	7	2	10	3	2	0	5	2	14	1	17
% App. Total	50	0	50		10	70	20		60	40	0		11.8	82.4	5.9	
PHF	.500	.000	.250	.333	.250	.438	.500	.500	.750	.500	.000	.625	.250	.583	.250	.607

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

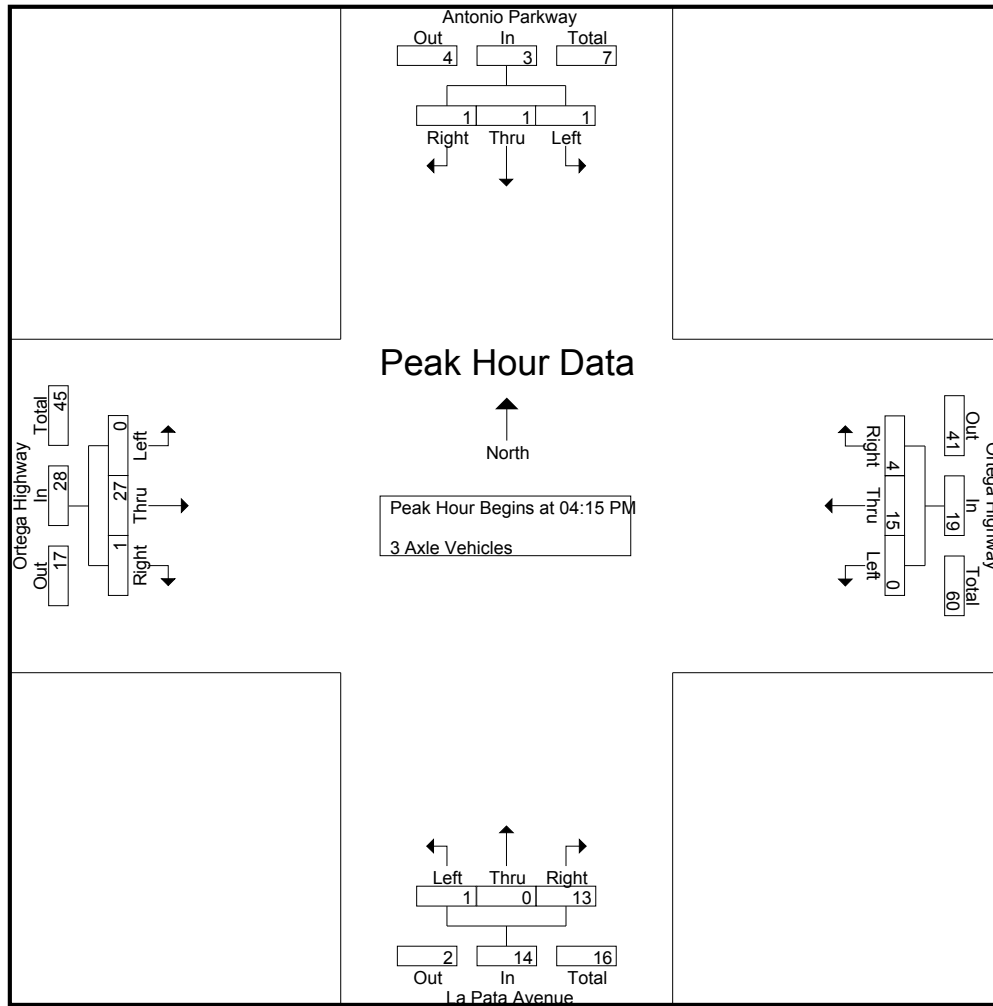
Groups Printed- 3 Axle Vehicles

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	3	2	0	5	0	6	0	6	0	1	1	2	0	6	2	8	21
04:15 PM	0	0	0	0	0	7	1	8	0	0	2	2	0	5	0	5	15
04:30 PM	0	1	1	2	0	3	1	4	1	0	2	3	0	8	1	9	18
04:45 PM	1	0	0	1	0	3	2	5	0	0	4	4	0	5	0	5	15
Total	4	3	1	8	0	19	4	23	1	1	9	11	0	24	3	27	69
05:00 PM	0	0	0	0	0	2	0	2	0	0	5	5	0	9	0	9	16
05:15 PM	1	0	2	3	0	1	0	1	2	0	1	3	0	4	0	4	11
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
05:45 PM	4	0	0	4	0	2	0	2	0	0	2	2	0	5	0	5	13
Total	5	0	2	7	0	7	0	7	2	0	8	10	0	22	0	22	46
Grand Total	9	3	3	15	0	26	4	30	3	1	17	21	0	46	3	49	115
Apprch %	60	20	20		0	86.7	13.3		14.3	4.8	81		0	93.9	6.1		
Total %	7.8	2.6	2.6	13	0	22.6	3.5	26.1	2.6	0.9	14.8	18.3	0	40	2.6	42.6	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:15 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	7	1	8	0	0	2	2	0	5	0	5	15
04:30 PM	0	1	1	2	0	3	1	4	1	0	2	3	0	8	1	9	18
04:45 PM	1	0	0	1	0	3	2	5	0	0	4	4	0	5	0	5	15
05:00 PM	0	0	0	0	0	2	0	2	0	0	5	5	0	9	0	9	16
Total Volume	1	1	1	3	0	15	4	19	1	0	13	14	0	27	1	28	64
% App. Total	33.3	33.3	33.3		0	78.9	21.1		7.1	0	92.9		0	96.4	3.6		
PHF	.250	.250	.250	.375	.000	.536	.500	.594	.250	.000	.650	.700	.000	.750	.250	.778	.889

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 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	7	1	8	0	0	2	2	0	5	0	5
+15 mins.	0	1	1	2	0	3	1	4	1	0	2	3	0	8	1	9
+30 mins.	1	0	0	1	0	3	2	5	0	0	4	4	0	5	0	5
+45 mins.	0	0	0	0	0	2	0	2	0	0	5	5	0	9	0	9
Total Volume	1	1	1	3	0	15	4	19	1	0	13	14	0	27	1	28
% App. Total	33.3	33.3	33.3		0	78.9	21.1		7.1	0	92.9		0	96.4	3.6	
PHF	.250	.250	.250	.375	.000	.536	.500	.594	.250	.000	.650	.700	.000	.750	.250	.778

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

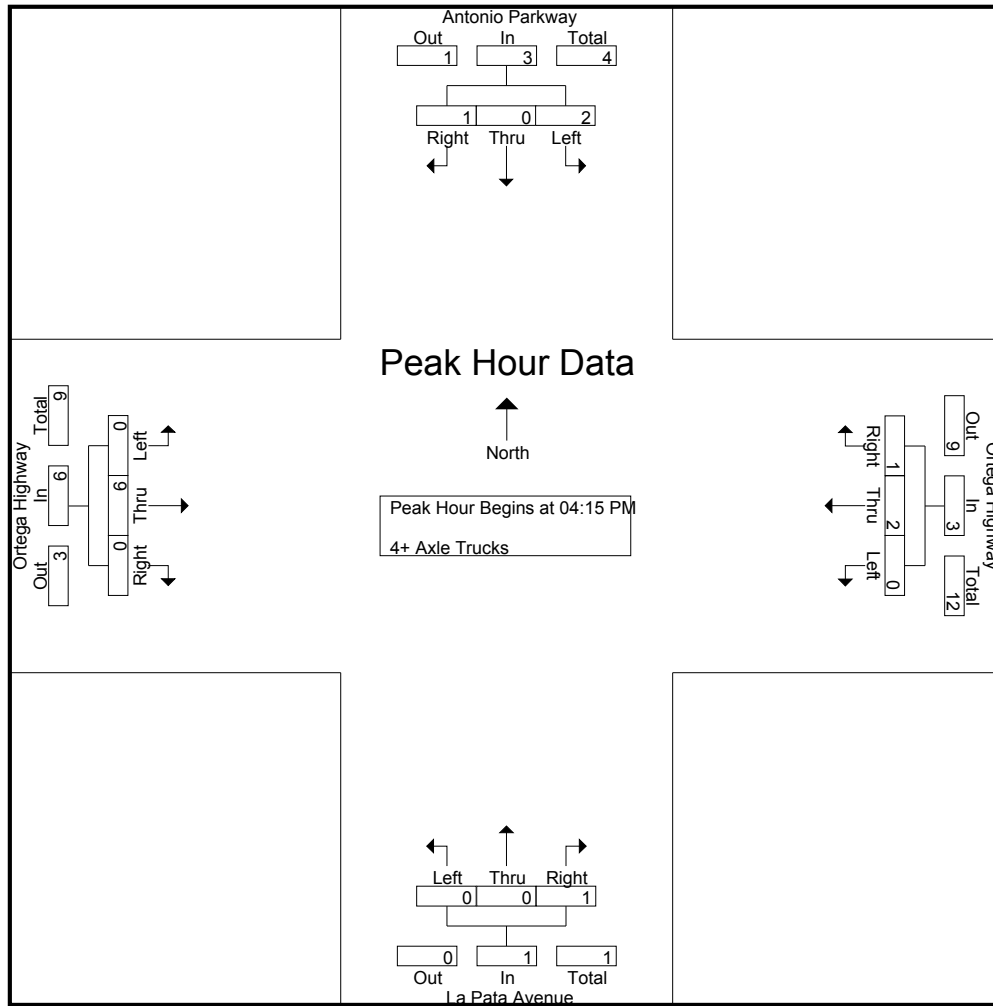
Groups Printed- 4+ Axle Trucks

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	1	0	0	1	0	3	0	3	1	0	0	1	0	2	0	2	7
04:15 PM	1	0	1	2	0	0	0	0	0	0	1	1	0	0	0	0	3
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	4	0	4	5
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	3	0	1	4	0	5	0	5	1	0	1	2	0	7	0	7	18
05:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
05:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	1	1	0	0	0	0	0	1	0	1	3
Grand Total	4	0	1	5	0	5	1	6	1	0	1	2	0	8	0	8	21
Apprch %	80	0	20		0	83.3	16.7		50	0	50		0	100	0		
Total %	19	0	4.8	23.8	0	23.8	4.8	28.6	4.8	0	4.8	9.5	0	38.1	0	38.1	

Start Time	Antonio Parkway Southbound				Ortega Highway Westbound				La Pata Avenue Northbound				Ortega Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	1	0	1	2	0	0	0	0	0	0	1	1	0	0	0	0	3
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	4	0	4	5
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
Total Volume	2	0	1	3	0	2	1	3	0	0	1	1	0	6	0	6	13
% App. Total	66.7	0	33.3		0	66.7	33.3		0	0	100		0	100	0		
PHF	.500	.000	.250	.375	.000	.250	.250	.375	.000	.000	.250	.250	.000	.375	.000	.375	.650

County of Orange
 N/S: Antonio Parkway/La Pata Avenue
 E/W: Ortega Highway (SR-74)
 Weather: Clear

File Name : ORCAN74PM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	1	0	1	2	0	0	0	0	0	0	1	1	0	0	0	0
+15 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	4	0	4
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
Total Volume	2	0	1	3	0	2	1	3	0	0	1	1	0	6	0	6
% App. Total	66.7	0	33.3		0	66.7	33.3		0	0	100		0	100	0	
PHF	.500	.000	.250	.375	.000	.250	.250	.375	.000	.000	.250	.250	.000	.375	.000	.375

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

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

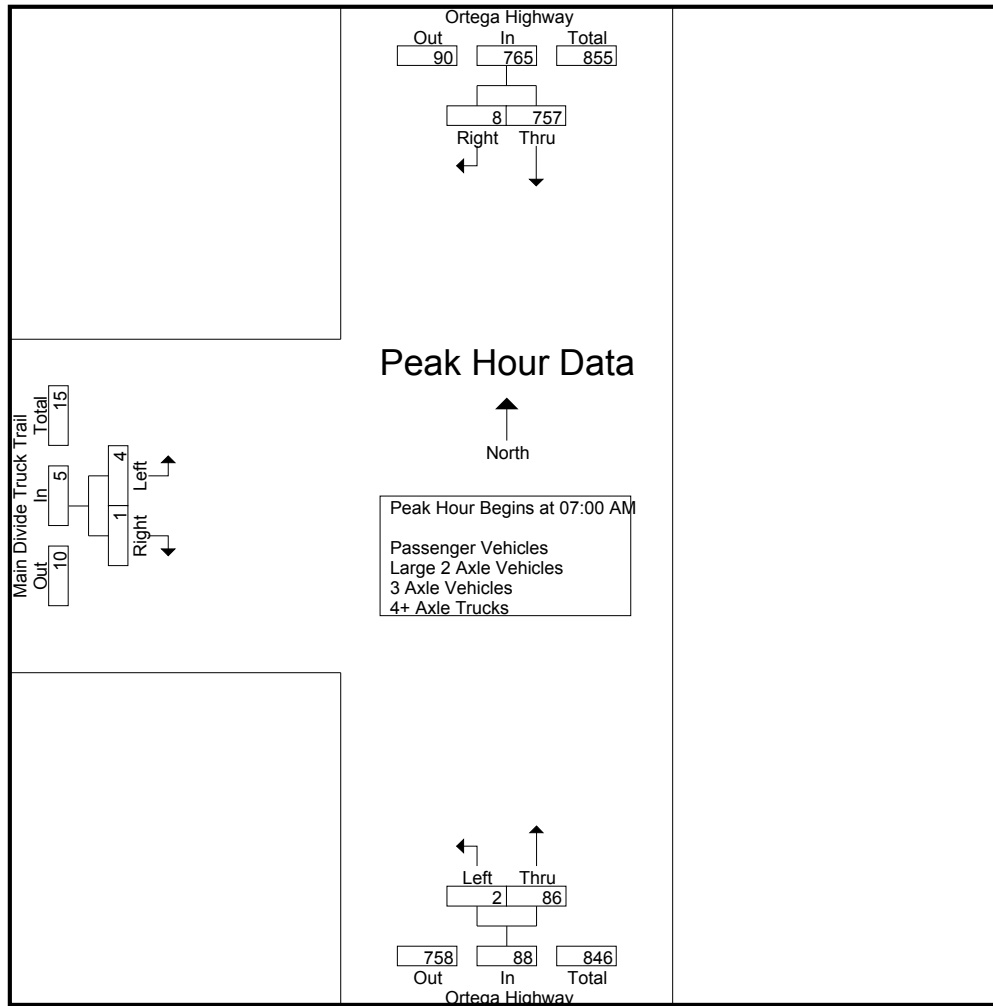
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	198	1	199	1	14	15	0	1	1	215
07:15 AM	209	3	212	1	34	35	1	0	1	248
07:30 AM	192	1	193	0	14	14	1	0	1	208
07:45 AM	158	3	161	0	24	24	2	0	2	187
Total	757	8	765	2	86	88	4	1	5	858
08:00 AM	175	1	176	0	23	23	0	0	0	199
08:15 AM	127	0	127	0	25	25	3	0	3	155
08:30 AM	153	0	153	0	23	23	6	0	6	182
08:45 AM	148	0	148	0	11	11	0	0	0	159
Total	603	1	604	0	82	82	9	0	9	695
Grand Total	1360	9	1369	2	168	170	13	1	14	1553
Apprch %	99.3	0.7		1.2	98.8		92.9	7.1		
Total %	87.6	0.6	88.2	0.1	10.8	10.9	0.8	0.1	0.9	
Passenger Vehicles	1344	8	1352	1	155	156	7	1	8	1516
% Passenger Vehicles	98.8	88.9	98.8	50	92.3	91.8	53.8	100	57.1	97.6
Large 2 Axle Vehicles	13	0	13	1	6	7	5	0	5	25
% Large 2 Axle Vehicles	1	0	0.9	50	3.6	4.1	38.5	0	35.7	1.6
3 Axle Vehicles	1	0	1	0	1	1	1	0	1	3
% 3 Axle Vehicles	0.1	0	0.1	0	0.6	0.6	7.7	0	7.1	0.2
4+ Axle Trucks	2	1	3	0	6	6	0	0	0	9
% 4+ Axle Trucks	0.1	11.1	0.2	0	3.6	3.5	0	0	0	0.6

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	198	1	199	1	14	15	0	1	1	215
07:15 AM	209	3	212	1	34	35	1	0	1	248
07:30 AM	192	1	193	0	14	14	1	0	1	208
07:45 AM	158	3	161	0	24	24	2	0	2	187
Total Volume	757	8	765	2	86	88	4	1	5	858
% App. Total	99	1		2.3	97.7		80	20		
PHF	.906	.667	.902	.500	.632	.629	.500	.250	.625	.865

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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			07:15 AM			07:45 AM		
+0 mins.	198	1	199	1	34	35	2	0	2
+15 mins.	209	3	212	0	14	14	0	0	0
+30 mins.	192	1	193	0	24	24	3	0	3
+45 mins.	158	3	161	0	23	23	6	0	6
Total Volume	757	8	765	1	95	96	11	0	11
% App. Total	99	1		1	99		100	0	
PHF	.906	.667	.902	.250	.699	.686	.458	.000	.458

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- Passenger Vehicles

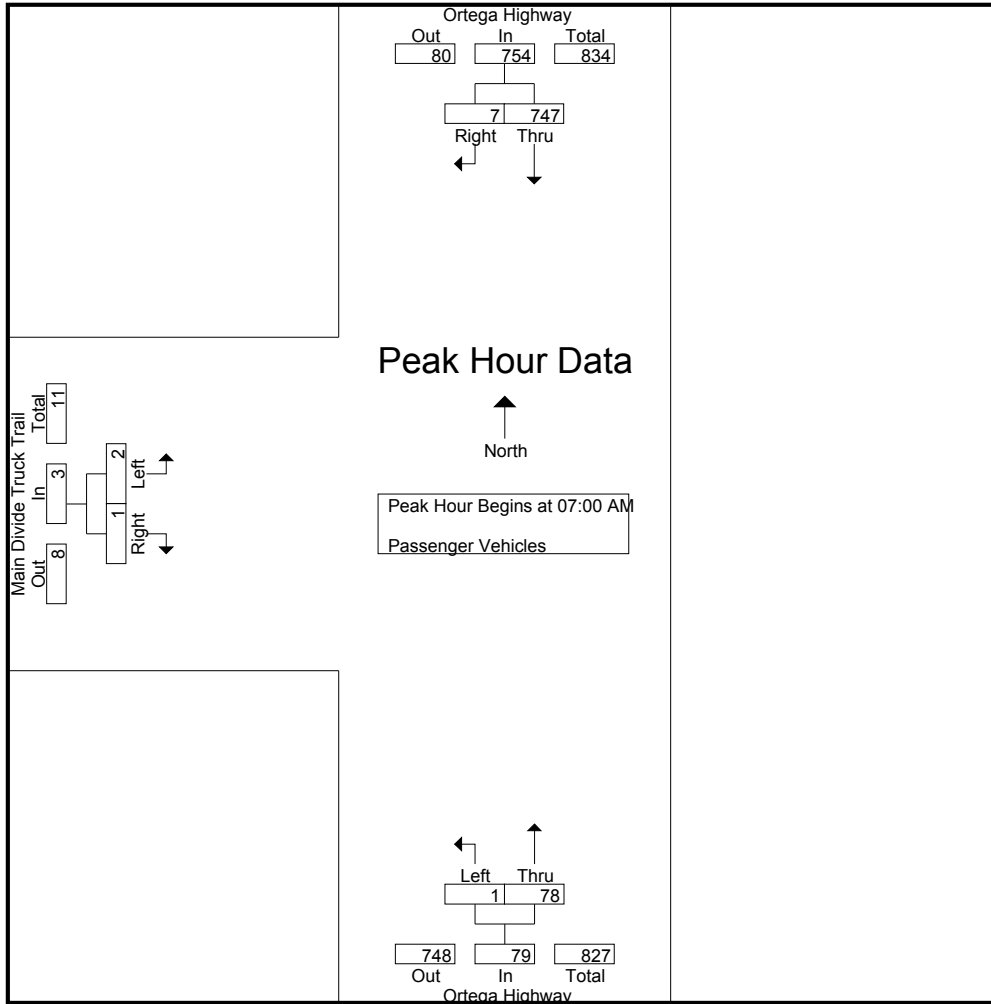
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	198	1	199	1	13	14	0	1	1	214
07:15 AM	208	3	211	0	32	32	1	0	1	244
07:30 AM	185	1	186	0	11	11	1	0	1	198
07:45 AM	156	2	158	0	22	22	0	0	0	180
Total	747	7	754	1	78	79	2	1	3	836
08:00 AM	174	1	175	0	21	21	0	0	0	196
08:15 AM	126	0	126	0	25	25	1	0	1	152
08:30 AM	152	0	152	0	20	20	4	0	4	176
08:45 AM	145	0	145	0	11	11	0	0	0	156
Total	597	1	598	0	77	77	5	0	5	680
Grand Total	1344	8	1352	1	155	156	7	1	8	1516
Apprch %	99.4	0.6		0.6	99.4		87.5	12.5		
Total %	88.7	0.5	89.2	0.1	10.2	10.3	0.5	0.1	0.5	

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	198	1	199	1	13	14	0	1	1	214
07:15 AM	208	3	211	0	32	32	1	0	1	244
07:30 AM	185	1	186	0	11	11	1	0	1	198
07:45 AM	156	2	158	0	22	22	0	0	0	180
Total Volume	747	7	754	1	78	79	2	1	3	836
% App. Total	99.1	0.9		1.3	98.7		66.7	33.3		
PHF	.898	.583	.893	.250	.609	.617	.500	.250	.750	.857

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	198	1	199	1	13	14	0	1	1
+15 mins.	208	3	211	0	32	32	1	0	1
+30 mins.	185	1	186	0	11	11	1	0	1
+45 mins.	156	2	158	0	22	22	0	0	0
Total Volume	747	7	754	1	78	79	2	1	3
% App. Total	99.1	0.9		1.3	98.7		66.7	33.3	
PHF	.898	.583	.893	.250	.609	.617	.500	.250	.750

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

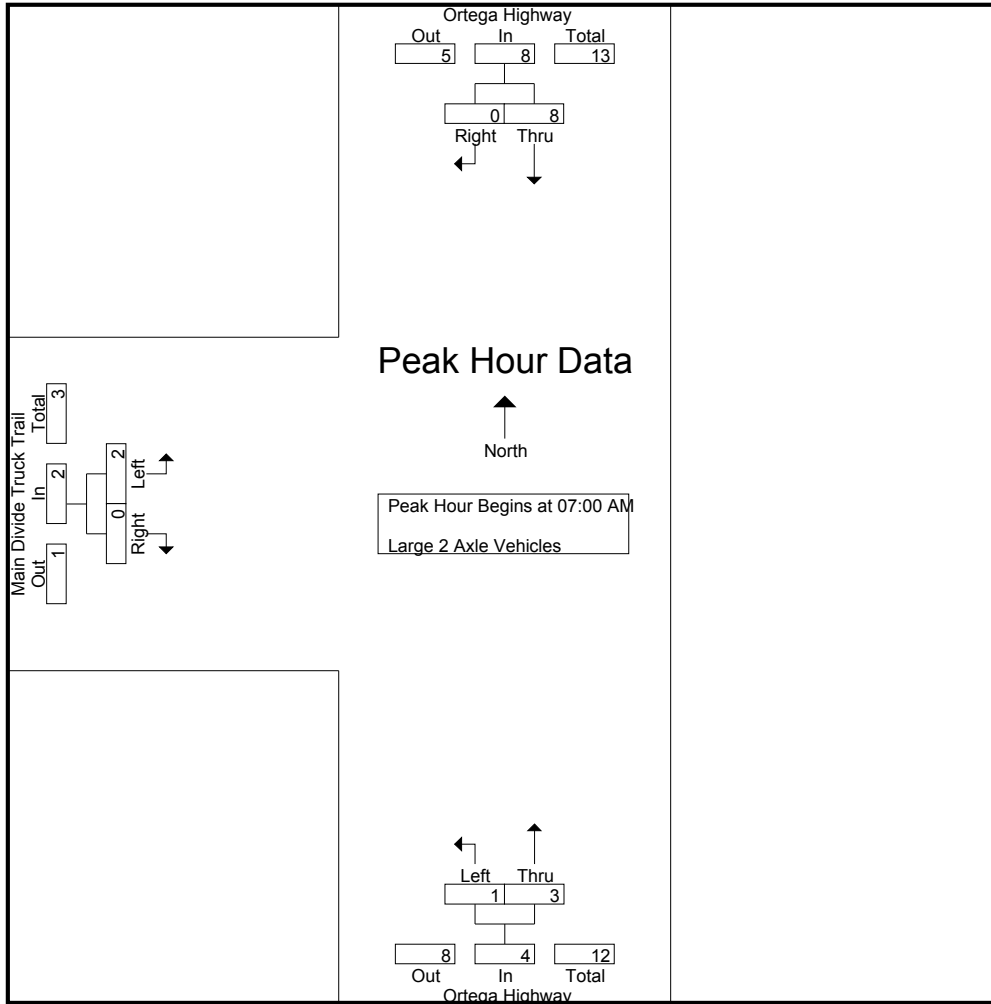
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	0	0	0	0	1	1	0	0	0	1
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	6	0	6	0	1	1	0	0	0	7
07:45 AM	2	0	2	0	1	1	2	0	2	5
Total	8	0	8	1	3	4	2	0	2	14
08:00 AM	1	0	1	0	1	1	0	0	0	2
08:15 AM	1	0	1	0	0	0	1	0	1	2
08:30 AM	1	0	1	0	2	2	2	0	2	5
08:45 AM	2	0	2	0	0	0	0	0	0	2
Total	5	0	5	0	3	3	3	0	3	11
Grand Total	13	0	13	1	6	7	5	0	5	25
Apprch %	100	0		14.3	85.7		100	0		
Total %	52	0	52	4	24	28	20	0	20	

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	0	0	0	0	1	1	0	0	0	1
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	6	0	6	0	1	1	0	0	0	7
07:45 AM	2	0	2	0	1	1	2	0	2	5
Total Volume	8	0	8	1	3	4	2	0	2	14
% App. Total	100	0		25	75		100	0		
PHF	.333	.000	.333	.250	.750	1.00	.250	.000	.250	.500

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	0	0	0	0	1	1	0	0	0
+15 mins.	0	0	0	1	0	1	0	0	0
+30 mins.	6	0	6	0	1	1	0	0	0
+45 mins.	2	0	2	0	1	1	2	0	2
Total Volume	8	0	8	1	3	4	2	0	2
% App. Total	100	0		25	75		100	0	
PHF	.333	.000	.333	.250	.750	1.000	.250	.000	.250

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- 3 Axle Vehicles

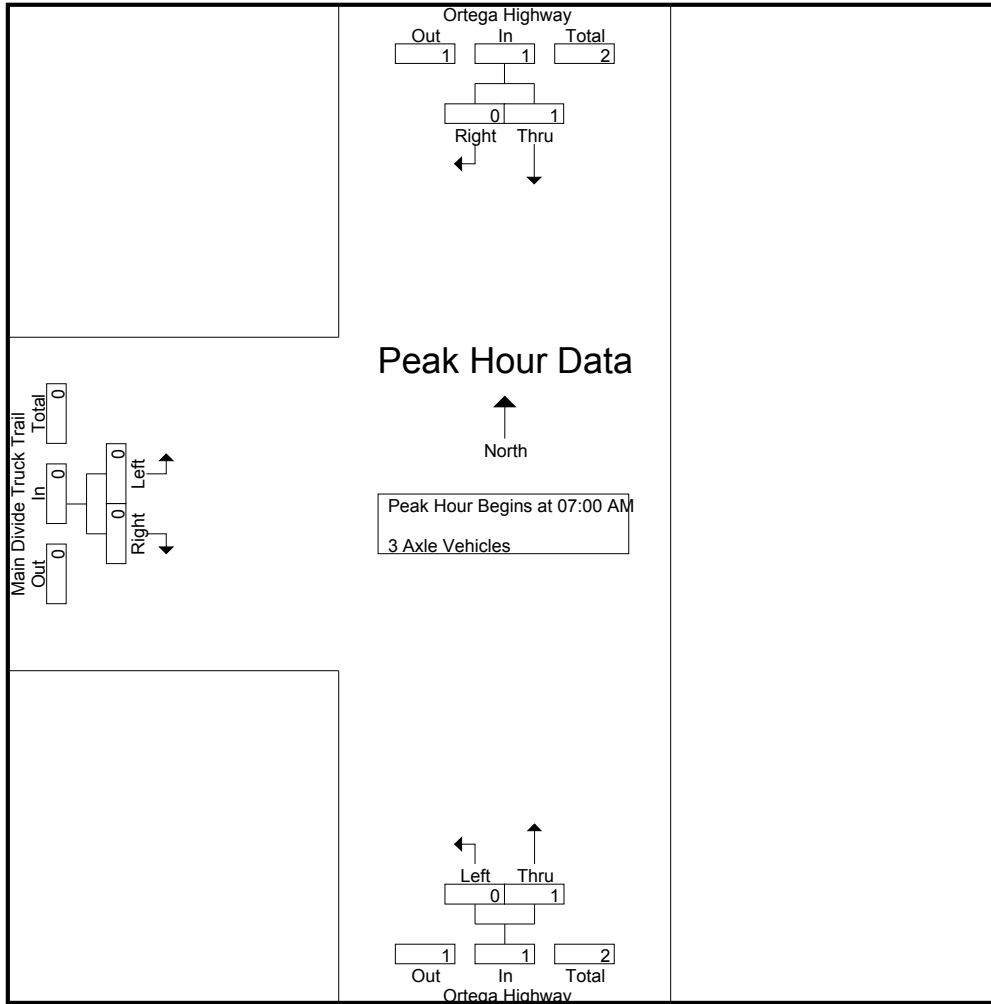
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	1	1	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	1	1	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
Grand Total	1	0	1	0	1	1	1	0	1	3
Apprch %	100	0		0	100		100	0		
Total %	33.3	0	33.3	0	33.3	33.3	33.3	0	33.3	

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	1	1	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	1	1	0	0	0	2
% App. Total	100	0		0	100		0	0		
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000	.250

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	1	0	1	0	1	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	1	1	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

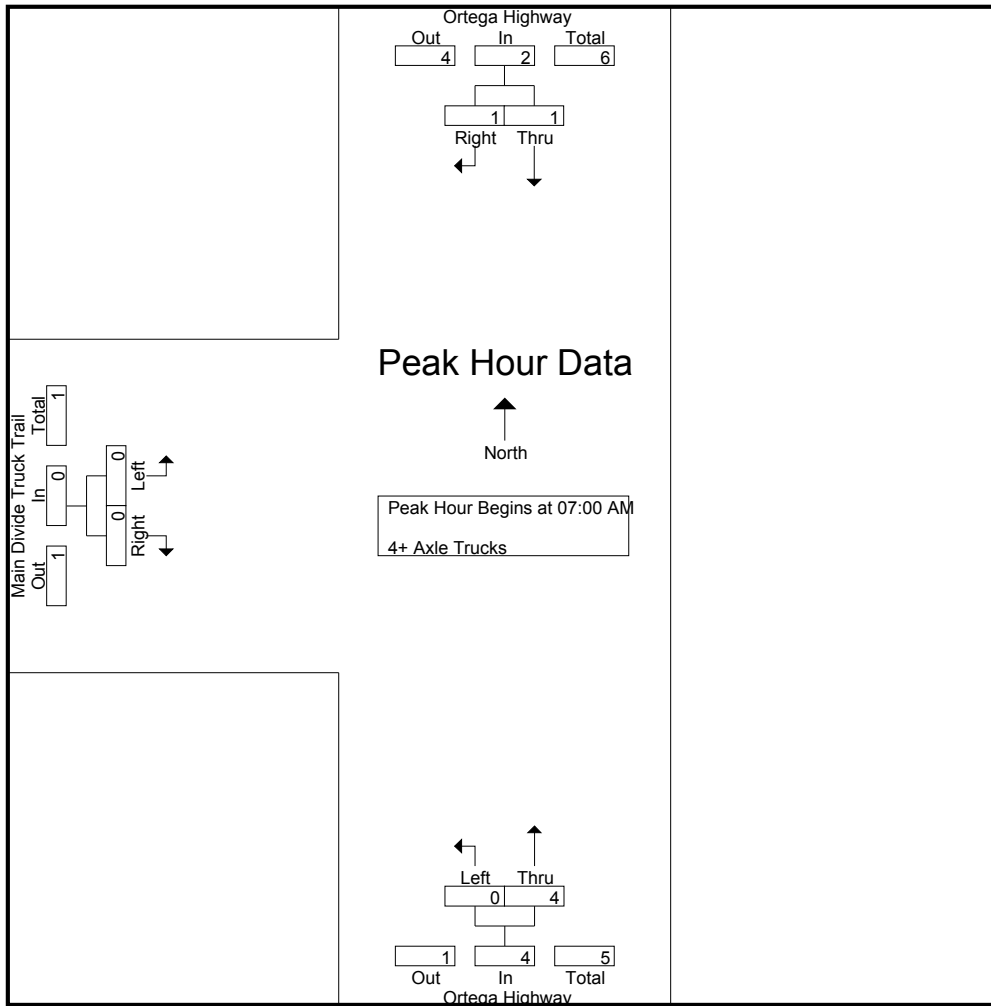
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	0	2	2	0	0	0	3
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	1	1	0	1	1	0	0	0	2
Total	1	1	2	0	4	4	0	0	0	6
08:00 AM	0	0	0	0	1	1	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	1	1	0	0	0	1
08:45 AM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	2	2	0	0	0	3
Grand Total	2	1	3	0	6	6	0	0	0	9
Apprch %	66.7	33.3		0	100		0	0		
Total %	22.2	11.1	33.3	0	66.7	66.7	0	0	0	

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	0	2	2	0	0	0	3
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	1	1	0	1	1	0	0	0	2
Total Volume	1	1	2	0	4	4	0	0	0	6
% App. Total	50	50		0	100		0	0		
PHF	.250	.250	.500	.000	.500	.500	.000	.000	.000	.500

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	0	0	0	0	0	0	0	0	0
+15 mins.	1	0	1	0	2	2	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	0	1	1	0	1	1	0	0	0
Total Volume	1	1	2	0	4	4	0	0	0
% App. Total	50	50		0	100		0	0	
PHF	.250	.250	.500	.000	.500	.500	.000	.000	.000

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

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

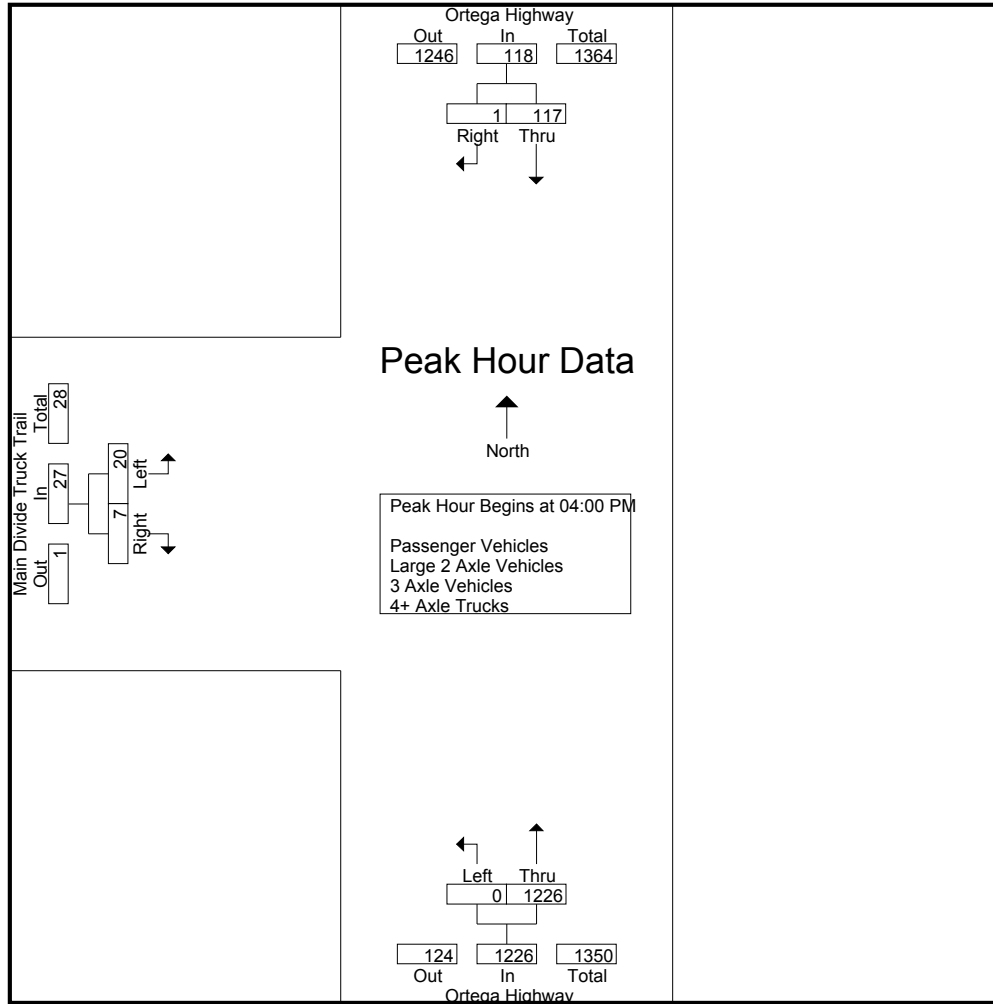
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	32	1	33	0	307	307	13	6	19	359
04:15 PM	32	0	32	0	315	315	1	1	2	349
04:30 PM	28	0	28	0	302	302	3	0	3	333
04:45 PM	25	0	25	0	302	302	3	0	3	330
Total	117	1	118	0	1226	1226	20	7	27	1371
05:00 PM	18	0	18	0	273	273	1	0	1	292
05:15 PM	28	0	28	1	309	310	2	0	2	340
05:30 PM	28	0	28	0	274	274	5	3	8	310
05:45 PM	25	1	26	0	309	309	0	0	0	335
Total	99	1	100	1	1165	1166	8	3	11	1277
Grand Total	216	2	218	1	2391	2392	28	10	38	2648
Apprch %	99.1	0.9		0	100		73.7	26.3		
Total %	8.2	0.1	8.2	0	90.3	90.3	1.1	0.4	1.4	
Passenger Vehicles	212	2	214	1	2351	2352	24	9	33	2599
% Passenger Vehicles	98.1	100	98.2	100	98.3	98.3	85.7	90	86.8	98.1
Large 2 Axle Vehicles	4	0	4	0	33	33	3	1	4	41
% Large 2 Axle Vehicles	1.9	0	1.8	0	1.4	1.4	10.7	10	10.5	1.5
3 Axle Vehicles	0	0	0	0	3	3	1	0	1	4
% 3 Axle Vehicles	0	0	0	0	0.1	0.1	3.6	0	2.6	0.2
4+ Axle Trucks	0	0	0	0	4	4	0	0	0	4
% 4+ Axle Trucks	0	0	0	0	0.2	0.2	0	0	0	0.2

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	32	1	33	0	307	307	13	6	19	359
04:15 PM	32	0	32	0	315	315	1	1	2	349
04:30 PM	28	0	28	0	302	302	3	0	3	333
04:45 PM	25	0	25	0	302	302	3	0	3	330
Total Volume	117	1	118	0	1226	1226	20	7	27	1371
% App. Total	99.2	0.8		0	100		74.1	25.9		
PHF	.914	.250	.894	.000	.973	.973	.385	.292	.355	.955

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



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

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	32	1	33	0	307	307	13	6	19
+15 mins.	32	0	32	0	315	315	1	1	2
+30 mins.	28	0	28	0	302	302	3	0	3
+45 mins.	25	0	25	0	302	302	3	0	3
Total Volume	117	1	118	0	1226	1226	20	7	27
% App. Total	99.2	0.8		0	100		74.1	25.9	
PHF	.914	.250	.894	.000	.973	.973	.385	.292	.355

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- Passenger Vehicles

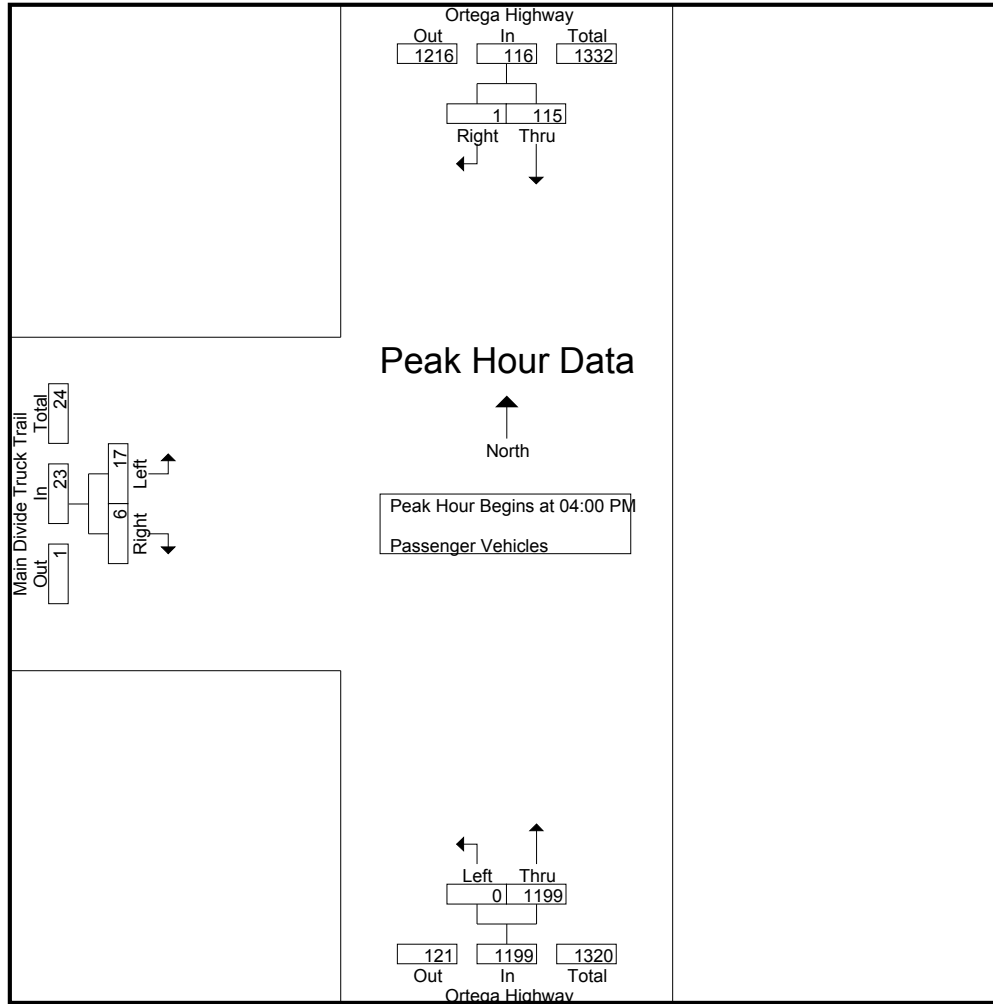
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	31	1	32	0	299	299	11	5	16	347
04:15 PM	32	0	32	0	307	307	1	1	2	341
04:30 PM	27	0	27	0	295	295	2	0	2	324
04:45 PM	25	0	25	0	298	298	3	0	3	326
Total	115	1	116	0	1199	1199	17	6	23	1338
05:00 PM	17	0	17	0	270	270	0	0	0	287
05:15 PM	28	0	28	1	304	305	2	0	2	335
05:30 PM	28	0	28	0	271	271	5	3	8	307
05:45 PM	24	1	25	0	307	307	0	0	0	332
Total	97	1	98	1	1152	1153	7	3	10	1261
Grand Total	212	2	214	1	2351	2352	24	9	33	2599
Apprch %	99.1	0.9		0	100		72.7	27.3		
Total %	8.2	0.1	8.2	0	90.5	90.5	0.9	0.3	1.3	

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	31	1	32	0	299	299	11	5	16	347
04:15 PM	32	0	32	0	307	307	1	1	2	341
04:30 PM	27	0	27	0	295	295	2	0	2	324
04:45 PM	25	0	25	0	298	298	3	0	3	326
Total Volume	115	1	116	0	1199	1199	17	6	23	1338
% App. Total	99.1	0.9		0	100		73.9	26.1		
PHF	.898	.250	.906	.000	.976	.976	.386	.300	.359	.964

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	31	1	32	0	299	299	11	5	16
+15 mins.	32	0	32	0	307	307	1	1	2
+30 mins.	27	0	27	0	295	295	2	0	2
+45 mins.	25	0	25	0	298	298	3	0	3
Total Volume	115	1	116	0	1199	1199	17	6	23
% App. Total	99.1	0.9		0	100		73.9	26.1	
PHF	.898	.250	.906	.000	.976	.976	.386	.300	.359

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

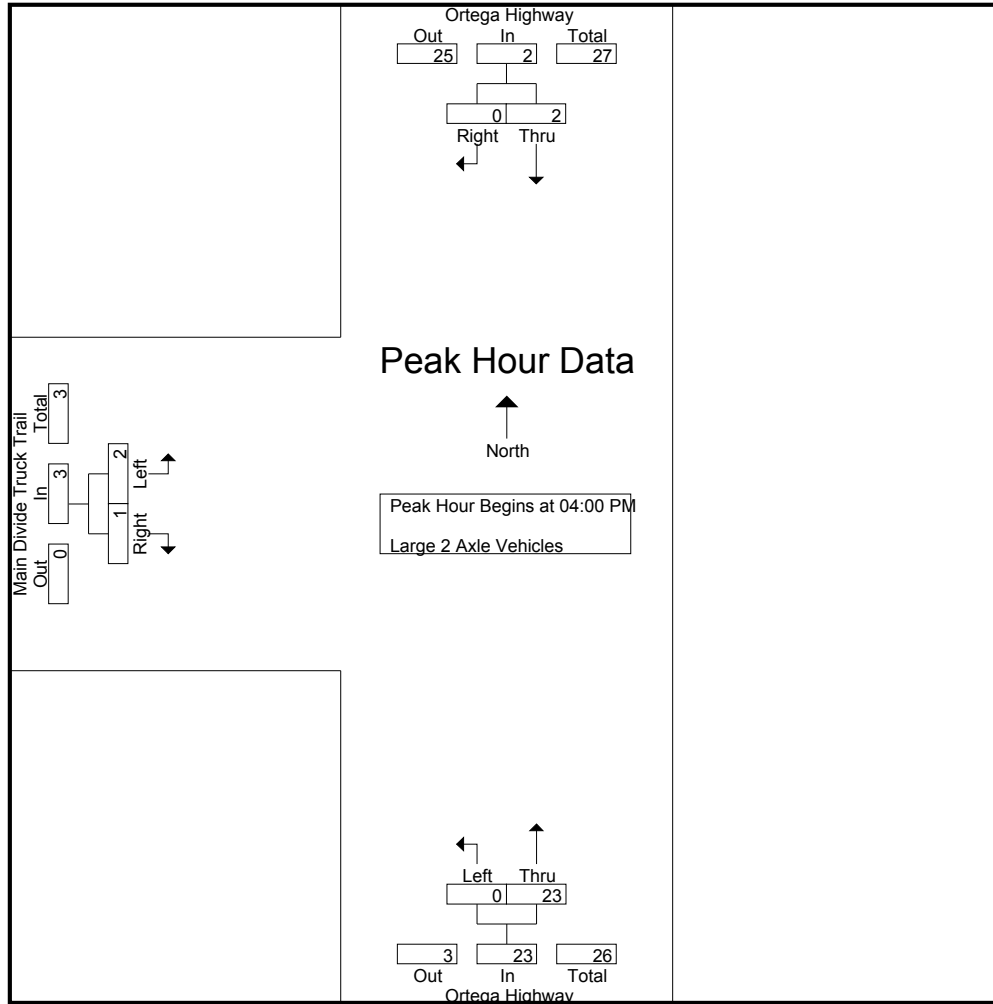
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	1	0	1	0	7	7	1	1	2	10
04:15 PM	0	0	0	0	6	6	0	0	0	6
04:30 PM	1	0	1	0	6	6	1	0	1	8
04:45 PM	0	0	0	0	4	4	0	0	0	4
Total	2	0	2	0	23	23	2	1	3	28
05:00 PM	1	0	1	0	3	3	1	0	1	5
05:15 PM	0	0	0	0	3	3	0	0	0	3
05:30 PM	0	0	0	0	2	2	0	0	0	2
05:45 PM	1	0	1	0	2	2	0	0	0	3
Total	2	0	2	0	10	10	1	0	1	13
Grand Total	4	0	4	0	33	33	3	1	4	41
Apprch %	100	0		0	100		75	25		
Total %	9.8	0	9.8	0	80.5	80.5	7.3	2.4	9.8	

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	1	0	1	0	7	7	1	1	2	10
04:15 PM	0	0	0	0	6	6	0	0	0	6
04:30 PM	1	0	1	0	6	6	1	0	1	8
04:45 PM	0	0	0	0	4	4	0	0	0	4
Total Volume	2	0	2	0	23	23	2	1	3	28
% App. Total	100	0		0	100		66.7	33.3		
PHF	.500	.000	.500	.000	.821	.821	.500	.250	.375	.700

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	1	0	1	0	7	7	1	1	2
+15 mins.	0	0	0	0	6	6	0	0	0
+30 mins.	1	0	1	0	6	6	1	0	1
+45 mins.	0	0	0	0	4	4	0	0	0
Total Volume	2	0	2	0	23	23	2	1	3
% App. Total	100	0	100	0	100	100	66.7	33.3	100
PHF	.500	.000	.500	.000	.821	.821	.500	.250	.375

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- 3 Axle Vehicles

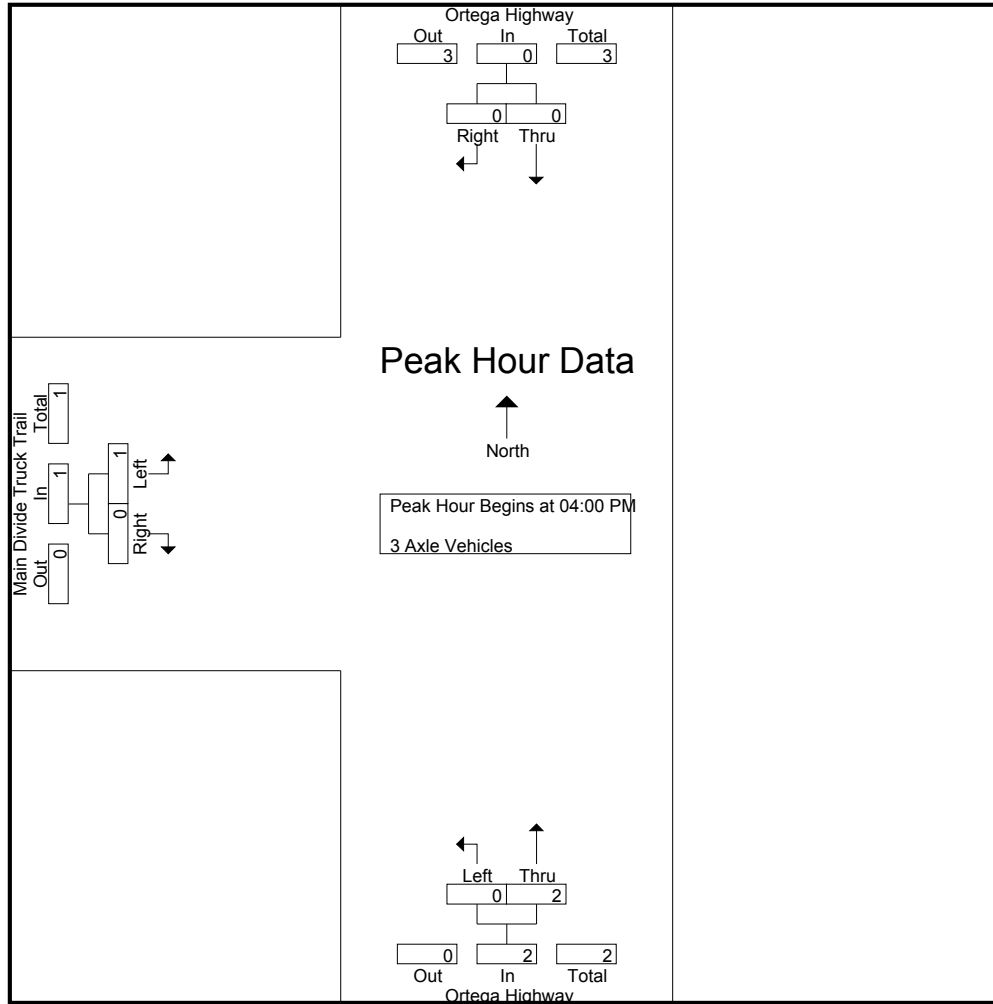
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	2	2	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	2	1	0	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	1	0	0	0	1
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	1	1	0	0	0	1
Grand Total	0	0	0	0	3	3	1	0	1	4
Apprch %	0	0		0	100		100	0		
Total %	0	0		0	75	75	25	0	25	

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	2	2	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	2	1	0	1	3
% App. Total	0	0		0	100		100	0		
PHF	.000	.000	.000	.000	.250	.250	.250	.000	.250	.375

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	2	2	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	0	0	0	2	2	1	0	1
% App. Total	0	0	0	0	100		100	0	
PHF	.000	.000	.000	.000	.250	.250	.250	.000	.250

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

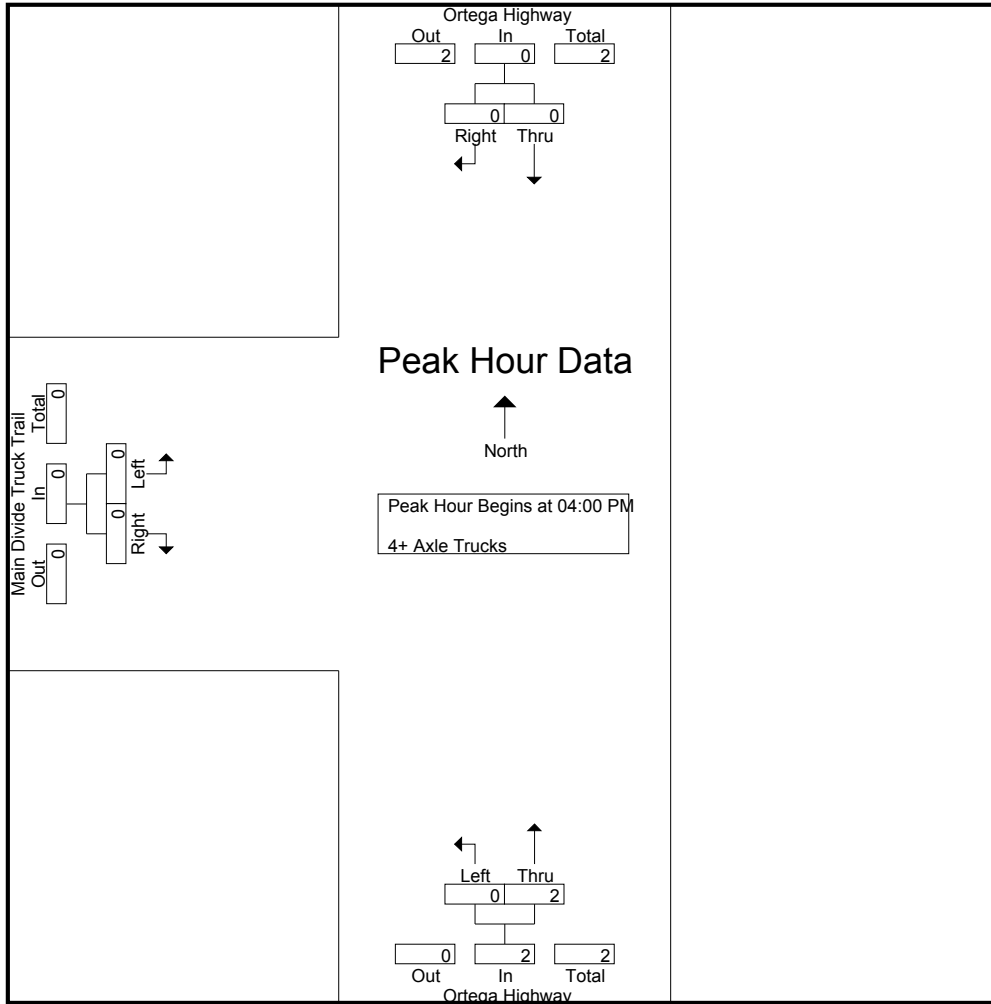
Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	0	0	0	0	1	1	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	2	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	0	0	0	0	1	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	2	0	0	0	2
Grand Total	0	0	0	0	4	4	0	0	0	4
Apprch %	0	0		0	100		0	0		
Total %	0	0		0	100	100	0	0		

Start Time	Ortega Highway Southbound			Ortega Highway Northbound			Main Divide Truck Trail Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	0	0	0	0	1	1	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	2	0	0	0	2
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.500	.500	.000	.000	.000	.500

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Main Divide Truck Trail
 Weather: Clear

File Name : CRV74MAPM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	0	0	0	0	1	1	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	2	0	0	0
% App. Total	0	0	0	0	100		0	0	
PHF	.000	.000	.000	.000	.500	.500	.000	.000	.000

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

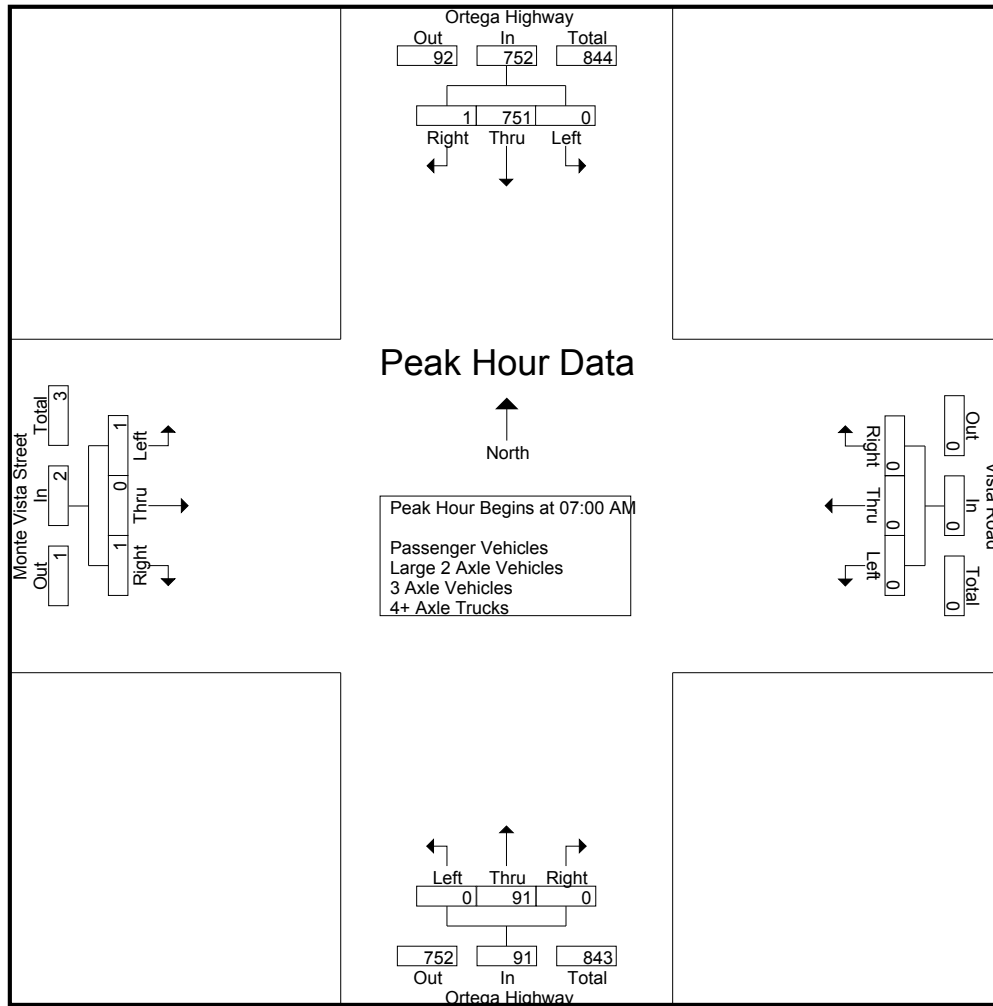
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	195	0	195	0	0	0	0	0	15	0	15	0	0	0	0	210
07:15 AM	0	204	0	204	0	0	0	0	0	33	0	33	0	0	1	1	238
07:30 AM	0	191	0	191	0	0	0	0	0	17	0	17	0	0	0	0	208
07:45 AM	0	161	1	162	0	0	0	0	0	26	0	26	1	0	0	1	189
Total	0	751	1	752	0	0	0	0	0	91	0	91	1	0	1	2	845
08:00 AM	0	174	0	174	0	0	0	0	0	22	0	22	0	0	1	1	197
08:15 AM	0	136	0	136	0	0	0	0	0	28	0	28	1	0	0	1	165
08:30 AM	0	155	2	157	0	0	0	0	0	28	0	28	0	0	0	0	185
08:45 AM	0	139	1	140	1	0	0	1	0	9	0	9	1	0	0	1	151
Total	0	604	3	607	1	0	0	1	0	87	0	87	2	0	1	3	698
Grand Total	0	1355	4	1359	1	0	0	1	0	178	0	178	3	0	2	5	1543
Apprch %	0	99.7	0.3		100	0	0		0	100	0		60	0	40		
Total %	0	87.8	0.3	88.1	0.1	0	0	0.1	0	11.5	0	11.5	0.2	0	0.1	0.3	
Passenger Vehicles	0	1335	4	1339	0	0	0	0	0	159	0	159	3	0	2	5	1503
% Passenger Vehicles	0	98.5	100	98.5	0	0	0	0	0	89.3	0	89.3	100	0	100	100	97.4
Large 2 Axle Vehicles	0	16	0	16	0	0	0	0	0	11	0	11	0	0	0	0	27
% Large 2 Axle Vehicles	0	1.2	0	1.2	0	0	0	0	0	6.2	0	6.2	0	0	0	0	1.7
3 Axle Vehicles	0	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
% 3 Axle Vehicles	0	0.1	0	0.1	100	0	0	100	0	0.6	0	0.6	0	0	0	0	0.2
4+ Axle Trucks	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
% 4+ Axle Trucks	0	0.2	0	0.2	0	0	0	0	0	3.9	0	3.9	0	0	0	0	0.6

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	195	0	195	0	0	0	0	0	15	0	15	0	0	0	0	210
07:15 AM	0	204	0	204	0	0	0	0	0	33	0	33	0	0	1	1	238
07:30 AM	0	191	0	191	0	0	0	0	0	17	0	17	0	0	0	0	208
07:45 AM	0	161	1	162	0	0	0	0	0	26	0	26	1	0	0	1	189
Total Volume	0	751	1	752	0	0	0	0	0	91	0	91	1	0	1	2	845
% App. Total	0	99.9	0.1		0	0	0		0	100	0		50	0	50		
PHF	.000	.920	.250	.922	.000	.000	.000	.000	.000	.689	.000	.689	.250	.000	.250	.500	.888

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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				08:00 AM				07:45 AM				07:15 AM			
+0 mins.	0	195	0	195	0	0	0	0	0	26	0	26	0	0	1	1
+15 mins.	0	204	0	204	0	0	0	0	0	22	0	22	0	0	0	0
+30 mins.	0	191	0	191	0	0	0	0	0	28	0	28	1	0	0	1
+45 mins.	0	161	1	162	1	0	0	1	0	28	0	28	0	0	1	1
Total Volume	0	751	1	752	1	0	0	1	0	104	0	104	1	0	2	3
% App. Total	0	99.9	0.1		100	0	0		0	100	0		33.3	0	66.7	
PHF	.000	.920	.250	.922	.250	.000	.000	.250	.000	.929	.000	.929	.250	.000	.500	.750

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

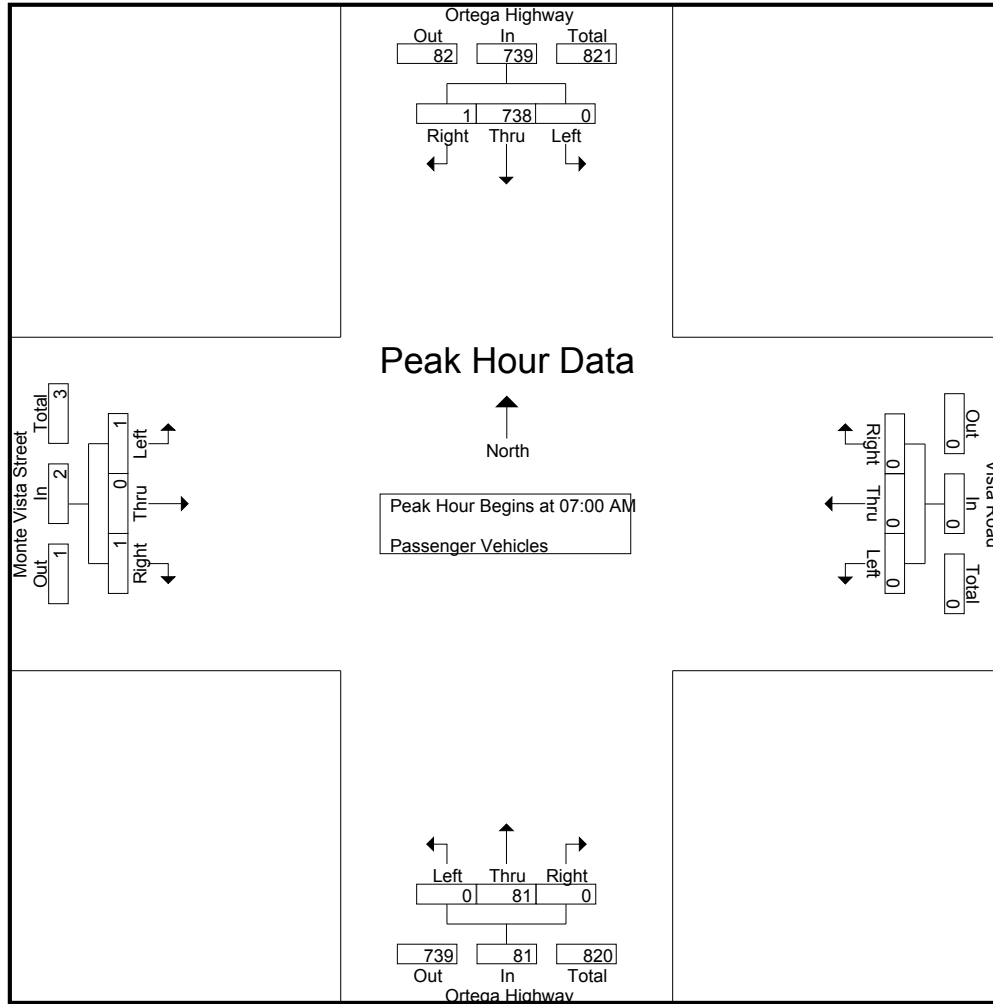
Groups Printed- Passenger Vehicles

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	195	0	195	0	0	0	0	0	14	0	14	0	0	0	0	209
07:15 AM	0	203	0	203	0	0	0	0	0	31	0	31	0	0	1	1	235
07:30 AM	0	183	0	183	0	0	0	0	0	14	0	14	0	0	0	0	197
07:45 AM	0	157	1	158	0	0	0	0	0	22	0	22	1	0	0	1	181
Total	0	738	1	739	0	0	0	0	0	81	0	81	1	0	1	2	822
08:00 AM	0	171	0	171	0	0	0	0	0	20	0	20	0	0	1	1	192
08:15 AM	0	136	0	136	0	0	0	0	0	26	0	26	1	0	0	1	163
08:30 AM	0	154	2	156	0	0	0	0	0	23	0	23	0	0	0	0	179
08:45 AM	0	136	1	137	0	0	0	0	0	9	0	9	1	0	0	1	147
Total	0	597	3	600	0	0	0	0	0	78	0	78	2	0	1	3	681
Grand Total	0	1335	4	1339	0	0	0	0	0	159	0	159	3	0	2	5	1503
Apprch %	0	99.7	0.3		0	0	0		0	100	0		60	0	40		
Total %	0	88.8	0.3	89.1	0	0	0	0	0	10.6	0	10.6	0.2	0	0.1	0.3	

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	195	0	195	0	0	0	0	0	14	0	14	0	0	0	0	209
07:15 AM	0	203	0	203	0	0	0	0	0	31	0	31	0	0	1	1	235
07:30 AM	0	183	0	183	0	0	0	0	0	14	0	14	0	0	0	0	197
07:45 AM	0	157	1	158	0	0	0	0	0	22	0	22	1	0	0	1	181
Total Volume	0	738	1	739	0	0	0	0	0	81	0	81	1	0	1	2	822
% App. Total	0	99.9	0.1		0	0	0		0	100	0		50	0	50		
PHF	.000	.909	.250	.910	.000	.000	.000	.000	.000	.653	.000	.653	.250	.000	.250	.500	.874

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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	195	0	195	0	0	0	0	0	14	0	14	0	0	0	0
+15 mins.	0	203	0	203	0	0	0	0	0	31	0	31	0	0	0	1
+30 mins.	0	183	0	183	0	0	0	0	0	14	0	14	0	0	0	0
+45 mins.	0	157	1	158	0	0	0	0	0	22	0	22	1	0	0	1
Total Volume	0	738	1	739	0	0	0	0	0	81	0	81	1	0	1	2
% App. Total	0	99.9	0.1		0	0	0	0	0	100	0		50	0	50	
PHF	.000	.909	.250	.910	.000	.000	.000	.000	.000	.653	.000	.653	.250	.000	.250	.500

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

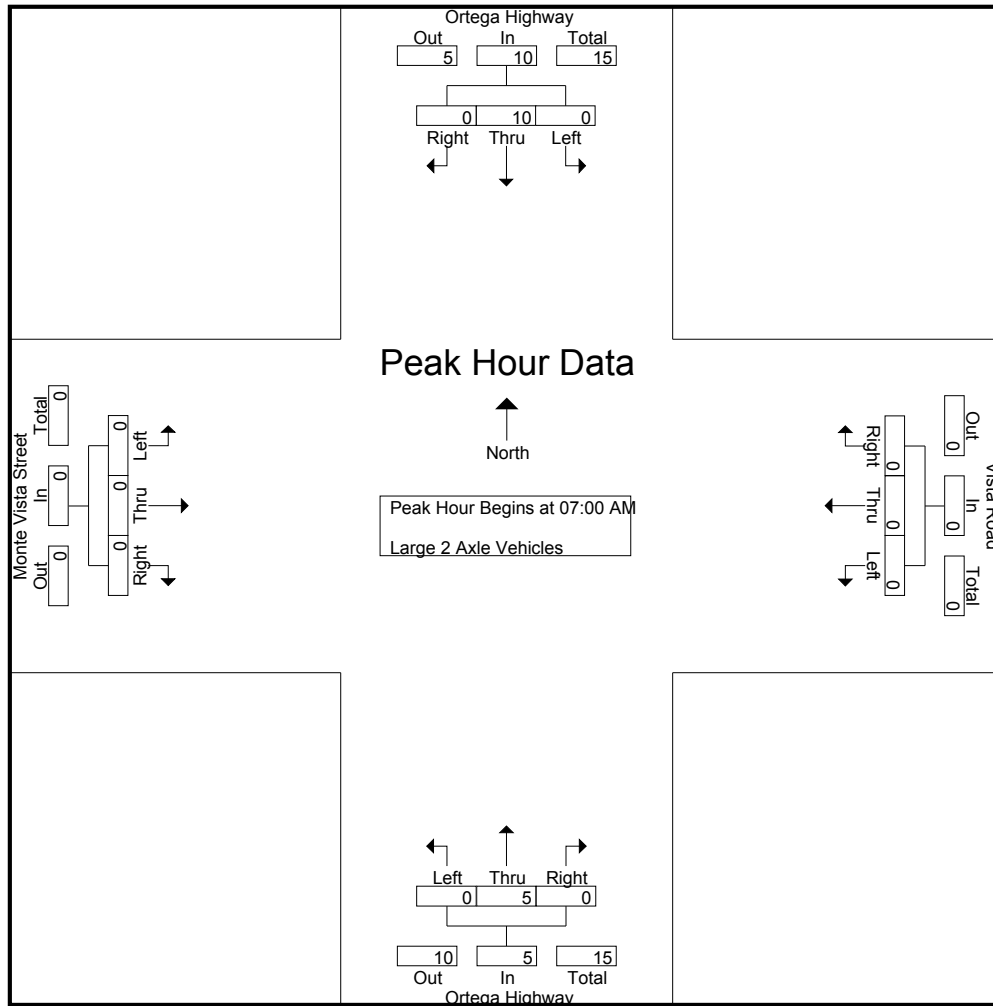
Groups Printed- Large 2 Axle Vehicles

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	7	0	7	0	0	0	0	0	0	1	0	1	0	0	0	0	8
07:45 AM	0	3	0	3	0	0	0	0	0	0	3	0	3	0	0	0	0	6
Total	0	10	0	10	0	0	0	0	0	0	5	0	5	0	0	0	0	15
08:00 AM	0	3	0	3	0	0	0	0	0	0	1	0	1	0	0	0	0	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	1	0	1	0	0	0	0	0	0	4	0	4	0	0	0	0	5
08:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	6	0	6	0	0	0	0	0	0	6	0	6	0	0	0	0	12
Grand Total	0	16	0	16	0	0	0	0	0	0	11	0	11	0	0	0	0	27
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0			
Total %	0	59.3	0	59.3	0	0	0	0	0	40.7	0	40.7	0	0	0	0	0	

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 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	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	7	0	7	0	0	0	0	0	0	1	0	1	0	0	0	0	8
07:45 AM	0	3	0	3	0	0	0	0	0	0	3	0	3	0	0	0	0	6
Total Volume	0	10	0	10	0	0	0	0	0	0	5	0	5	0	0	0	0	15
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0			
PHF	.000	.357	.000	.357	.000	.000	.000	.000	.000	.000	.417	.000	.417	.000	.000	.000	.000	.469

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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	1	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	7	0	7	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0
Total Volume	0	10	0	10	0	0	0	0	0	5	0	5	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.357	.000	.357	.000	.000	.000	.000	.000	.417	.000	.417	.000	.000	.000	.000

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

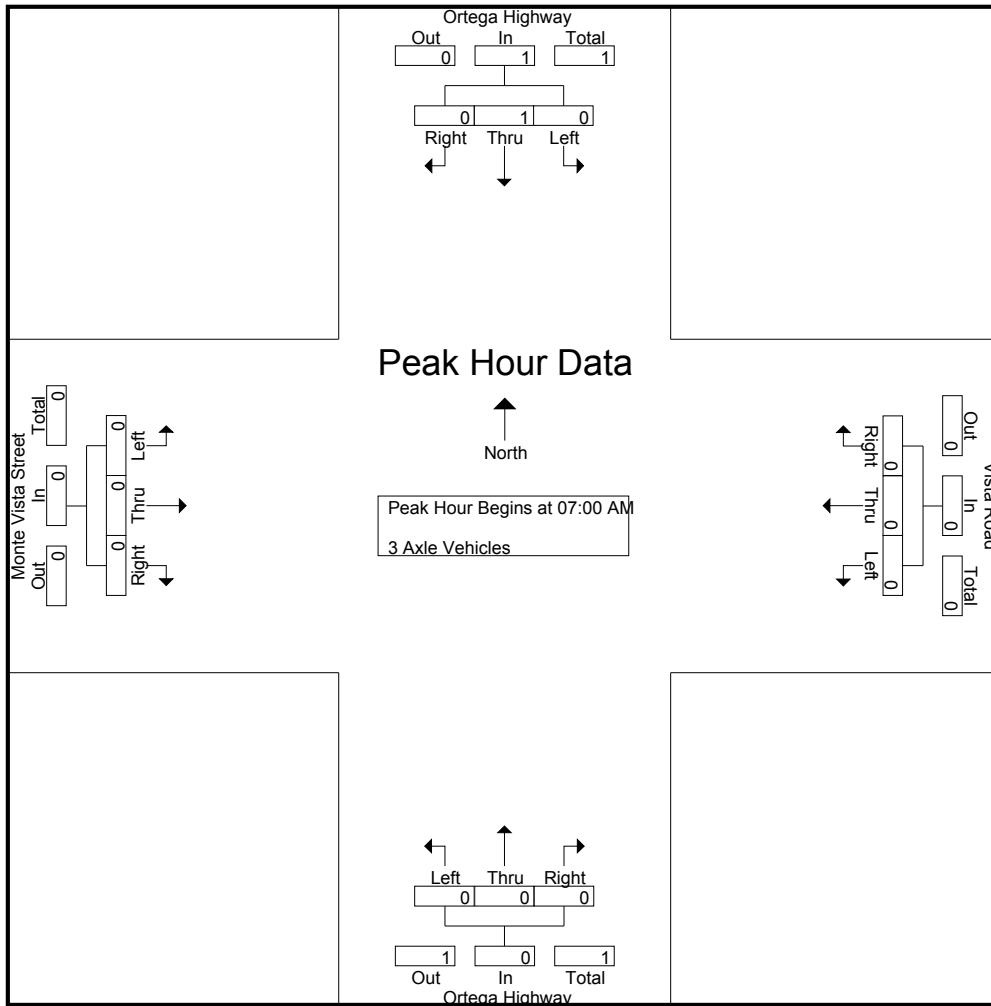
Groups Printed- 3 Axle Vehicles

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	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
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
Grand Total	0	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
Apprch %	0	100	0		100	0	0		0	100	0		0	0	0		
Total %	0	33.3	0	33.3	33.3	0	0	33.3	0	33.3	0	33.3	0	0	0	0	

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

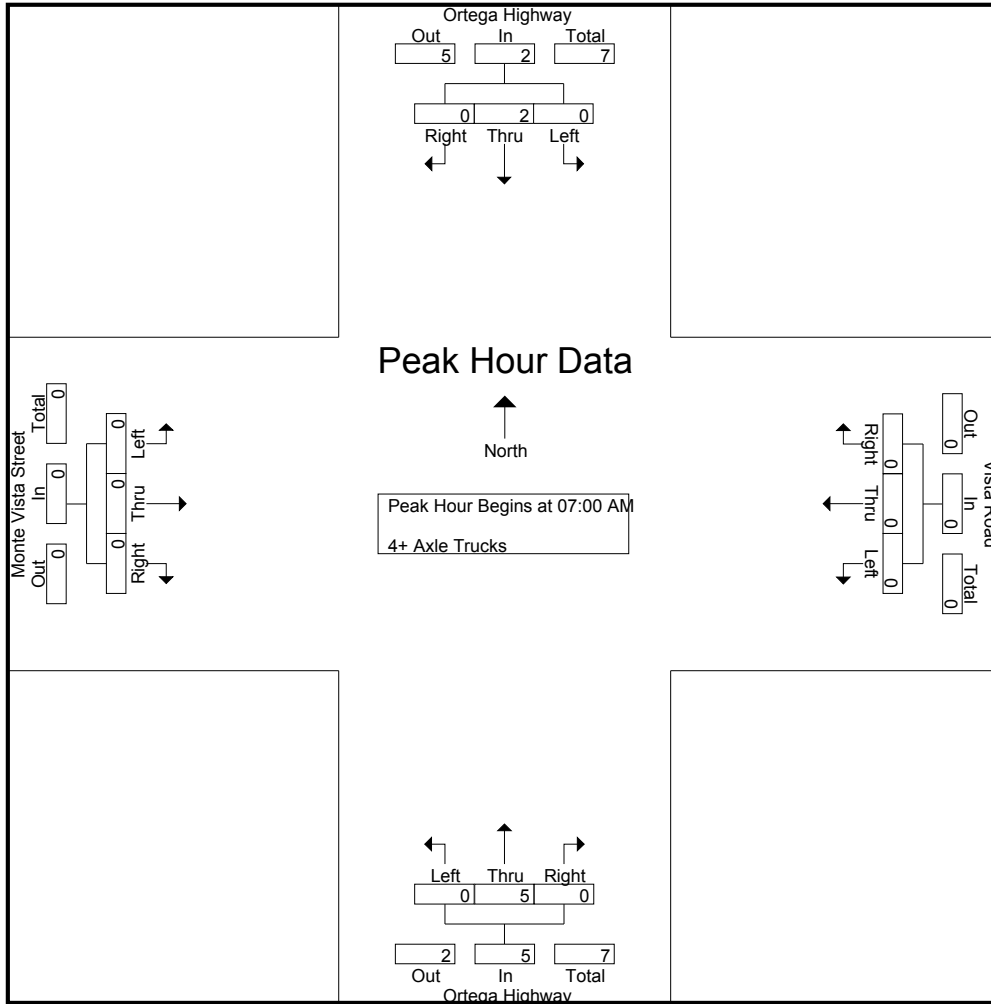
Groups Printed- 4+ Axle Trucks

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	2	0	2	0	0	0	0	0	5	0	5	0	0	0	0	7
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Grand Total	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	30	0	30	0	0	0	0	0	70	0	70	0	0	0	0	

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 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	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	2	0	2	0	0	0	0	0	5	0	5	0	0	0	0	7
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.583

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	2	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	2	0	2	0	0	0	0	0	5	0	5	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

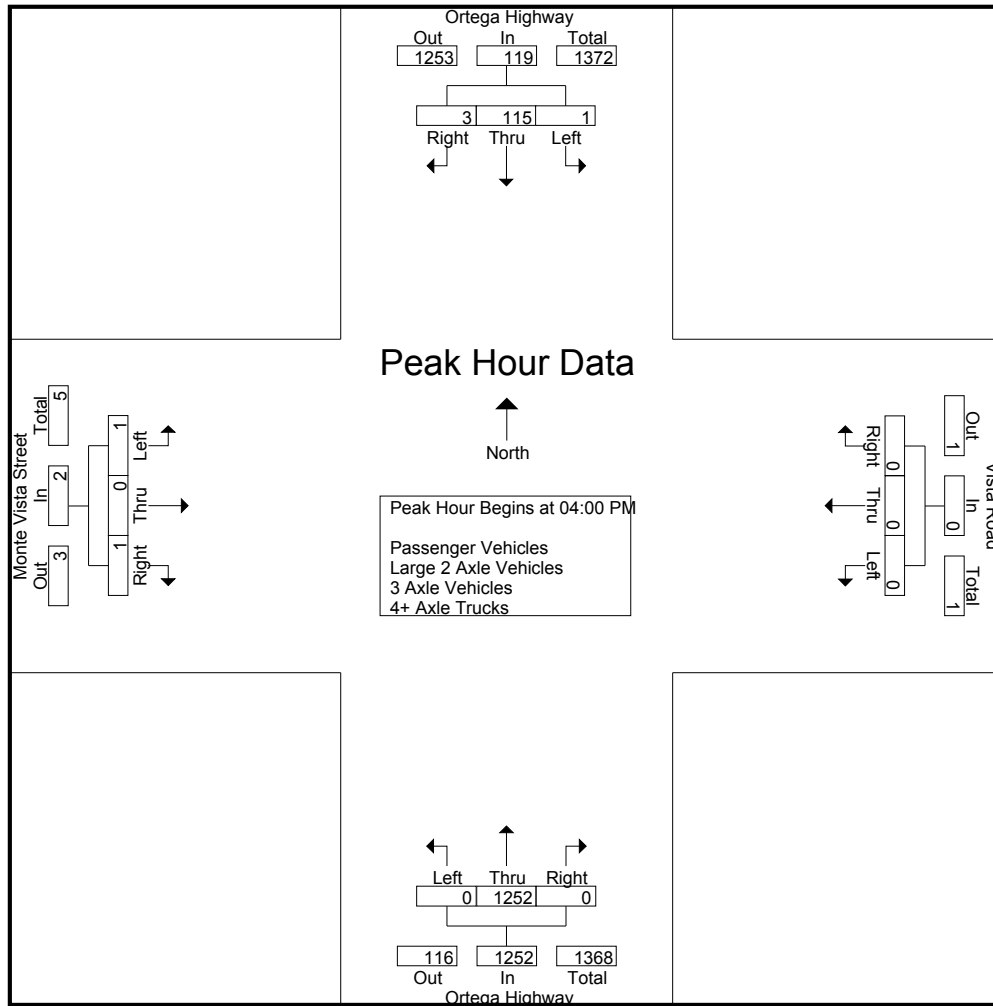
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	1	31	1	33	0	0	0	0	0	326	0	326	0	0	0	0	359
04:15 PM	0	34	0	34	0	0	0	0	0	319	0	319	1	0	0	1	354
04:30 PM	0	27	1	28	0	0	0	0	0	299	0	299	0	0	1	1	328
04:45 PM	0	23	1	24	0	0	0	0	0	308	0	308	0	0	0	0	332
Total	1	115	3	119	0	0	0	0	0	1252	0	1252	1	0	1	2	1373
05:00 PM	0	21	1	22	0	0	1	1	1	276	1	278	0	0	0	0	301
05:15 PM	0	26	1	27	0	0	0	0	0	309	0	309	0	0	0	0	336
05:30 PM	0	29	0	29	0	0	0	0	0	288	0	288	0	0	0	0	317
05:45 PM	0	26	0	26	1	0	0	1	0	312	0	312	0	0	0	0	339
Total	0	102	2	104	1	0	1	2	1	1185	1	1187	0	0	0	0	1293
Grand Total	1	217	5	223	1	0	1	2	1	2437	1	2439	1	0	1	2	2666
Apprch %	0.4	97.3	2.2		50	0	50		0	99.9	0		50	0	50		
Total %	0	8.1	0.2	8.4	0	0	0	0.1	0	91.4	0	91.5	0	0	0	0.1	
Passenger Vehicles	1	214	5	220	1	0	1	2	1	2382	1	2384	1	0	1	2	2608
% Passenger Vehicles	100	98.6	100	98.7	100	0	100	100	100	97.7	100	97.7	100	0	100	100	97.8
Large 2 Axle Vehicles	0	3	0	3	0	0	0	0	0	48	0	48	0	0	0	0	51
% Large 2 Axle Vehicles	0	1.4	0	1.3	0	0	0	0	0	2	0	2	0	0	0	0	1.9
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0.1
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	5
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0.2

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	31	1	33	0	0	0	0	0	326	0	326	0	0	0	0	359
04:15 PM	0	34	0	34	0	0	0	0	0	319	0	319	1	0	0	1	354
04:30 PM	0	27	1	28	0	0	0	0	0	299	0	299	0	0	1	1	328
04:45 PM	0	23	1	24	0	0	0	0	0	308	0	308	0	0	0	0	332
Total Volume	1	115	3	119	0	0	0	0	0	1252	0	1252	1	0	1	2	1373
% App. Total	0.8	96.6	2.5		0	0	0		0	100	0		50	0	50		
PHF	.250	.846	.750	.875	.000	.000	.000	.000	.000	.960	.000	.960	.250	.000	.250	.500	.956

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



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

	04:00 PM				05:00 PM				04:00 PM				04:00 PM			
+0 mins.	1	31	1	33	0	0	1	1	0	326	0	326	0	0	0	0
+15 mins.	0	34	0	34	0	0	0	0	0	319	0	319	1	0	0	1
+30 mins.	0	27	1	28	0	0	0	0	0	299	0	299	0	0	1	1
+45 mins.	0	23	1	24	1	0	0	1	0	308	0	308	0	0	0	0
Total Volume	1	115	3	119	1	0	1	2	0	1252	0	1252	1	0	1	2
% App. Total	0.8	96.6	2.5		50	0	50		0	100	0		50	0	50	
PHF	.250	.846	.750	.875	.250	.000	.250	.500	.000	.960	.000	.960	.250	.000	.250	.500

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

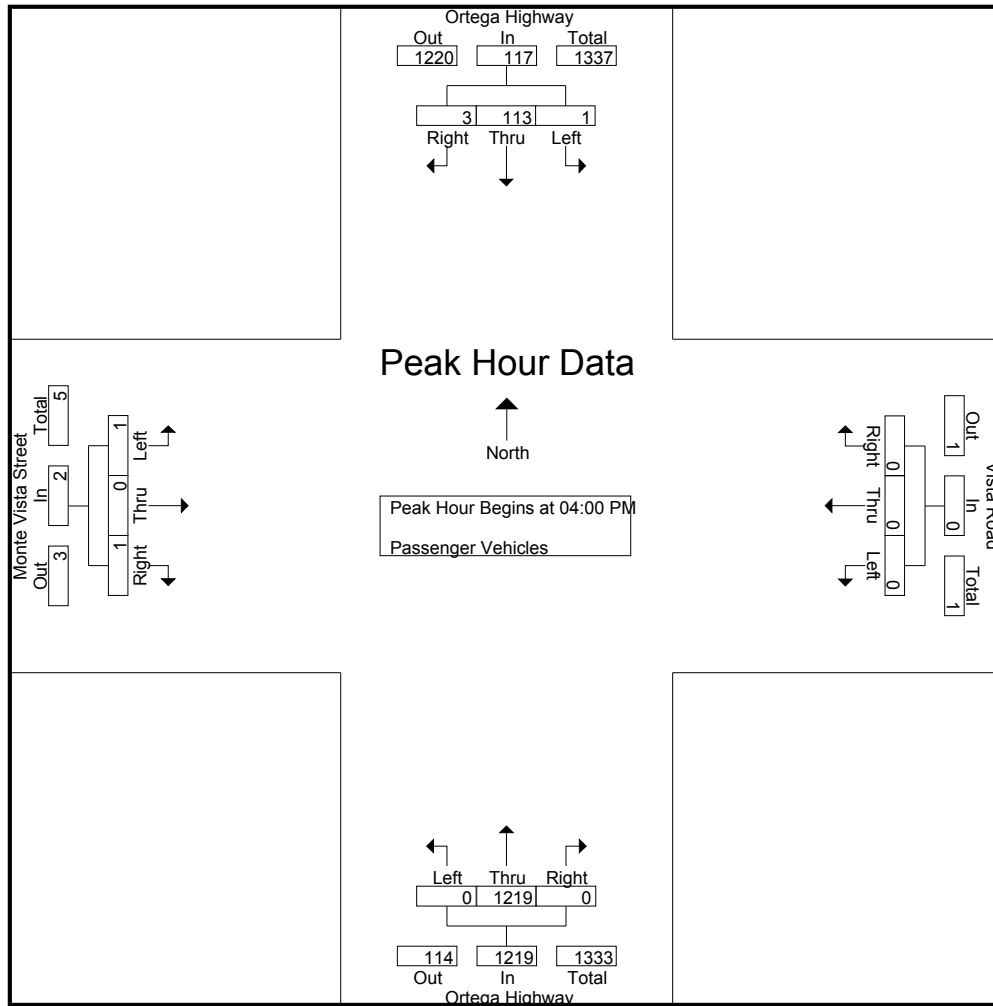
Groups Printed- Passenger Vehicles

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	1	30	1	32	0	0	0	0	0	314	0	314	0	0	0	0	346
04:15 PM	0	34	0	34	0	0	0	0	0	311	0	311	1	0	0	1	346
04:30 PM	0	26	1	27	0	0	0	0	0	292	0	292	0	0	1	1	320
04:45 PM	0	23	1	24	0	0	0	0	0	302	0	302	0	0	0	0	326
Total	1	113	3	117	0	0	0	0	0	1219	0	1219	1	0	1	2	1338
05:00 PM	0	20	1	21	0	0	1	1	1	269	1	271	0	0	0	0	293
05:15 PM	0	26	1	27	0	0	0	0	0	303	0	303	0	0	0	0	330
05:30 PM	0	29	0	29	0	0	0	0	0	284	0	284	0	0	0	0	313
05:45 PM	0	26	0	26	1	0	0	1	0	307	0	307	0	0	0	0	334
Total	0	101	2	103	1	0	1	2	1	1163	1	1165	0	0	0	0	1270
Grand Total	1	214	5	220	1	0	1	2	1	2382	1	2384	1	0	1	2	2608
Apprch %	0.5	97.3	2.3		50	0	50		0	99.9	0		50	0	50		
Total %	0	8.2	0.2	8.4	0	0	0	0.1	0	91.3	0	91.4	0	0	0	0.1	

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	30	1	32	0	0	0	0	0	314	0	314	0	0	0	0	346
04:15 PM	0	34	0	34	0	0	0	0	0	311	0	311	1	0	0	1	346
04:30 PM	0	26	1	27	0	0	0	0	0	292	0	292	0	0	1	1	320
04:45 PM	0	23	1	24	0	0	0	0	0	302	0	302	0	0	0	0	326
Total Volume	1	113	3	117	0	0	0	0	0	1219	0	1219	1	0	1	2	1338
% App. Total	0.9	96.6	2.6		0	0	0		0	100	0		50	0	50		
PHF	.250	.831	.750	.860	.000	.000	.000	.000	.000	.971	.000	.971	.250	.000	.250	.500	.967

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 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.	1	30	1	32	0	0	0	0	0	314	0	314	0	0	0	0
+15 mins.	0	34	0	34	0	0	0	0	0	311	0	311	1	0	0	1
+30 mins.	0	26	1	27	0	0	0	0	0	292	0	292	0	0	1	1
+45 mins.	0	23	1	24	0	0	0	0	0	302	0	302	0	0	0	0
Total Volume	1	113	3	117	0	0	0	0	0	1219	0	1219	1	0	1	2
% App. Total	0.9	96.6	2.6		0	0	0	0	0	100	0		50	0	50	
PHF	.250	.831	.750	.860	.000	.000	.000	.000	.000	.971	.000	.971	.250	.000	.250	.500

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

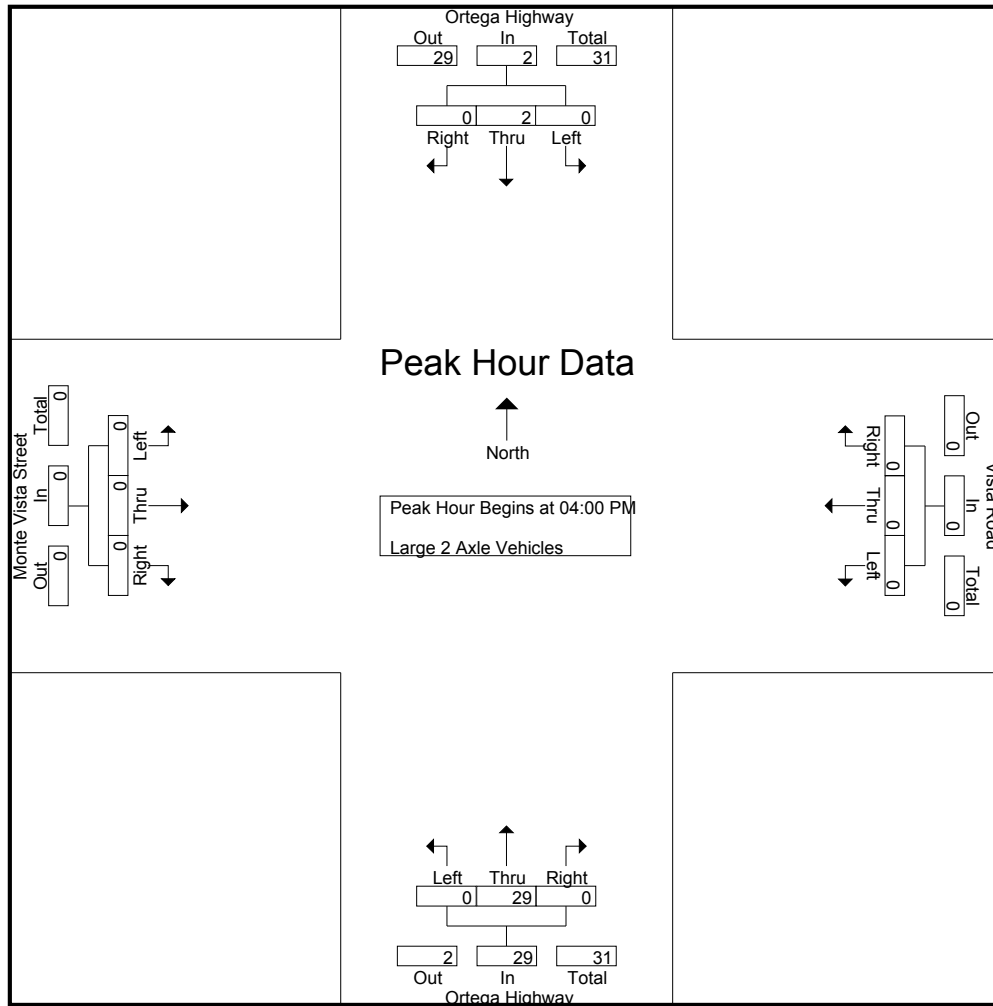
Groups Printed- Large 2 Axle Vehicles

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	1	0	1	0	0	0	0	0	10	0	10	0	0	0	0	11
04:15 PM	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0	7
04:30 PM	0	1	0	1	0	0	0	0	0	6	0	6	0	0	0	0	7
04:45 PM	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	6
Total	0	2	0	2	0	0	0	0	0	29	0	29	0	0	0	0	31
05:00 PM	0	1	0	1	0	0	0	0	0	7	0	7	0	0	0	0	8
05:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	5
Total	0	1	0	1	0	0	0	0	0	19	0	19	0	0	0	0	20
Grand Total	0	3	0	3	0	0	0	0	0	48	0	48	0	0	0	0	51
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	5.9	0	5.9	0	0	0	0	0	94.1	0	94.1	0	0	0	0	

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	1	0	1	0	0	0	0	0	10	0	10	0	0	0	0	11
04:15 PM	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0	7
04:30 PM	0	1	0	1	0	0	0	0	0	6	0	6	0	0	0	0	7
04:45 PM	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	6
Total Volume	0	2	0	2	0	0	0	0	0	29	0	29	0	0	0	0	31
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.725	.000	.725	.000	.000	.000	.000	.705

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	10	0	10	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	6	0	6	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	29	0	29	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.725	.000	.725	.000	.000	.000	.000

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

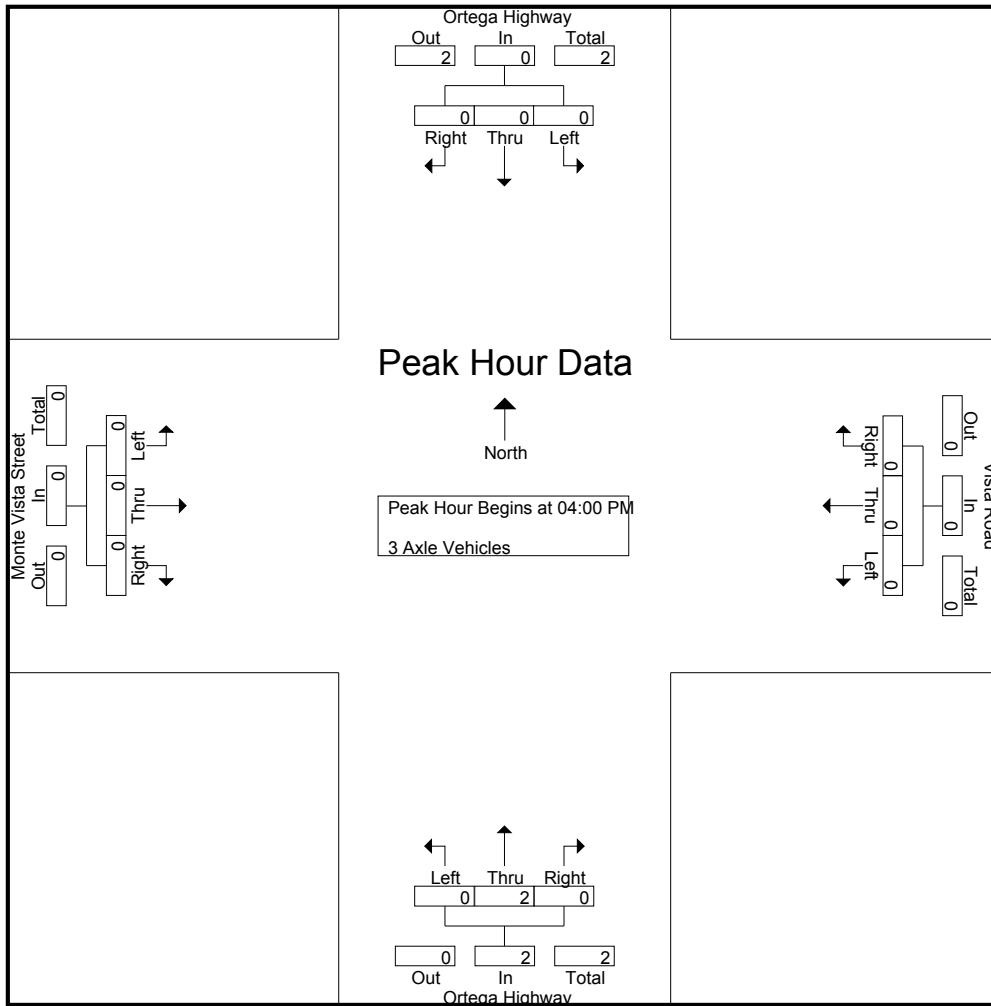
Groups Printed- 3 Axle Vehicles

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Apprch %	0	0	0		0	0	0		0	100	0		0	0	0		
Total %	0	0	0		0	0	0		0	100	0	100	0	0	0		

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 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	1	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.500

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



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

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

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

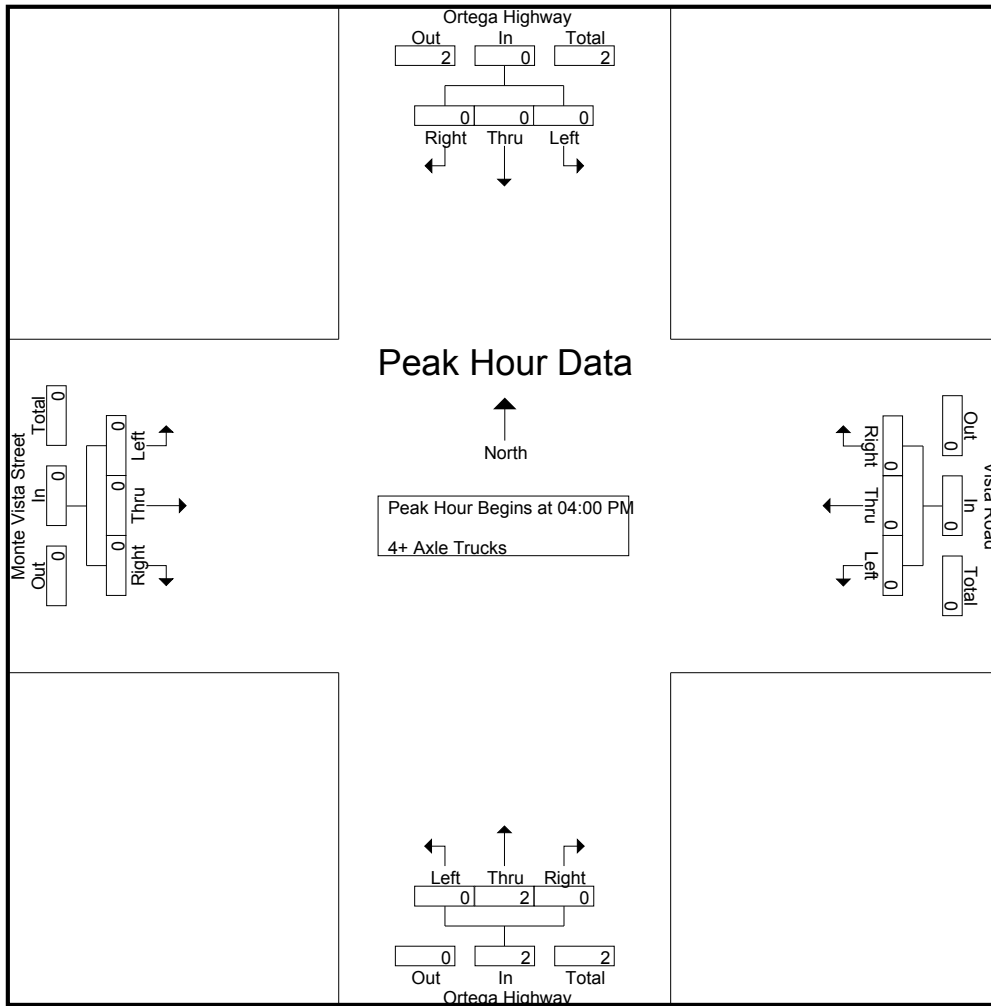
Groups Printed- 4+ Axle Trucks

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	5
Apprch %	0	0	0		0	0	0		0	100	0		0	0	0		
Total %	0	0	0		0	0	0		0	100	0	100	0	0	0		

Start Time	Ortega Highway Southbound				Vista Road Westbound				Ortega Highway Northbound				Monte Vista Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 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	1	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.500

County of Riverside
 N/S: Ortega Highway (SR-74)
 E/W: Monte Vista Street/Vista Road
 Weather: Clear

File Name : CRV74MOPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



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

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

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

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

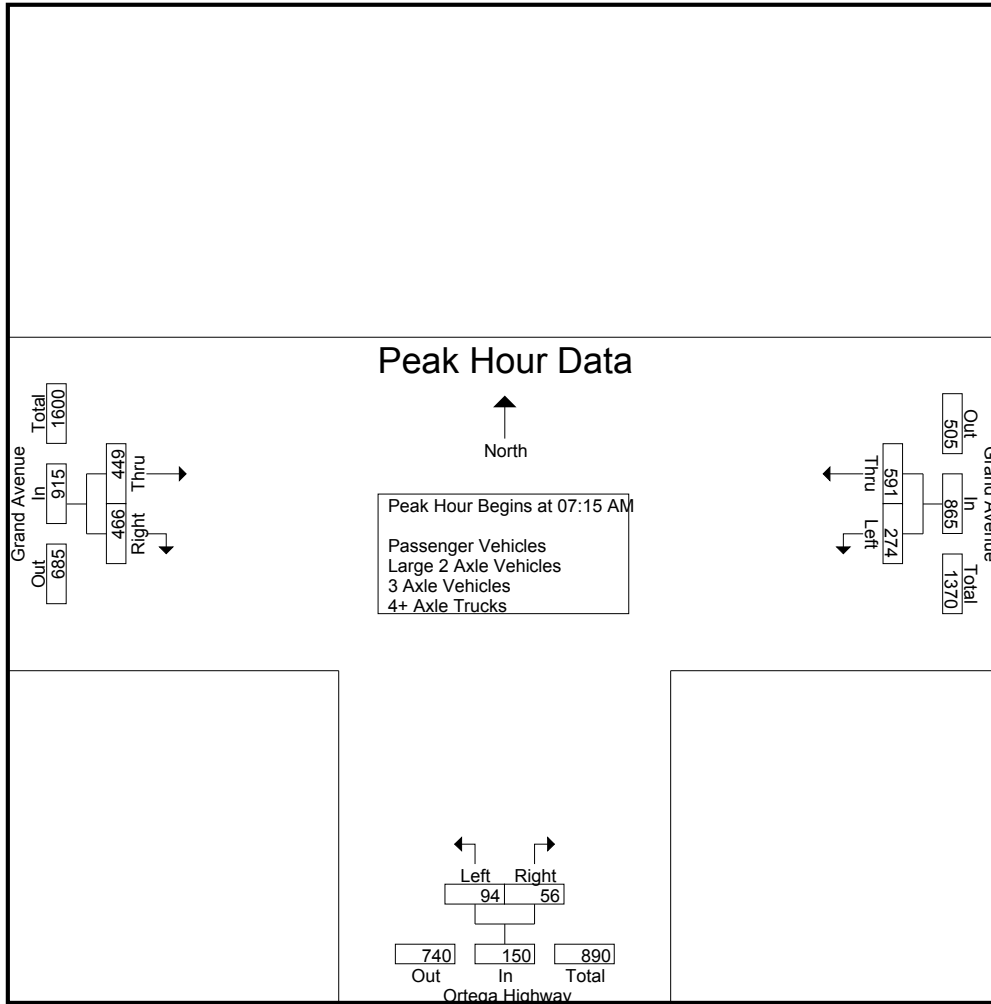
Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	67	118	185	17	12	29	58	146	204	418
07:15 AM	75	125	200	12	15	27	102	126	228	455
07:30 AM	69	117	186	14	13	27	145	136	281	494
07:45 AM	69	175	244	43	12	55	114	110	224	523
Total	280	535	815	86	52	138	419	518	937	1890
08:00 AM	61	174	235	25	16	41	88	94	182	458
08:15 AM	64	135	199	21	9	30	105	86	191	420
08:30 AM	56	105	161	13	11	24	95	93	188	373
08:45 AM	57	97	154	16	11	27	94	77	171	352
Total	238	511	749	75	47	122	382	350	732	1603
Grand Total	518	1046	1564	161	99	260	801	868	1669	3493
Apprch %	33.1	66.9		61.9	38.1		48	52		
Total %	14.8	29.9	44.8	4.6	2.8	7.4	22.9	24.8	47.8	
Passenger Vehicles	508	1017	1525	150	99	249	768	844	1612	3386
% Passenger Vehicles	98.1	97.2	97.5	93.2	100	95.8	95.9	97.2	96.6	96.9
Large 2 Axle Vehicles	8	20	28	4	0	4	25	19	44	76
% Large 2 Axle Vehicles	1.5	1.9	1.8	2.5	0	1.5	3.1	2.2	2.6	2.2
3 Axle Vehicles	2	6	8	1	0	1	6	1	7	16
% 3 Axle Vehicles	0.4	0.6	0.5	0.6	0	0.4	0.7	0.1	0.4	0.5
4+ Axle Trucks	0	3	3	6	0	6	2	4	6	15
% 4+ Axle Trucks	0	0.3	0.2	3.7	0	2.3	0.2	0.5	0.4	0.4

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	75	125	200	12	15	27	102	126	228	455
07:30 AM	69	117	186	14	13	27	145	136	281	494
07:45 AM	69	175	244	43	12	55	114	110	224	523
08:00 AM	61	174	235	25	16	41	88	94	182	458
Total Volume	274	591	865	94	56	150	449	466	915	1930
% App. Total	31.7	68.3		62.7	37.3		49.1	50.9		
PHF	.913	.844	.886	.547	.875	.682	.774	.857	.814	.923

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

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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			07:30 AM			07:00 AM		
+0 mins.	75	125	200	14	13	27	58	146	204
+15 mins.	69	117	186	43	12	55	102	126	228
+30 mins.	69	175	244	25	16	41	145	136	281
+45 mins.	61	174	235	21	9	30	114	110	224
Total Volume	274	591	865	103	50	153	419	518	937
% App. Total	31.7	68.3		67.3	32.7		44.7	55.3	
PHF	.913	.844	.886	.599	.781	.695	.722	.887	.834

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- Passenger Vehicles

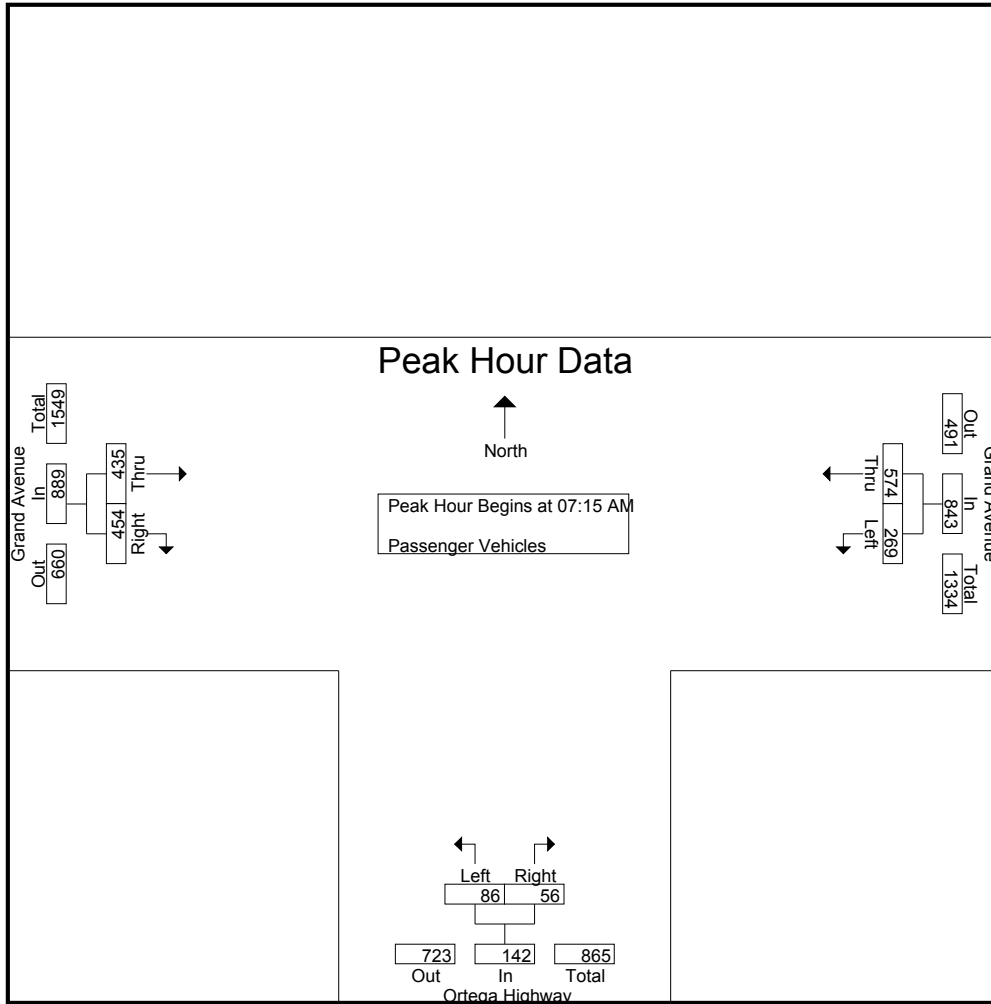
Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	67	114	181	15	12	27	53	143	196	404
07:15 AM	72	122	194	11	15	26	98	119	217	437
07:30 AM	68	114	182	11	13	24	142	135	277	483
07:45 AM	68	169	237	41	12	53	111	107	218	508
Total	275	519	794	78	52	130	404	504	908	1832
08:00 AM	61	169	230	23	16	39	84	93	177	446
08:15 AM	63	130	193	21	9	30	100	81	181	404
08:30 AM	53	104	157	13	11	24	91	91	182	363
08:45 AM	56	95	151	15	11	26	89	75	164	341
Total	233	498	731	72	47	119	364	340	704	1554
Grand Total	508	1017	1525	150	99	249	768	844	1612	3386
Apprch %	33.3	66.7		60.2	39.8		47.6	52.4		
Total %	15	30	45	4.4	2.9	7.4	22.7	24.9	47.6	

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	72	122	194	11	15	26	98	119	217	437
07:30 AM	68	114	182	11	13	24	142	135	277	483
07:45 AM	68	169	237	41	12	53	111	107	218	508
08:00 AM	61	169	230	23	16	39	84	93	177	446
Total Volume	269	574	843	86	56	142	435	454	889	1874
% App. Total	31.9	68.1		60.6	39.4		48.9	51.1		
PHF	.934	.849	.889	.524	.875	.670	.766	.841	.802	.922

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

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	72	122	194	11	15	26	98	119	217
+15 mins.	68	114	182	11	13	24	142	135	277
+30 mins.	68	169	237	41	12	53	111	107	218
+45 mins.	61	169	230	23	16	39	84	93	177
Total Volume	269	574	843	86	56	142	435	454	889
% App. Total	31.9	68.1		60.6	39.4		48.9	51.1	
PHF	.934	.849	.889	.524	.875	.670	.766	.841	.802

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

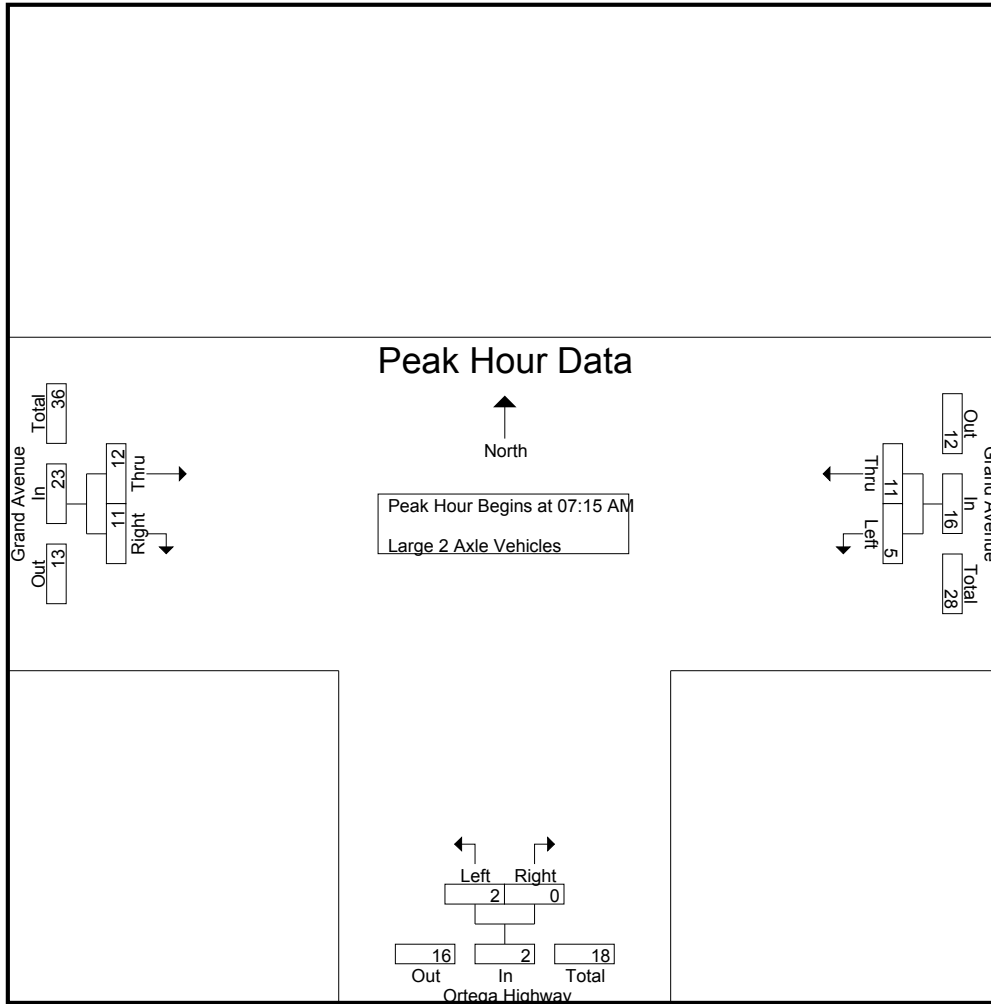
Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	4	4	2	0	2	3	1	4	10
07:15 AM	3	3	6	1	0	1	3	6	9	16
07:30 AM	1	2	3	0	0	0	3	1	4	7
07:45 AM	1	3	4	0	0	0	3	3	6	10
Total	5	12	17	3	0	3	12	11	23	43
08:00 AM	0	3	3	1	0	1	3	1	4	8
08:15 AM	1	3	4	0	0	0	4	5	9	13
08:30 AM	2	0	2	0	0	0	2	1	3	5
08:45 AM	0	2	2	0	0	0	4	1	5	7
Total	3	8	11	1	0	1	13	8	21	33
Grand Total	8	20	28	4	0	4	25	19	44	76
Apprch %	28.6	71.4		100	0		56.8	43.2		
Total %	10.5	26.3	36.8	5.3	0	5.3	32.9	25	57.9	

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	3	3	6	1	0	1	3	6	9	16
07:30 AM	1	2	3	0	0	0	3	1	4	7
07:45 AM	1	3	4	0	0	0	3	3	6	10
08:00 AM	0	3	3	1	0	1	3	1	4	8
Total Volume	5	11	16	2	0	2	12	11	23	41
% App. Total	31.2	68.8		100	0		52.2	47.8		
PHF	.417	.917	.667	.500	.000	.500	1.00	.458	.639	.641

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

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	3	3	6	1	0	1	3	6	9
+15 mins.	1	2	3	0	0	0	3	1	4
+30 mins.	1	3	4	0	0	0	3	3	6
+45 mins.	0	3	3	1	0	1	3	1	4
Total Volume	5	11	16	2	0	2	12	11	23
% App. Total	31.2	68.8		100	0		52.2	47.8	
PHF	.417	.917	.667	.500	.000	.500	1.000	.458	.639

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- 3 Axle Vehicles

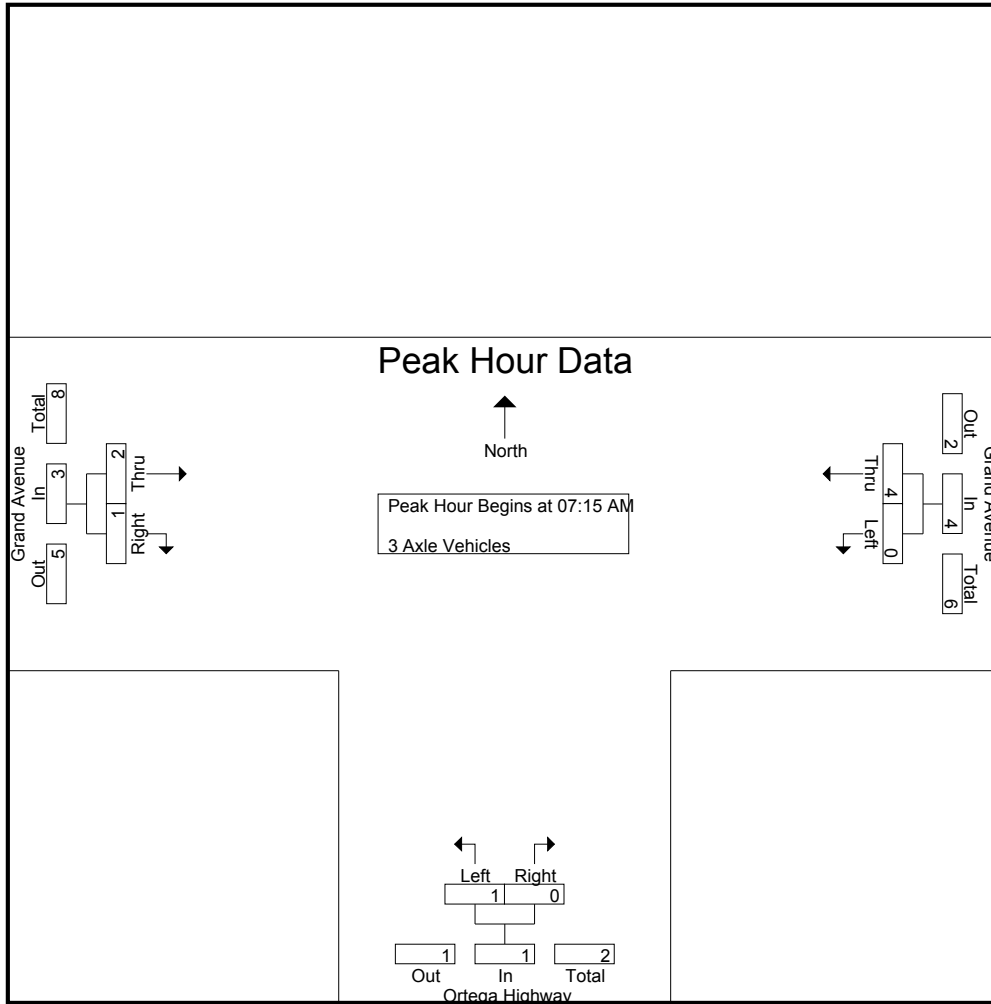
Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	1	1	2	2
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	2	2	0	0	0	0	0	0	2
Total	0	2	2	1	0	1	2	1	3	6
08:00 AM	0	2	2	0	0	0	1	0	1	3
08:15 AM	0	1	1	0	0	0	0	0	0	1
08:30 AM	1	1	2	0	0	0	2	0	2	4
08:45 AM	1	0	1	0	0	0	1	0	1	2
Total	2	4	6	0	0	0	4	0	4	10
Grand Total	2	6	8	1	0	1	6	1	7	16
Apprch %	25	75		100	0		85.7	14.3		
Total %	12.5	37.5	50	6.2	0	6.2	37.5	6.2	43.8	

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	0	0	0	0	0	1	1	2	2
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	2	2	0	0	0	0	0	0	2
08:00 AM	0	2	2	0	0	0	1	0	1	3
Total Volume	0	4	4	1	0	1	2	1	3	8
% App. Total	0	100		100	0		66.7	33.3		
PHF	.000	.500	.500	.250	.000	.250	.500	.250	.375	.667

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

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	0	0	0	0	0	0	1	1	2
+15 mins.	0	0	0	1	0	1	0	0	0
+30 mins.	0	2	2	0	0	0	0	0	0
+45 mins.	0	2	2	0	0	0	1	0	1
Total Volume	0	4	4	1	0	1	2	1	3
% App. Total	0	100		100	0		66.7	33.3	
PHF	.000	.500	.500	.250	.000	.250	.500	.250	.375

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

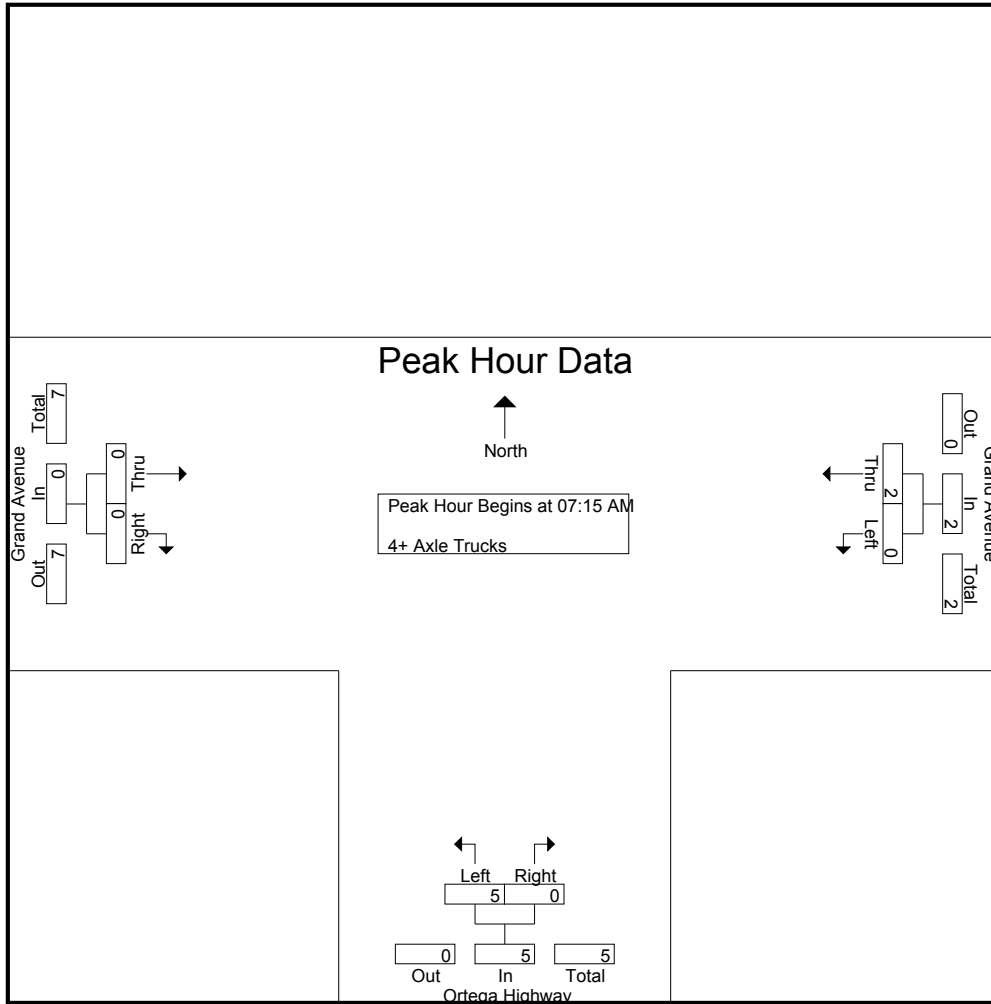
Groups Printed- 4+ Axle Trucks

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	1	2	3	3
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	2	0	2	0	0	0	3
07:45 AM	0	1	1	2	0	2	0	0	0	3
Total	0	2	2	4	0	4	1	2	3	9
08:00 AM	0	0	0	1	0	1	0	0	0	1
08:15 AM	0	1	1	0	0	0	1	0	1	2
08:30 AM	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	1	0	1	0	1	1	2
Total	0	1	1	2	0	2	1	2	3	6
Grand Total	0	3	3	6	0	6	2	4	6	15
Apprch %	0	100		100	0		33.3	66.7		
Total %	0	20	20	40	0	40	13.3	26.7	40	

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. 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
07:30 AM	0	1	1	2	0	2	0	0	0	3
07:45 AM	0	1	1	2	0	2	0	0	0	3
08:00 AM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	2	2	5	0	5	0	0	0	7
% App. Total	0	100		100	0		0	0		
PHF	.000	.500	.500	.625	.000	.625	.000	.000	.000	.583

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRAM
 Site Code : 05117038
 Start Date : 2/22/2017
 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		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	2	0	2	0	0	0
+30 mins.	0	1	1	2	0	2	0	0	0
+45 mins.	0	0	0	1	0	1	0	0	0
Total Volume	0	2	2	5	0	5	0	0	0
% App. Total	0	100	100	100	0	100	0	0	0
PHF	.000	.500	.500	.625	.000	.625	.000	.000	.000

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

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

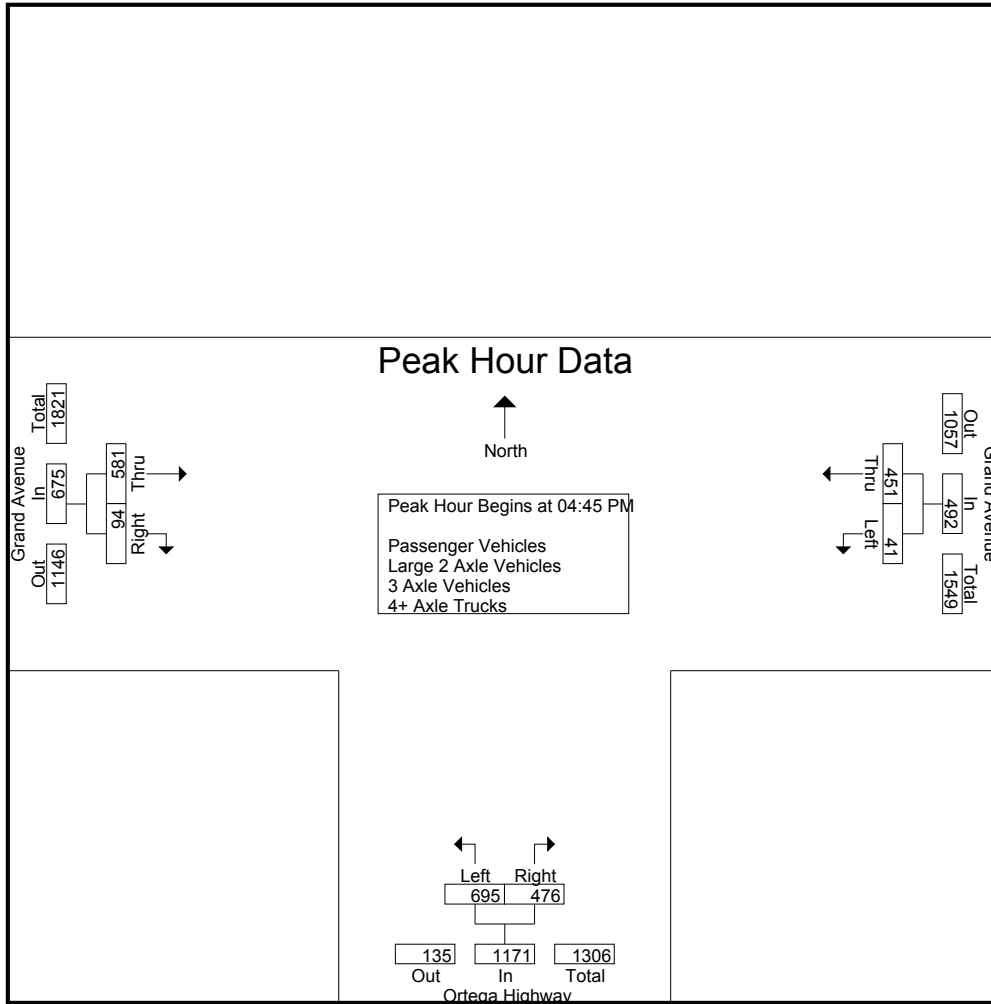
Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	8	113	121	170	114	284	135	20	155	560
04:15 PM	13	108	121	201	117	318	134	20	154	593
04:30 PM	12	102	114	204	111	315	127	17	144	573
04:45 PM	9	111	120	176	125	301	124	20	144	565
Total	42	434	476	751	467	1218	520	77	597	2291
05:00 PM	8	119	127	176	121	297	135	26	161	585
05:15 PM	8	105	113	172	108	280	155	24	179	572
05:30 PM	16	116	132	171	122	293	167	24	191	616
05:45 PM	7	101	108	153	116	269	152	13	165	542
Total	39	441	480	672	467	1139	609	87	696	2315
Grand Total	81	875	956	1423	934	2357	1129	164	1293	4606
Apprch %	8.5	91.5		60.4	39.6		87.3	12.7		
Total %	1.8	19	20.8	30.9	20.3	51.2	24.5	3.6	28.1	
Passenger Vehicles	79	856	935	1369	916	2285	1102	161	1263	4483
% Passenger Vehicles	97.5	97.8	97.8	96.2	98.1	96.9	97.6	98.2	97.7	97.3
Large 2 Axle Vehicles	2	17	19	46	18	64	25	2	27	110
% Large 2 Axle Vehicles	2.5	1.9	2	3.2	1.9	2.7	2.2	1.2	2.1	2.4
3 Axle Vehicles	0	0	0	4	0	4	0	0	0	4
% 3 Axle Vehicles	0	0	0	0.3	0	0.2	0	0	0	0.1
4+ Axle Trucks	0	2	2	4	0	4	2	1	3	9
% 4+ Axle Trucks	0	0.2	0.2	0.3	0	0.2	0.2	0.6	0.2	0.2

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	9	111	120	176	125	301	124	20	144	565
05:00 PM	8	119	127	176	121	297	135	26	161	585
05:15 PM	8	105	113	172	108	280	155	24	179	572
05:30 PM	16	116	132	171	122	293	167	24	191	616
Total Volume	41	451	492	695	476	1171	581	94	675	2338
% App. Total	8.3	91.7		59.4	40.6		86.1	13.9		
PHF	.641	.947	.932	.987	.952	.973	.870	.904	.884	.949

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

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



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

	04:45 PM			04:15 PM			05:00 PM		
+0 mins.	9	111	120	201	117	318	135	26	161
+15 mins.	8	119	127	204	111	315	155	24	179
+30 mins.	8	105	113	176	125	301	167	24	191
+45 mins.	16	116	132	176	121	297	152	13	165
Total Volume	41	451	492	757	474	1231	609	87	696
% App. Total	8.3	91.7		61.5	38.5		87.5	12.5	
PHF	.641	.947	.932	.928	.948	.968	.912	.837	.911

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

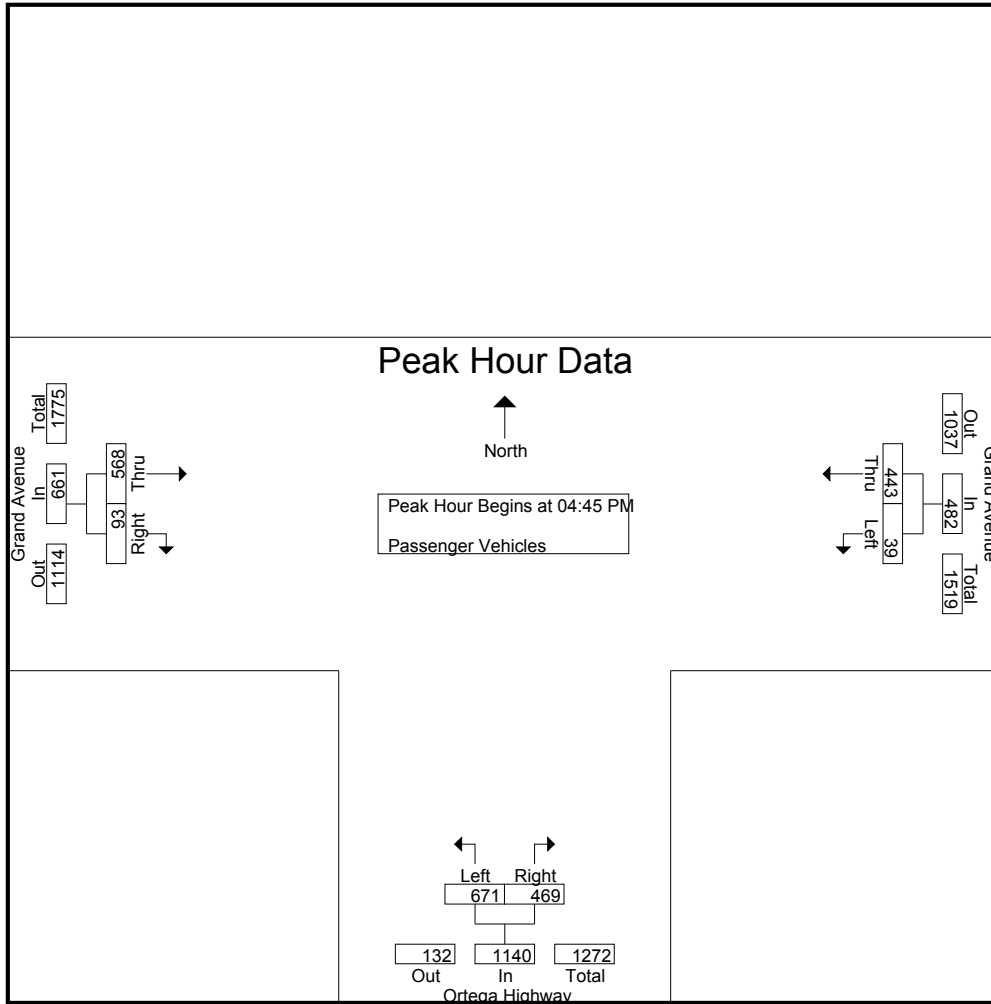
Groups Printed- Passenger Vehicles

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	8	110	118	160	111	271	132	19	151	540
04:15 PM	13	104	117	189	115	304	131	19	150	571
04:30 PM	12	98	110	198	108	306	121	17	138	554
04:45 PM	8	108	116	172	122	294	121	20	141	551
Total	41	420	461	719	456	1175	505	75	580	2216
05:00 PM	7	116	123	167	119	286	130	25	155	564
05:15 PM	8	104	112	165	108	273	151	24	175	560
05:30 PM	16	115	131	167	120	287	166	24	190	608
05:45 PM	7	101	108	151	113	264	150	13	163	535
Total	38	436	474	650	460	1110	597	86	683	2267
Grand Total	79	856	935	1369	916	2285	1102	161	1263	4483
Apprch %	8.4	91.6		59.9	40.1		87.3	12.7		
Total %	1.8	19.1	20.9	30.5	20.4	51	24.6	3.6	28.2	

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	8	108	116	172	122	294	121	20	141	551
05:00 PM	7	116	123	167	119	286	130	25	155	564
05:15 PM	8	104	112	165	108	273	151	24	175	560
05:30 PM	16	115	131	167	120	287	166	24	190	608
Total Volume	39	443	482	671	469	1140	568	93	661	2283
% App. Total	8.1	91.9		58.9	41.1		85.9	14.1		
PHF	.609	.955	.920	.975	.961	.969	.855	.930	.870	.939

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	8	108	116	172	122	294	121	20	141
+15 mins.	7	116	123	167	119	286	130	25	155
+30 mins.	8	104	112	165	108	273	151	24	175
+45 mins.	16	115	131	167	120	287	166	24	190
Total Volume	39	443	482	671	469	1140	568	93	661
% App. Total	8.1	91.9		58.9	41.1		85.9	14.1	
PHF	.609	.955	.920	.975	.961	.969	.855	.930	.870

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

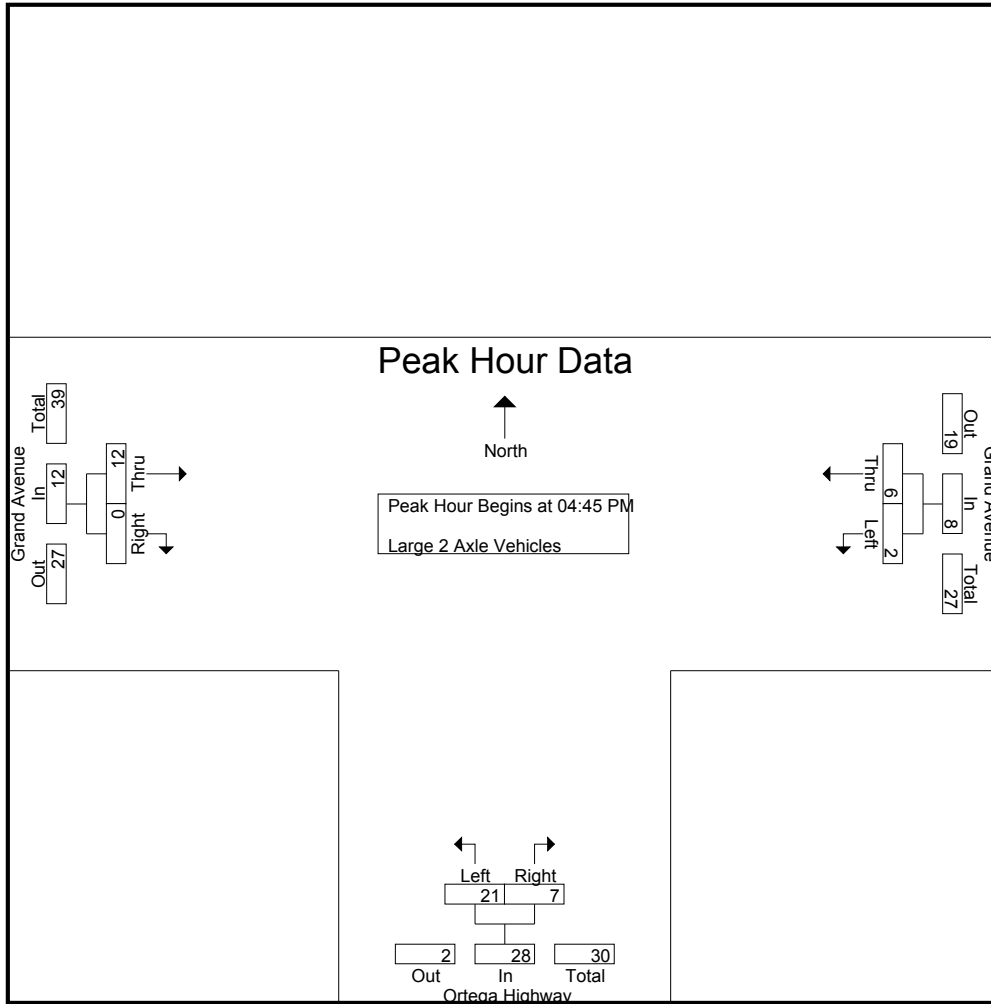
Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	3	3	9	3	12	3	1	4	19
04:15 PM	0	4	4	10	2	12	3	1	4	20
04:30 PM	0	4	4	5	3	8	5	0	5	17
04:45 PM	1	1	2	4	3	7	3	0	3	12
Total	1	12	13	28	11	39	14	2	16	68
05:00 PM	1	3	4	8	2	10	4	0	4	18
05:15 PM	0	1	1	7	0	7	4	0	4	12
05:30 PM	0	1	1	2	2	4	1	0	1	6
05:45 PM	0	0	0	1	3	4	2	0	2	6
Total	1	5	6	18	7	25	11	0	11	42
Grand Total	2	17	19	46	18	64	25	2	27	110
Apprch %	10.5	89.5		71.9	28.1		92.6	7.4		
Total %	1.8	15.5	17.3	41.8	16.4	58.2	22.7	1.8	24.5	

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	1	1	2	4	3	7	3	0	3	12
05:00 PM	1	3	4	8	2	10	4	0	4	18
05:15 PM	0	1	1	7	0	7	4	0	4	12
05:30 PM	0	1	1	2	2	4	1	0	1	6
Total Volume	2	6	8	21	7	28	12	0	12	48
% App. Total	25	75		75	25		100	0		
PHF	.500	.500	.500	.656	.583	.700	.750	.000	.750	.667

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	1	1	2	4	3	7	3	0	3
+15 mins.	1	3	4	8	2	10	4	0	4
+30 mins.	0	1	1	7	0	7	4	0	4
+45 mins.	0	1	1	2	2	4	1	0	1
Total Volume	2	6	8	21	7	28	12	0	12
% App. Total	25	75		75	25		100	0	
PHF	.500	.500	.500	.656	.583	.700	.750	.000	.750

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

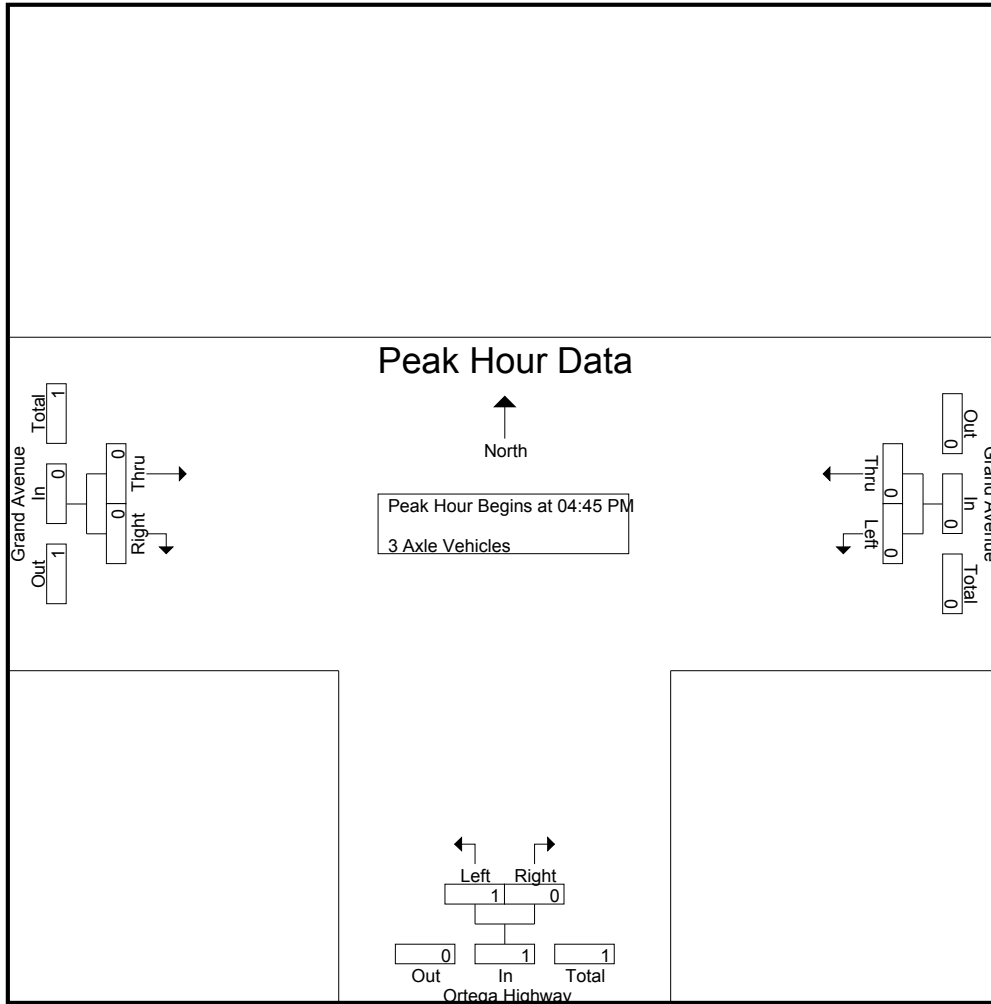
Groups Printed- 3 Axle Vehicles

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	0	0	1	0	1	0	0	0	1
04:15 PM	0	0	0	1	0	1	0	0	0	1
04:30 PM	0	0	0	1	0	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	0	3	0	0	0	3
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	1	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	0	1
Grand Total	0	0	0	4	0	4	0	0	0	4
Apprch %	0	0		100	0		0	0		
Total %	0	0		100	0	100	0	0		

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
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	1	0	1	0	0	0	1
Total Volume	0	0	0	1	0	1	0	0	0	1
% App. Total	0	0		100	0		0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

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

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

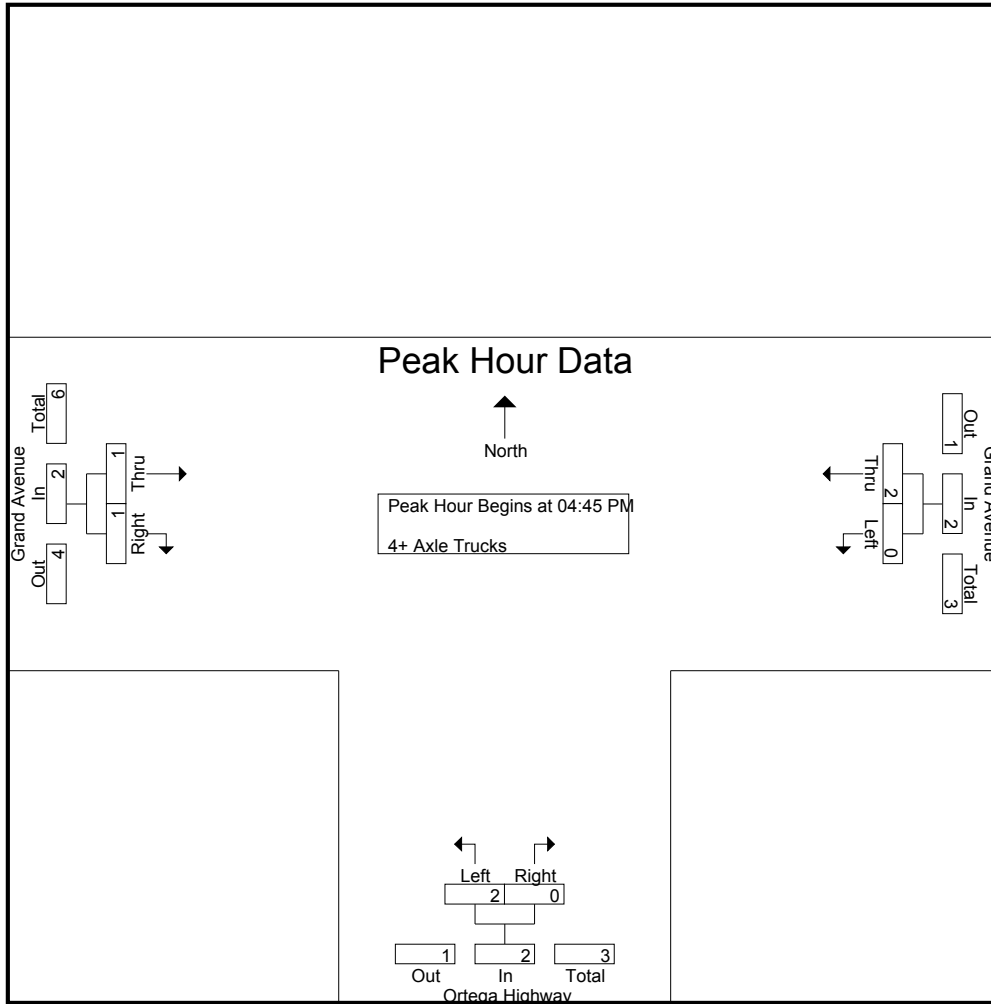
Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	1	0	0	0	1
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	2	2	0	0	0	0	0	0	2
Total	0	2	2	1	0	1	1	0	1	4
05:00 PM	0	0	0	1	0	1	1	1	2	3
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	3	0	3	1	1	2	5
Grand Total	0	2	2	4	0	4	2	1	3	9
Apprch %	0	100		100	0		66.7	33.3		
Total %	0	22.2	22.2	44.4	0	44.4	22.2	11.1	33.3	

Start Time	Grand Avenue Westbound			Ortega Highway Northbound			Grand Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	0	2	2	0	0	0	0	0	0	2
05:00 PM	0	0	0	1	0	1	1	1	2	3
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	2	2	2	0	2	1	1	2	6
% App. Total	0	100		100	0		50	50		
PHF	.000	.250	.250	.500	.000	.500	.250	.250	.250	.500

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

City of Lake Elsinore
 N/S: Ortega Highway (SR-74)
 E/W: Grand Avenue
 Weather: Clear

File Name : LKE74GRPM
 Site Code : 05117038
 Start Date : 2/22/2017
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

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

Counts Unlimited, Inc

County of Riverside
 Long Canyon Road
 W/ Ortega Highway
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: 951-268-6268
 email: counts@countsunlimited.com

CRVLGWOR
 Site Code: 051-17038

Start Time	2/22/2017 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	1			0	0				
12:15		0	0			0	3				
12:30		1	4			0	0				
12:45		0	2	1	7	0	2	0	5	1	12
01:00		0	0			0	0				
01:15		1	2			0	0				
01:30		0	3			0	1				
01:45		0	2	1	7	0	2	0	3	1	10
02:00		0	0			0	0				
02:15		0	0			0	0				
02:30		0	1			0	0				
02:45		0	0	0	1	0	0	0	0	0	1
03:00		0	2			0	0				
03:15		0	2			0	2				
03:30		0	8			0	3				
03:45		0	19	0	31	0	1	0	6	0	37
04:00		0	2			0	0				
04:15		0	3			0	0				
04:30		0	3			0	0				
04:45		0	1	0	9	0	0	0	0	0	9
05:00		0	2			0	0				
05:15		0	8			0	0				
05:30		0	0			5	1				
05:45		0	0	0	10	6	0	11	1	11	11
06:00		3	0			10	0				
06:15		1	0			7	0				
06:30		2	0			5	0				
06:45		1	0	7	0	2	0	24	0	31	0
07:00		2	0			3	0				
07:15		1	0			1	0				
07:30		3	0			3	0				
07:45		0	0	6	0	1	0	8	0	14	0
08:00		4	0			2	0				
08:15		6	0			0	0				
08:30		0	0			0	1				
08:45		0	1	10	1	0	0	2	1	12	2
09:00		0	0			0	0				
09:15		1	0			0	0				
09:30		0	0			3	0				
09:45		1	0	2	0	0	0	3	0	5	0
10:00		6	0			0	0				
10:15		1	0			1	0				
10:30		1	1			2	0				
10:45		2	0	10	1	0	1	3	1	13	2
11:00		0	0			2	0				
11:15		1	0			1	0				
11:30		1	0			0	0				
11:45		1	0	3	0	2	0	5	0	8	0
Total		40	67	40	67	56	17	56	17	96	84
Combined Total		107		107		73		73		180	
AM Peak	-	07:30	-	-	-	05:30	-	-	-	-	-
Vol.	-	13	-	-	-	28	-	-	-	-	-
P.H.F.	-	0.542	-	-	-	0.700	-	-	-	-	-
PM Peak	-	-	03:30	-	-	-	03:00	-	-	-	-
Vol.	-	-	32	-	-	-	6	-	-	-	-
P.H.F.	-	-	0.421	-	-	-	0.500	-	-	-	-
Percentage		37.4%	62.6%			76.7%	23.3%				
ADT/AADT		ADT 180		AADT 180							

Counts Unlimited, Inc

County of Riverside
 Ortega Highway
 S/ Long Canyon Road
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: 951-268-6268
 email: counts@countsunlimited.com

CRVORSLC
 Site Code: 051-17038

Start Time	2/22/2017 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	42			3	40				
12:15		7	47			5	30				
12:30		9	54			2	30				
12:45		4	47	36	190	5	40	15	140	51	330
01:00		7	27			2	32				
01:15		6	56			0	39				
01:30		3	62			5	48				
01:45		6	82	22	227	3	39	10	158	32	385
02:00		3	104			4	32				
02:15		2	103			6	32				
02:30		3	151			6	46				
02:45		2	102	10	460	10	39	26	149	36	609
03:00		2	169			10	27				
03:15		1	144			26	21				
03:30		2	142			32	34				
03:45		1	267	6	722	35	46	103	128	109	850
04:00		1	314			58	35				
04:15		0	313			67	26				
04:30		3	298			140	30				
04:45		3	311	7	1236	190	22	455	113	462	1349
05:00		4	262			251	15				
05:15		4	312			335	20				
05:30		3	280			364	27				
05:45		11	306	22	1160	275	25	1225	87	1247	1247
06:00		13	324			253	16				
06:15		19	190			246	16				
06:30		15	200			208	13				
06:45		18	174	65	888	199	15	906	60	971	948
07:00		15	160			193	12				
07:15		35	104			205	11				
07:30		17	96			194	20				
07:45		26	90	93	450	160	19	752	62	845	512
08:00		23	65			165	10				
08:15		25	43			131	11				
08:30		26	35			152	8				
08:45		11	62	85	205	146	10	594	39	679	244
09:00		28	45			107	5				
09:15		21	34			119	12				
09:30		34	44			80	8				
09:45		31	37	114	160	65	7	371	32	485	192
10:00		25	15			46	8				
10:15		22	32			54	10				
10:30		42	20			40	4				
10:45		24	16	113	83	43	2	183	24	296	107
11:00		34	22			33	4				
11:15		35	14			46	4				
11:30		26	18			38	7				
11:45		41	16	136	70	43	4	160	19	296	89
Total		709	5851	709	5851	4800	1011	4800	1011	5509	6862
Combined Total		6560		6560		5811		5811		12371	
AM Peak	-	11:00	-	-	-	05:15	-	-	-	-	-
Vol.	-	136	-	-	-	1227	-	-	-	-	-
P.H.F.	-	0.829	-	-	-	0.843	-	-	-	-	-
PM Peak	-	-	04:00	-	-	-	00:45	-	-	-	-
Vol.	-	-	1236	-	-	-	159	-	-	-	-
P.H.F.	-	-	0.984	-	-	-	0.828	-	-	-	-
Percentage		10.8%	89.2%			82.6%	17.4%				
ADT/AADT		ADT 12,371		AADT 12,371							

Counts Unlimited, Inc

County of Orange
 Ortega Highway
 E/ Antonio Parkway
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: 951-268-6268
 email: counts@countsunlimited.com

ORCOREAN
 Site Code: 051-17038

Start Time	2/22/2017 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		11	122			7	61				
12:15		7	78			8	70				
12:30		9	100			9	83				
12:45		5	106	32	406	7	118	31	332	63	738
01:00		3	94			13	91				
01:15		5	115			7	84				
01:30		4	136			3	62				
01:45		5	142	17	487	5	119	28	356	45	843
02:00		6	148			9	99				
02:15		7	192			6	81				
02:30		3	245			4	84				
02:45		2	206	18	791	5	92	24	356	42	1147
03:00		6	201			15	43				
03:15		17	139			12	112				
03:30		33	273			22	205				
03:45		31	302	87	915	25	97	74	457	161	1372
04:00		6	316			24	106				
04:15		14	321			43	127				
04:30		26	314			72	92				
04:45		29	302	75	1253	103	129	242	454	317	1707
05:00		21	283			143	125				
05:15		52	255			247	84				
05:30		74	243			244	77				
05:45		107	213	254	994	239	65	873	351	1127	1345
06:00		108	195			261	61				
06:15		125	185			260	52				
06:30		105	167			287	46				
06:45		113	132	451	679	263	35	1071	194	1522	873
07:00		76	106			302	29				
07:15		101	100			300	27				
07:30		122	80			285	25				
07:45		107	59	406	345	257	23	1144	104	1550	449
08:00		88	52			205	30				
08:15		80	54			129	25				
08:30		70	53			191	24				
08:45		71	51	309	210	205	36	730	115	1039	325
09:00		91	43			183	22				
09:15		81	50			144	28				
09:30		89	33			63	30				
09:45		85	27	346	153	154	18	544	98	890	251
10:00		89	26			172	20				
10:15		61	21			47	18				
10:30		85	29			116	15				
10:45		86	18	321	94	108	17	443	70	764	164
11:00		97	19			52	10				
11:15		89	11			82	15				
11:30		102	18			68	13				
11:45		90	9	378	57	109	7	311	45	689	102
Total		2694	6384	2694	6384	5515	2932	5515	2932	8209	9316
Combined Total			9078		9078		8447		8447		17525
AM Peak	-	06:00	-	-	-	06:30	-	-	-	-	-
Vol.	-	451	-	-	-	1152	-	-	-	-	-
P.H.F.	-	0.902	-	-	-	0.954	-	-	-	-	-
PM Peak	-	-	03:45	-	-	-	03:30	-	-	-	-
Vol.	-	-	1253	-	-	-	535	-	-	-	-
P.H.F.	-	-	0.976	-	-	-	0.652	-	-	-	-
Percentage		29.7%	70.3%			65.3%	34.7%				
ADT/AADT		ADT 17,525	AADT 17,525								

EXISTING PEAK HOUR-TO-DAILY TRAFFIC VOLUME RELATIONSHIP

Segment	Intsec NumID	Intersection	LEG	2017 ADT Count	2017 AM Peak Hour (Link Volume)	AM Ratio	2017 PM Peak Hour (Link Volume)	PM Ratio
Long Cyn. Rd.	2	Ortega Hwy. (SR-74) (NS) / Long Cyn. Rd. (EW)	West	180	19	0.11	31	0.17
Ortega Hwy. (SR-74)	2	Ortega Hwy. (SR-74) (NS) / Long Cyn. Rd. (EW)	South	12,371	865	0.07	1,370	0.11
Ortega Hwy. (SR-74)	1	Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)	East	17,525	1,598	0.09	1,804	0.10
TOTAL				30,076	2,482		3,205	

AVERAGE 8.300% 10.700%

AM FACTOR	12.048	PM FACTOR	9.346
ADT CALCULATION FACTOR		5.263	

APPENDIX 2.2:

EXISTING (2017) CONDITIONS

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

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

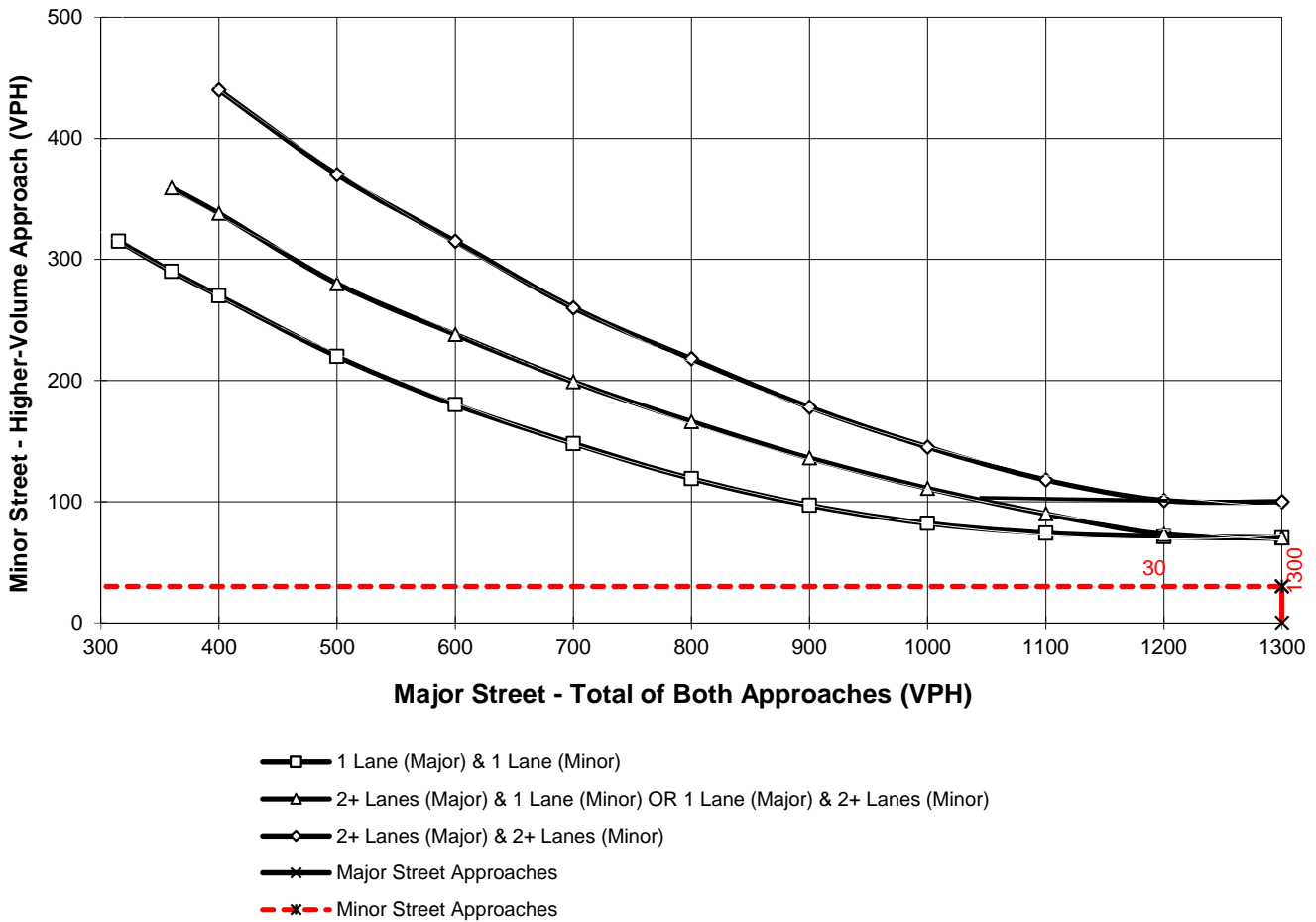
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,363**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Long Cyn. Rd.** High Volume Approach (VPH) = **30**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

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

Traffic Conditions = **Existing Conditions - Weekday PM Peak Hour**

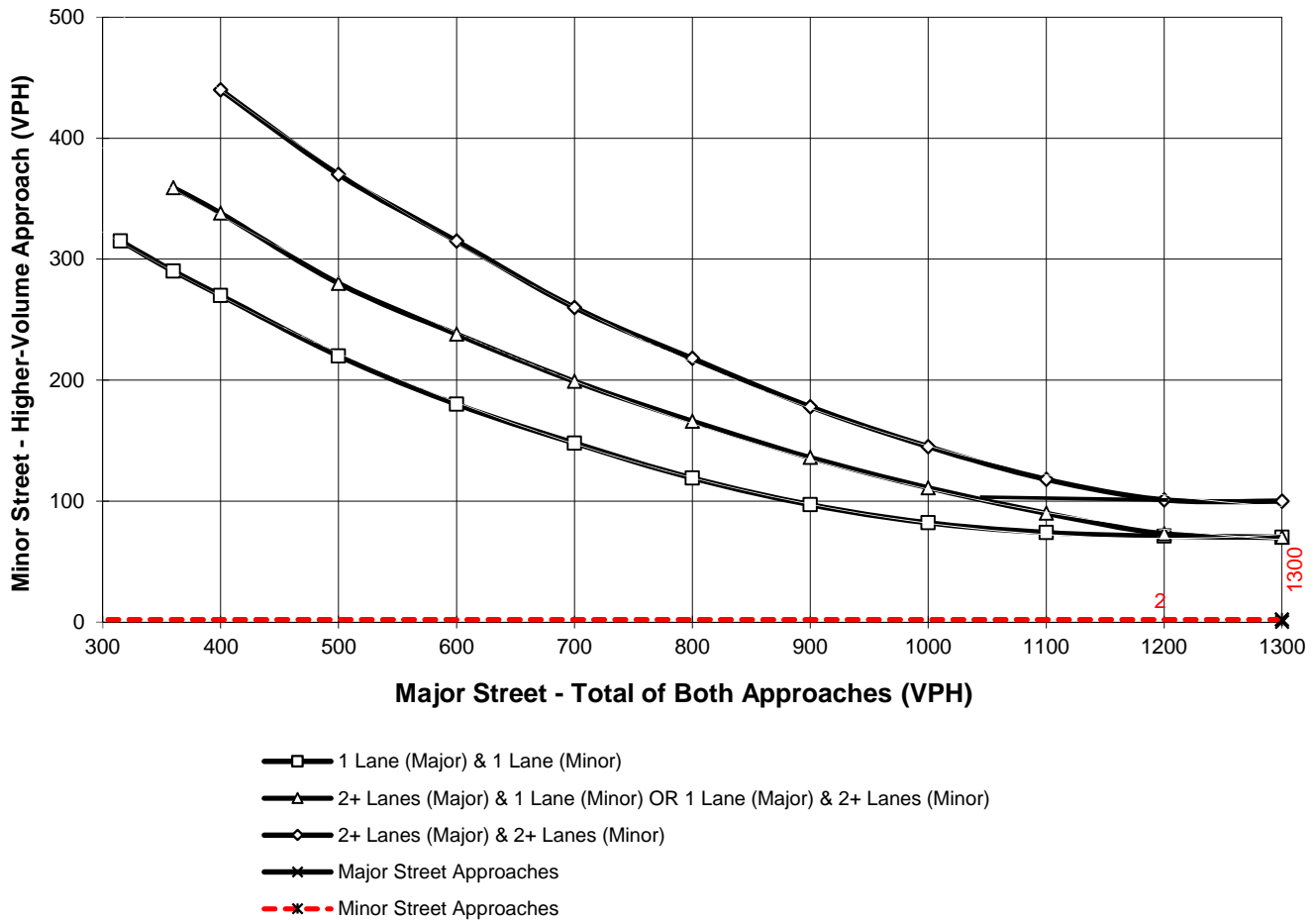
Major Street Name = **Ortega Hwy. (SR-74)**

Total of Both Approaches (VPH) = **1,393**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Monte Vista St.**

High Volume Approach (VPH) = **2**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



APPENDIX 2.3:

EXISTING (2017) CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Existing (2017) Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.656
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxxx
 Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Ovl			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	3	0	1	1	0	3	0	2	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	483	537	54	145	728	531	385	260	433	109	707	323
Growth 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
Initial Bse:	483	537	54	145	728	531	385	260	433	109	707	323
User 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
PHF 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
PHF Volume:	483	537	54	145	728	531	385	260	433	109	707	323
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	483	537	54	145	728	531	385	260	433	109	707	323
PCE 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
MLF 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
FinalVolume:	483	537	54	145	728	531	385	260	433	109	707	323
OvlAdjVol:	146											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.14	0.11	0.03	0.09	0.14	0.16	0.11	0.08	0.25	0.06	0.21	0.19
OvlAdjV/S:	0.04											
Crit Moves:	****	****					****	****				

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

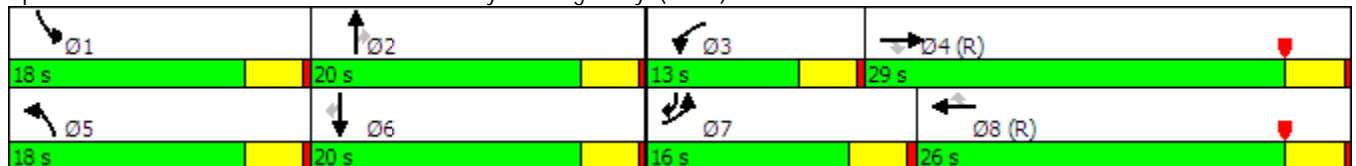
Existing (2017) AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↗	↑↑	↖	↖↗	↑↑↑	↖	↖	↑↑↑	↖↗
Traffic Volume (vph)	385	260	433	109	707	323	483	537	54	145	728	531
Future Volume (vph)	385	260	433	109	707	323	483	537	54	145	728	531
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	16.0	29.0	29.0	13.0	26.0	26.0	18.0	20.0	20.0	18.0	20.0	16.0
Total Split (%)	20.0%	36.3%	36.3%	16.3%	32.5%	32.5%	22.5%	25.0%	25.0%	22.5%	25.0%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

Existing (2017) AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	260	433	109	707	323	483	537	54	145	728	531
Future Volume (veh/h)	385	260	433	109	707	323	483	537	54	145	728	531
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	470	317	528	133	862	394	589	655	66	177	888	648
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	516	1173	525	166	973	435	602	1287	401	216	1017	975
Arrive On Green	0.15	0.33	0.33	0.09	0.28	0.28	0.17	0.25	0.25	0.12	0.20	0.20
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	470	317	528	133	862	394	589	655	66	177	888	648
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	10.8	5.3	26.5	5.9	18.7	19.2	13.6	8.8	2.6	7.8	13.5	15.8
Cycle Q Clear(g_c), s	10.8	5.3	26.5	5.9	18.7	19.2	13.6	8.8	2.6	7.8	13.5	15.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	516	1173	525	166	973	435	602	1287	401	216	1017	975
V/C Ratio(X)	0.91	0.27	1.01	0.80	0.89	0.90	0.98	0.51	0.16	0.82	0.87	0.66
Avail Cap(c_a), veh/h	516	1173	525	200	973	435	602	1287	401	310	1017	975
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	33.5	19.6	26.7	35.5	27.8	28.0	32.8	25.6	23.3	34.3	31.0	22.0
Incr Delay (d2), s/veh	20.3	0.6	40.9	17.3	11.7	24.9	31.0	1.4	0.9	10.8	10.3	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	6.5	2.6	17.5	3.7	10.7	11.3	9.1	4.3	1.2	4.4	7.3	6.5
LnGrp Delay(d),s/veh	53.7	20.2	67.7	52.9	39.5	52.9	63.9	27.1	24.2	45.0	41.3	25.6
LnGrp LOS	D	C	F	D	D	D	E	C	C	D	D	C
Approach Vol, veh/h		1315			1389			1310			1713	
Approach Delay, s/veh		51.3			44.6			43.5			35.8	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	24.2	11.5	30.5	18.0	20.0	16.0	26.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	16.0	9.0	25.0	14.0	16.0	12.0	22.0				
Max Q Clear Time (g_c+I1), s	9.8	10.8	7.9	28.5	15.6	17.8	12.8	21.2				
Green Ext Time (p_c), s	0.2	4.3	0.0	0.0	0.0	0.0	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.2									
HCM 2010 LOS			D									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

Existing (2017) AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	1	3	97	764	10
Future Volume (vph)	5	1	3	97	764	10
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

HCM 2010 TWSC
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

Existing (2017) AM Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1	
Traffic Vol, veh/h	5	1	3	97	764	10
Future Vol, veh/h	5	1	3	97	764	10
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	1	3	111	878	11

















Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1002	884	890	0	-	0
Stage 1	884	-	-	-	-	-
Stage 2	118	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	269	344	761	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	268	344	761	-	-	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	903	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.3	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	761	-	278	-	-
HCM Lane V/C Ratio	0.005	-	0.025	-	-
HCM Control Delay (s)	9.8	0	18.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

Existing (2017) AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	104	0	0	761	1
Future Volume (vph)	1	0	1	0	0	0	0	104	0	0	761	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 2010 TWSC
 3: Ortega Hwy. (SR74) & Monte Vista St.

Existing (2017) AM Peak Hour

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	104	0	0	761	1
Future Vol, veh/h	1	0	1	0	0	0	0	104	0	0	761	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	117	0	0	855	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	973	973	856	973	973	117	856	0	0	117	0	0
Stage 1	856	856	-	117	117	-	-	-	-	-	-	-
Stage 2	117	117	-	856	856	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	231	252	357	231	252	935	784	-	-	1471	-	-
Stage 1	352	374	-	888	799	-	-	-	-	-	-	-
Stage 2	888	799	-	352	374	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	231	252	357	230	252	935	784	-	-	1471	-	-
Mov Cap-2 Maneuver	231	252	-	230	252	-	-	-	-	-	-	-
Stage 1	352	374	-	888	799	-	-	-	-	-	-	-
Stage 2	888	799	-	351	374	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	0	0	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	784	-	-	281	-	1471	-
HCM Lane V/C Ratio	-	-	-	0.008	-	-	-
HCM Control Delay (s)	0	-	-	17.9	0	0	-
HCM Lane LOS	A	-	-	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

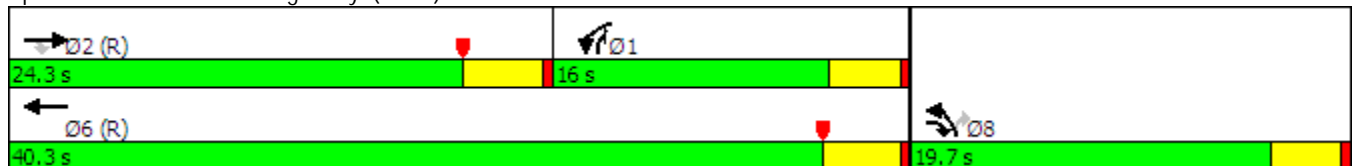
Existing (2017) AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗↘	↙	↑	↗↘	↙
Traffic Volume (vph)	457	473	277	605	106	56
Future Volume (vph)	457	473	277	605	106	56
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	24.3	19.7	16.0	40.3	19.7	16.0
Total Split (%)	40.5%	32.8%	26.7%	67.2%	32.8%	26.7%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary







Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

Existing (2017) AM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	457	473	277	605	106	56		
Future Volume (veh/h)	457	473	277	605	106	56		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	497	514	301	658	115	61		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	630	1134	706	1496	236	739		
Arrive On Green	0.34	0.34	0.40	0.80	0.07	0.07		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	497	514	301	658	115	61		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	14.4	8.0	7.4	6.4	1.9	0.0		
Cycle Q Clear(g_c), s	14.4	8.0	7.4	6.4	1.9	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	630	1134	706	1496	236	739		
V/C Ratio(X)	0.79	0.45	0.43	0.44	0.49	0.08		
Avail Cap(c_a), veh/h	630	1134	706	1496	918	1053		
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	17.9	12.9	13.1	1.8	26.9	8.9		
Incr Delay (d2), s/veh	9.7	1.3	0.4	0.9	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	9.0	3.6	3.7	3.5	1.0	0.6		
LnGrp Delay(d),s/veh	27.6	14.3	13.5	2.7	28.5	8.9		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	1011			959	176			
Approach Delay, s/veh	20.8			6.1	21.7			
Approach LOS	C			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.9	24.3				52.2		7.8
Change Period (Y+Rc), s	4.0	* 4				4.0		3.7
Max Green Setting (Gmax), s	12.3	* 20				36.3		16.0
Max Q Clear Time (g_c+I1), s	9.4	16.4				8.4		3.9
Green Ext Time (p_c), s	1.8	2.4				8.2		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			14.3					
HCM 2010 LOS			B					
Notes								

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Existing (2017) Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.606
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Ovl			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	3	0	1	1	0	3	0	2	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	300	448	108	330	394	428	347	862	267	35	334	135
Growth 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
Initial Bse:	300	448	108	330	394	428	347	862	267	35	334	135
User 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
PHF 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
PHF Volume:	300	448	108	330	394	428	347	862	267	35	334	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	448	108	330	394	428	347	862	267	35	334	135
PCE 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
MLF 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
FinalVolume:	300	448	108	330	394	428	347	862	267	35	334	135
OvlAdjVol:	81											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.09	0.09	0.06	0.19	0.08	0.13	0.10	0.25	0.16	0.02	0.10	0.08
OvlAdjV/S:	0.02											
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

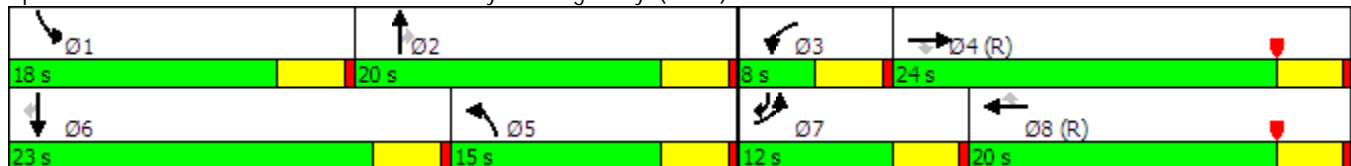
Existing (2017) PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑	↗	↖	↑↑	↗	↖↖	↑↑↑	↗	↖	↑↑↑	↗↗
Traffic Volume (vph)	347	862	267	35	334	135	300	448	108	330	394	428
Future Volume (vph)	347	862	267	35	334	135	300	448	108	330	394	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
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
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	12.0	24.0	24.0	8.0	20.0	20.0	15.0	20.0	20.0	18.0	23.0	12.0
Total Split (%)	17.1%	34.3%	34.3%	11.4%	28.6%	28.6%	21.4%	28.6%	28.6%	25.7%	32.9%	17.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

Existing (2017) PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	347	862	267	35	334	135	300	448	108	330	394	428
Future Volume (veh/h)	347	862	267	35	334	135	300	448	108	330	394	428
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	361	898	278	36	348	141	312	467	112	344	410	446
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	1112	497	51	809	362	541	1162	362	355	1380	1075
Arrive On Green	0.11	0.31	0.31	0.03	0.23	0.23	0.16	0.23	0.23	0.20	0.27	0.27
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	361	898	278	36	348	141	312	467	112	344	410	446
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	7.3	16.3	6.2	1.4	5.9	5.3	5.9	5.5	4.1	13.5	4.5	3.8
Cycle Q Clear(g_c), s	7.3	16.3	6.2	1.4	5.9	5.3	5.9	5.5	4.1	13.5	4.5	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	1112	497	51	809	362	541	1162	362	355	1380	1075
V/C Ratio(X)	0.92	0.81	0.56	0.71	0.43	0.39	0.58	0.40	0.31	0.97	0.30	0.41
Avail Cap(c_a), veh/h	393	1112	497	101	809	362	541	1162	362	355	1380	1075
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	30.7	22.1	7.3	33.7	23.1	22.9	27.3	22.9	22.4	27.8	20.2	5.3
Incr Delay (d2), s/veh	26.1	6.3	4.5	16.3	1.7	3.1	1.5	1.0	2.2	39.6	0.6	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	4.9	9.0	3.2	0.9	3.0	2.6	2.9	2.7	2.0	10.5	2.2	1.6
LnGrp Delay(d),s/veh	56.8	28.4	11.8	50.0	24.8	26.0	28.9	24.0	24.6	67.4	20.8	6.5
LnGrp LOS	E	C	B	D	C	C	C	C	C	E	C	A
Approach Vol, veh/h		1537			525			891			1200	
Approach Delay, s/veh		32.1			26.8			25.8			28.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	20.0	6.0	26.0	15.0	23.0	12.0	20.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	16.0	4.0	20.0	11.0	19.0	8.0	16.0				
Max Q Clear Time (g_c+I1), s	15.5	7.5	3.4	18.3	7.9	6.5	9.3	7.9				
Green Ext Time (p_c), s	0.0	2.9	0.0	1.3	1.4	3.5	0.0	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			29.1									
HCM 2010 LOS			C									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

Existing (2017) PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	8	0	1244	118	1
Future Volume (vph)	22	8	0	1244	118	1
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	22	8	0	1244	118	1
Future Vol, veh/h	22	8	0	1244	118	1
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	8	0	1296	123	1

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1419	123	124	0	- 0
Stage 1	123	-	-	-	- -
Stage 2	1296	-	-	-	- -
Critical Hdwy	6.42	6.22	4.12	-	- -
Critical Hdwy Stg 1	5.42	-	-	-	- -
Critical Hdwy Stg 2	5.42	-	-	-	- -
Follow-up Hdwy	3.518	3.318	2.218	-	- -
Pot Cap-1 Maneuver	151	928	1463	-	- -
Stage 1	902	-	-	-	- -
Stage 2	256	-	-	-	- -
Platoon blocked, %				-	- -
Mov Cap-1 Maneuver	151	928	1463	-	- -
Mov Cap-2 Maneuver	151	-	-	-	- -
Stage 1	902	-	-	-	- -
Stage 2	256	-	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	27.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1463	-	194	-	-
HCM Lane V/C Ratio	-	-	0.161	-	-
HCM Control Delay (s)	0	-	27.1	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

Existing (2017) PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	1273	0	1	116	3
Future Volume (vph)	1	0	1	0	0	0	0	1273	0	1	116	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	1273	0	1	116	3
Future Vol, veh/h	1	0	1	0	0	0	0	1273	0	1	116	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	1326	0	1	121	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1450	1450	122	1451	1452	1326	124	0	0	1326	0	0
Stage 1	124	124	-	1326	1326	-	-	-	-	-	-	-
Stage 2	1326	1326	-	125	126	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	109	131	929	109	130	190	1463	-	-	521	-	-
Stage 1	880	793	-	192	225	-	-	-	-	-	-	-
Stage 2	192	225	-	879	792	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	109	131	929	109	130	190	1463	-	-	521	-	-
Mov Cap-2 Maneuver	109	131	-	109	130	-	-	-	-	-	-	-
Stage 1	880	791	-	192	225	-	-	-	-	-	-	-
Stage 2	192	225	-	876	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.7	0	0	0.1
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	195	-	521	-
HCM Lane V/C Ratio	-	-	-	0.011	-	0.002	-
HCM Control Delay (s)	0	-	-	23.7	0	11.9	0
HCM Lane LOS	A	-	-	C	A	B	A
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

Existing (2017) PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗↗	↙	↑	↖↖	↗
Traffic Volume (vph)	589	96	42	458	711	480
Future Volume (vph)	589	96	42	458	711	480
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	28.3	20.0	11.7	40.0	20.0	11.7
Total Split (%)	47.2%	33.3%	19.5%	66.7%	33.3%	19.5%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

Existing (2017) PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations		 			 			
Traffic Volume (veh/h)	589	96	42	458	711	480		
Future Volume (veh/h)	589	96	42	458	711	480		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	620	101	44	482	748	505		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	938	2161	61	1118	935	485		
Arrive On Green	0.50	0.50	0.03	0.60	0.27	0.27		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	620	101	44	482	748	505		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	14.9	0.5	1.5	8.4	12.1	16.3		
Cycle Q Clear(g_c), s	14.9	0.5	1.5	8.4	12.1	16.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	938	2161	61	1118	935	485		
V/C Ratio(X)	0.66	0.05	0.72	0.43	0.80	1.04		
Avail Cap(c_a), veh/h	938	2161	237	1118	935	485		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.1	1.6	28.7	6.5	20.3	20.8		
Incr Delay (d2), s/veh	3.7	0.0	14.3	1.2	5.0	52.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.5	0.4	1.0	4.7	6.4	14.9		
LnGrp Delay(d),s/veh	14.7	1.6	43.0	7.7	25.3	72.8		
LnGrp LOS	B	A	D	A	C	F		
Approach Vol, veh/h	721			526	1253			
Approach Delay, s/veh	12.9			10.6	44.5			
Approach LOS	B			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.8	34.2				40.0		20.0
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	8.0	24.3				36.0		16.3
Max Q Clear Time (g_c+I1), s	3.5	16.9				10.4		18.3
Green Ext Time (p_c), s	0.0	5.1				12.3		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			28.2					
HCM 2010 LOS			C					

APPENDIX 5.1:

**EXISTING (2017) PLUS PROJECT CONDITIONS
TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

This Page Intentionally Left Blank

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

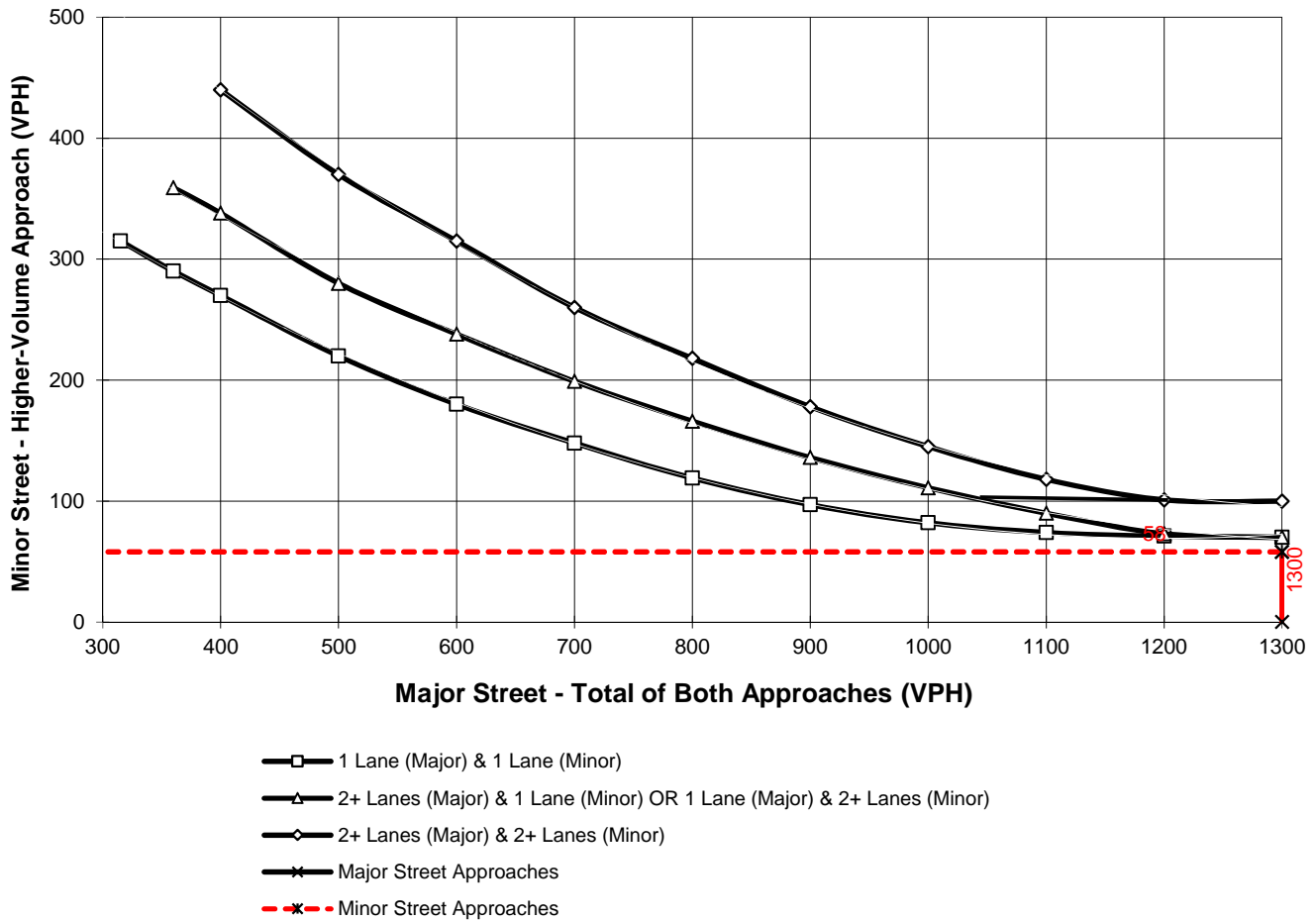
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing + Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,408**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Long Cyn. Rd.** High Volume Approach (VPH) = **58**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

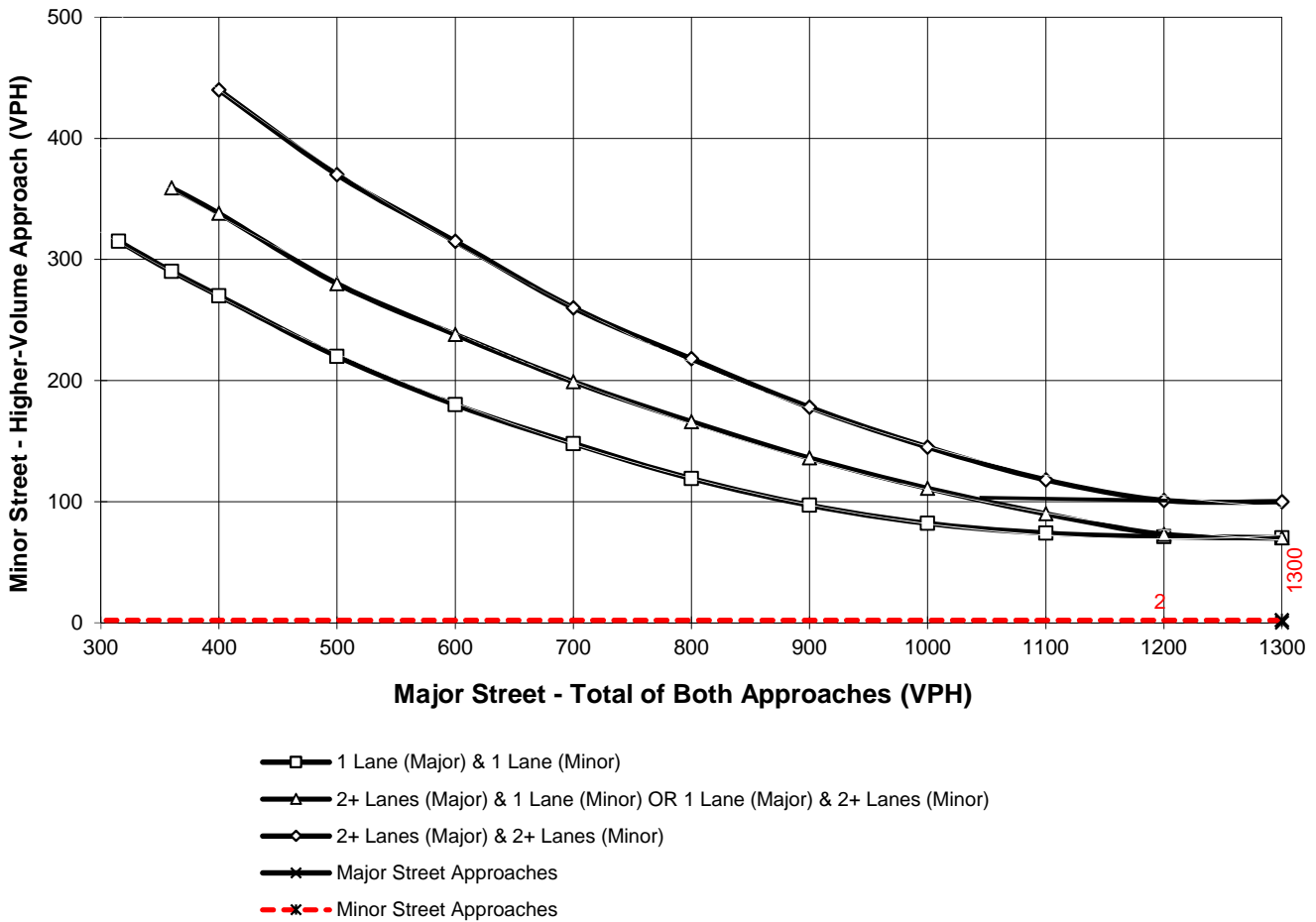
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing + Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,419**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Monte Vista St.** High Volume Approach (VPH) = **2**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>JC</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>County of Orange</u>				CHK _____	DATE <u>03/09/17</u>	
Major Street: <u>Long Cyn. Rd. (EW)</u>					Critical Approach Speed (Major) <u>35</u> mph	
Minor Street: <u>South Dwy. (NS)</u>					Critical Approach Speed (Minor) <u>35</u> mph	
Major Street Approach Lanes = <u>1</u>	lane	Minor Street Approach Lanes: <u>1</u>	lane			
Major Street Future ADT = <u>666</u>	vpd	Minor Street Future ADT = <u>205</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 666	1 205	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 666	1 205	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	8%				
	<u>B</u>				
	6%				

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

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



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>JC</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>County of Orange</u>				CHK _____	DATE <u>03/09/17</u>	
Major Street: <u>Long Cyn. Rd. (EW)</u>					Critical Approach Speed (Major) <u>35</u> mph	
Minor Street: <u>North Dwy. (NS)</u>					Critical Approach Speed (Minor) <u>35</u> mph	
Major Street Approach Lanes = <u>1</u>	lane	Minor Street Approach Lanes: <u>1</u>	lane			
Major Street Future ADT = <u>321</u>	vpd	Minor Street Future ADT = <u>141</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 321	1 141	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 321	1 141	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>	<u>B</u>			
	4%	3%			

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

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



APPENDIX 5.2:

2020 WITHOUT PROJECT CONDITIONS

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

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

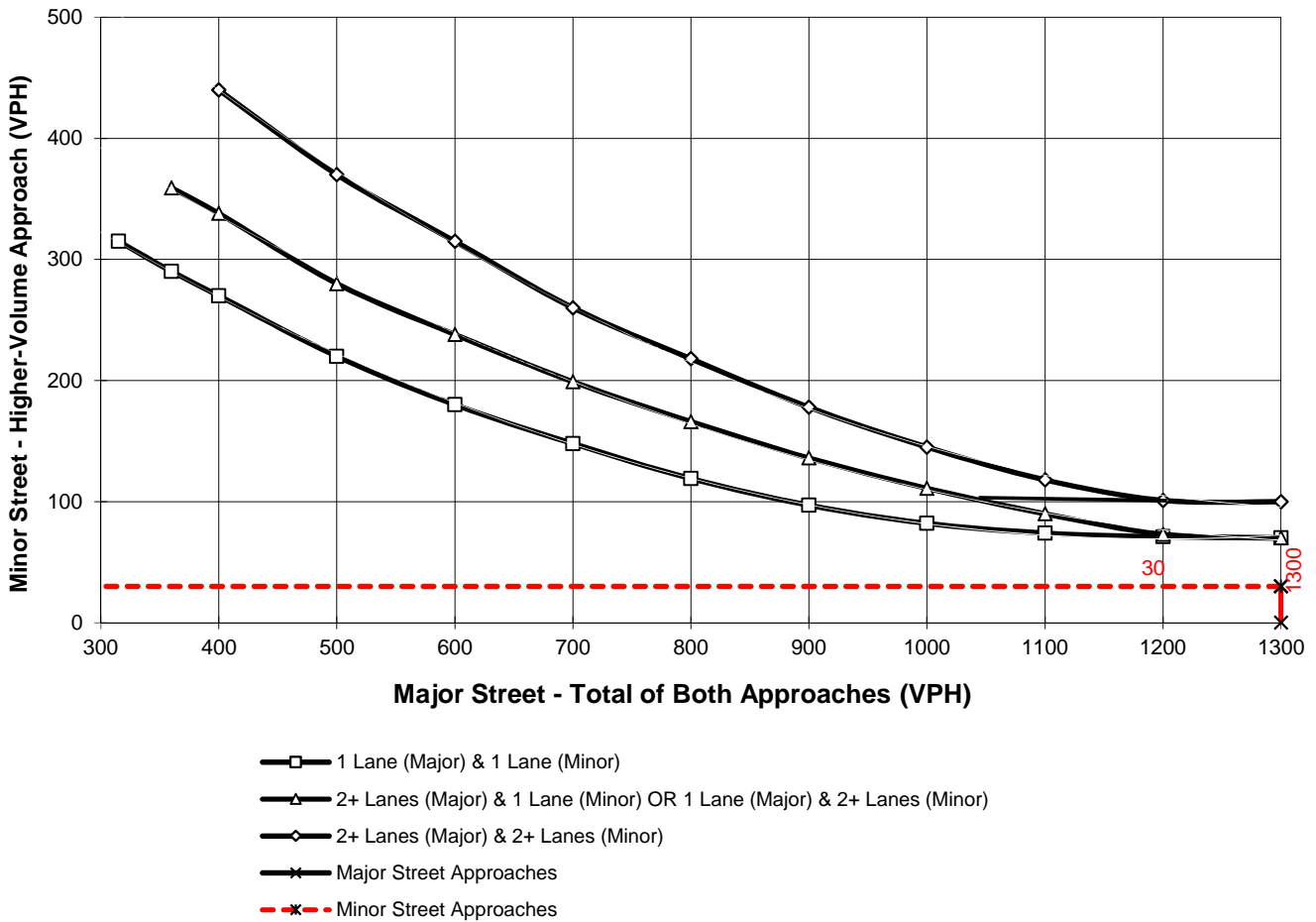
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2020 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,426**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Long Cyn. Rd.** High Volume Approach (VPH) = **30**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

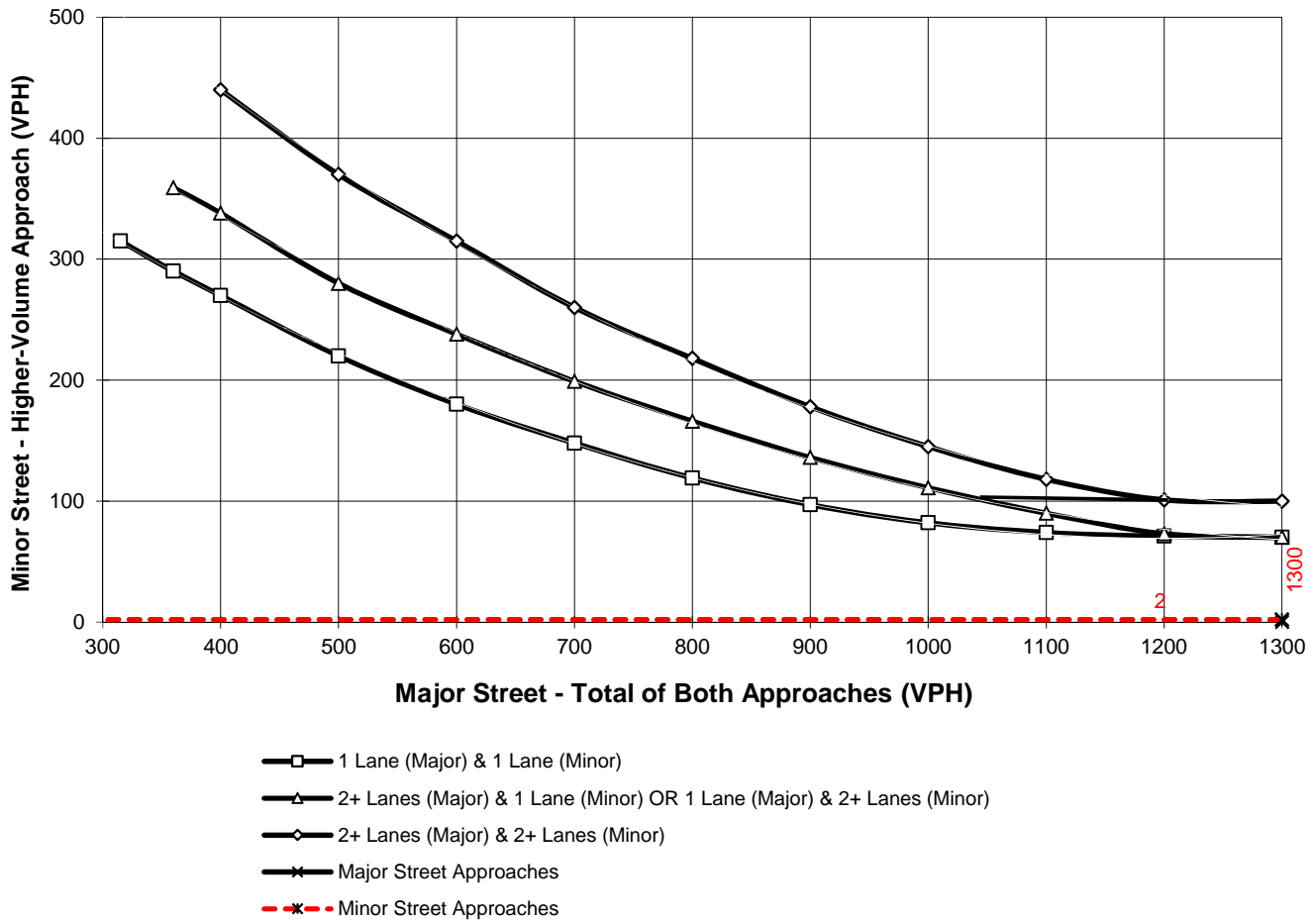
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2020 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,453**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Monte Vista St.** High Volume Approach (VPH) = **2**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



APPENDIX 5.3:

2020 WITH PROJECT CONDITIONS

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

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

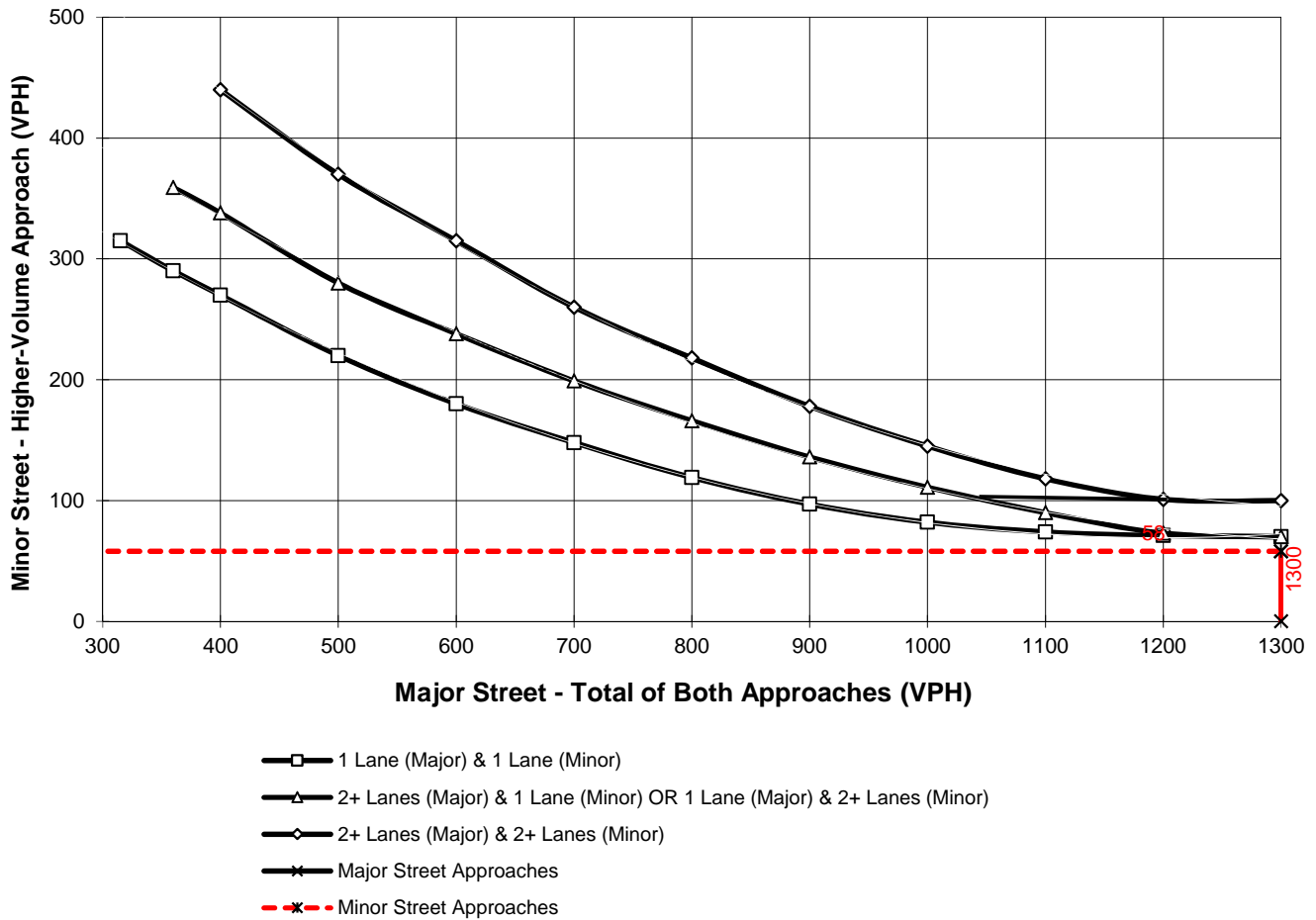
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2020 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,471**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Long Cyn. Rd.** High Volume Approach (VPH) = **58**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

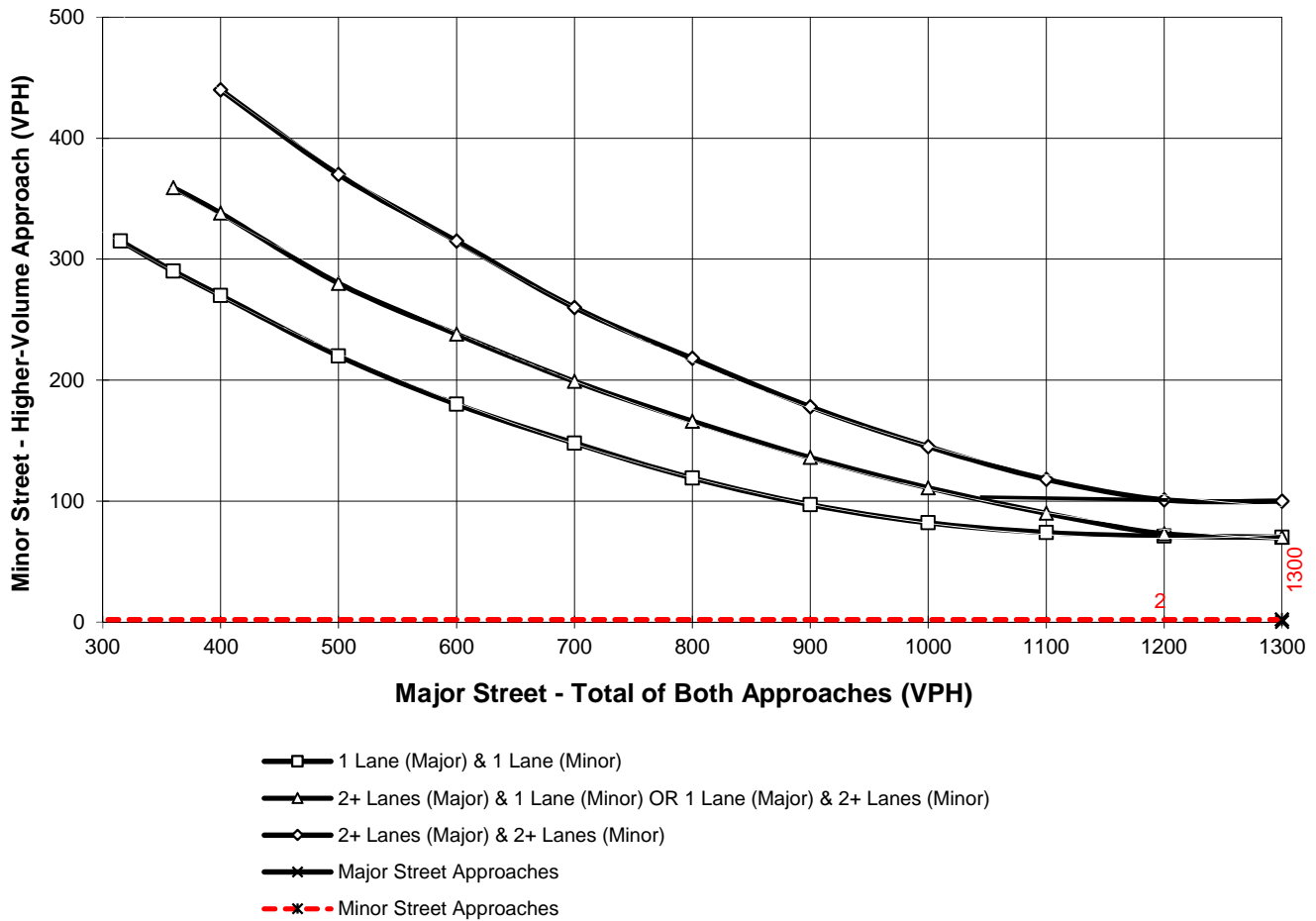
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2020 With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,479**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Monte Vista St.** High Volume Approach (VPH) = **2**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	DIST	CO	RTE	PM	CALC	TRAFFIC CONDITIONS	2020WP
Jurisdiction:	<u>County of Orange</u>				CHK	<u>JC</u>	DATE <u>03/09/17</u>
Major Street:	<u>Long Cyn. Rd. (EW)</u>						DATE _____
Minor Street:	<u>South Dwy. (NS)</u>					Critical Approach Speed (Major)	<u>35</u> mph
						Critical Approach Speed (Minor)	<u>35</u> mph
Major Street Approach Lanes =				<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =				<u>183</u>	vpd	Minor Street Future ADT =	<u>0</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);							<input type="checkbox"/>
							or
In built up area of isolated community of < 10,000 population							<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
XX				EADT			
CONDITION A - Minimum Vehicular Volume		Not Satisfied		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		XX		(Total of Both Approaches)		(One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>		<u>Minor Street</u>					
1 183		1 0		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		Not Satisfied		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		XX		(Total of Both Approaches)		(One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>		<u>Minor Street</u>					
1 183		1 0		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		Not Satisfied		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		XX		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more		A					
		2%		B		2%	

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

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



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	2020WP
Jurisdiction: <u>County of Orange</u>				CALC <u>JC</u>	DATE <u>03/09/17</u>
Major Street: <u>Long Cyn. Rd. (EW)</u>				CHK _____	DATE _____
Minor Street: <u>North Dwy. (NS)</u>				Critical Approach Speed (Major) _____	<u>35</u> mph
				Critical Approach Speed (Minor) _____	<u>35</u> mph
Major Street Approach Lanes =			<u>1</u> lane	Minor Street Approach Lanes =	<u>1</u> lane
Major Street Future ADT =			<u>183</u> vpd	Minor Street Future ADT =	<u>0</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 183	1 0	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 183	1 0	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	2%				
	<u>B</u>				
	2%				

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

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



APPENDIX 5.4:

**2035 WITHOUT PROJECT CONDITIONS
TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

This Page Intentionally Left Blank

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

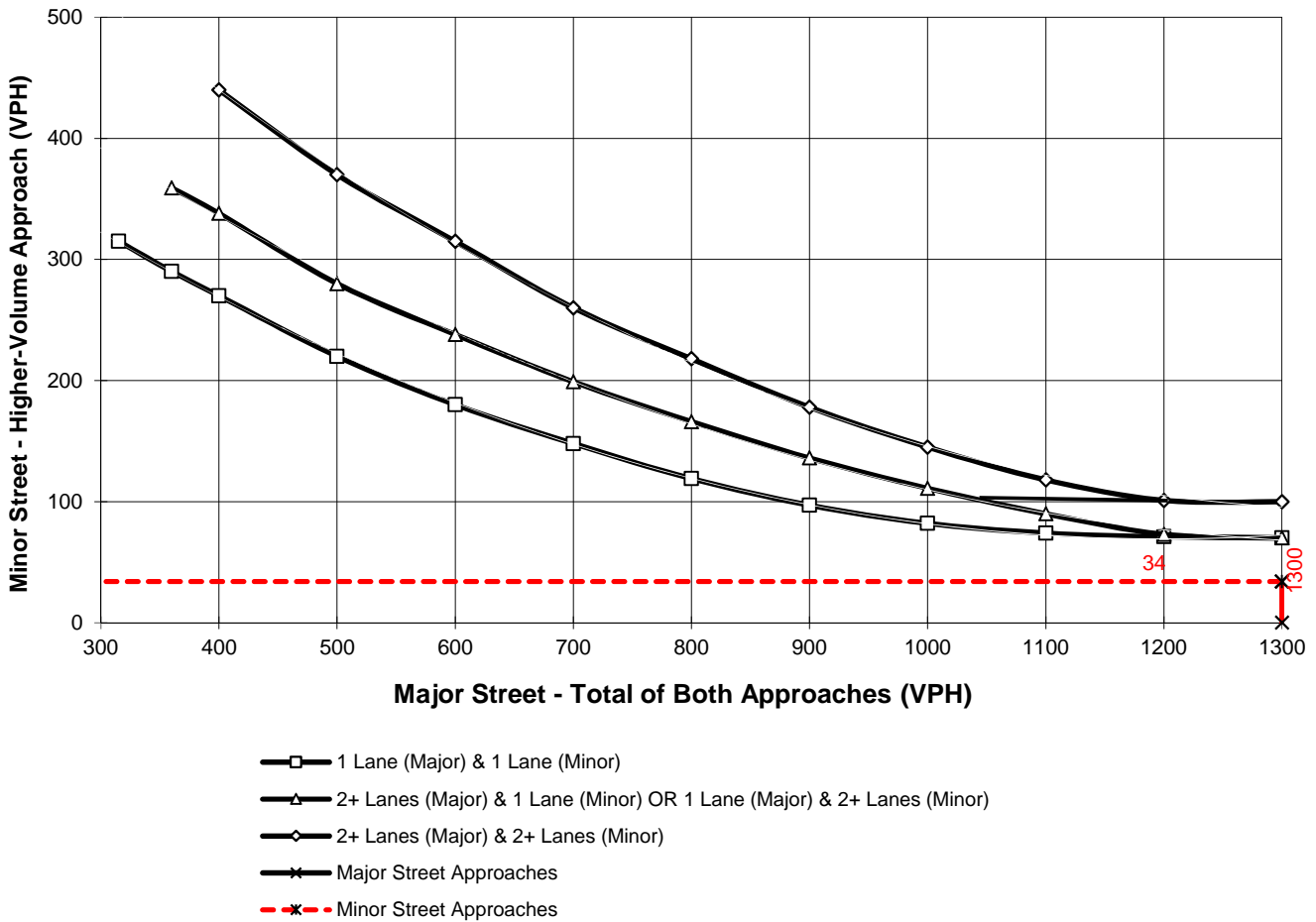
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2035 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,812**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Long Cyn. Rd.** High Volume Approach (VPH) = **34**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

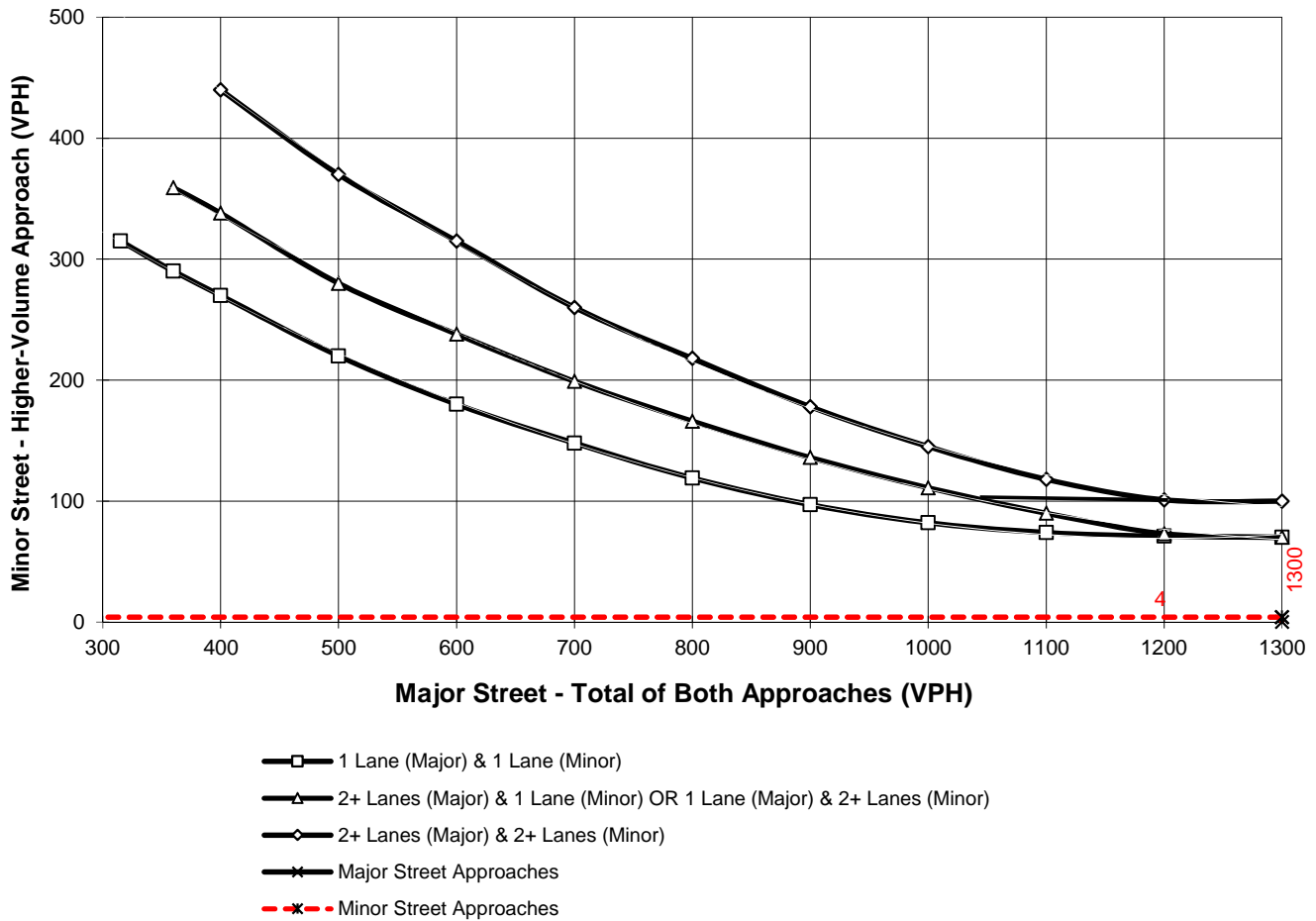
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2035 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Ortega Hwy. (SR-74)** Total of Both Approaches (VPH) = **1,832**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Monte Vista St.** High Volume Approach (VPH) = **4**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	2035NP
Jurisdiction: <u>County of Orange</u>				CALC <u>JC</u>	DATE <u>03/09/17</u>
Major Street: <u>Ortega Hwy. (SR-74) (NS)</u>				CHK _____	DATE _____
Minor Street: <u>Cow Camp (EW)</u>				Critical Approach Speed (Major) _____	<u>45</u> mph
				Critical Approach Speed (Minor) _____	<u>35</u> mph
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u>	lane
Major Street Future ADT =	<u>23,970</u>	vpd	Minor Street Future ADT =	<u>14,500</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);				<input checked="" type="checkbox"/>	RURAL (R)
In built up area of isolated community of < 10,000 population				<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 23,970	1 14,500	8,000	5,600 *	2,400	1,680 *
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 23,970	1 14,500	12,000	8,400 *	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	100%				
	<u>B</u>				
	100%				

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

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



This Page Intentionally Left Blank

APPENDIX 5.5:

2035 WITH PROJECT CONDITIONS

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

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 = **2035 With Project Conditions - Weekday PM Peak Hour**

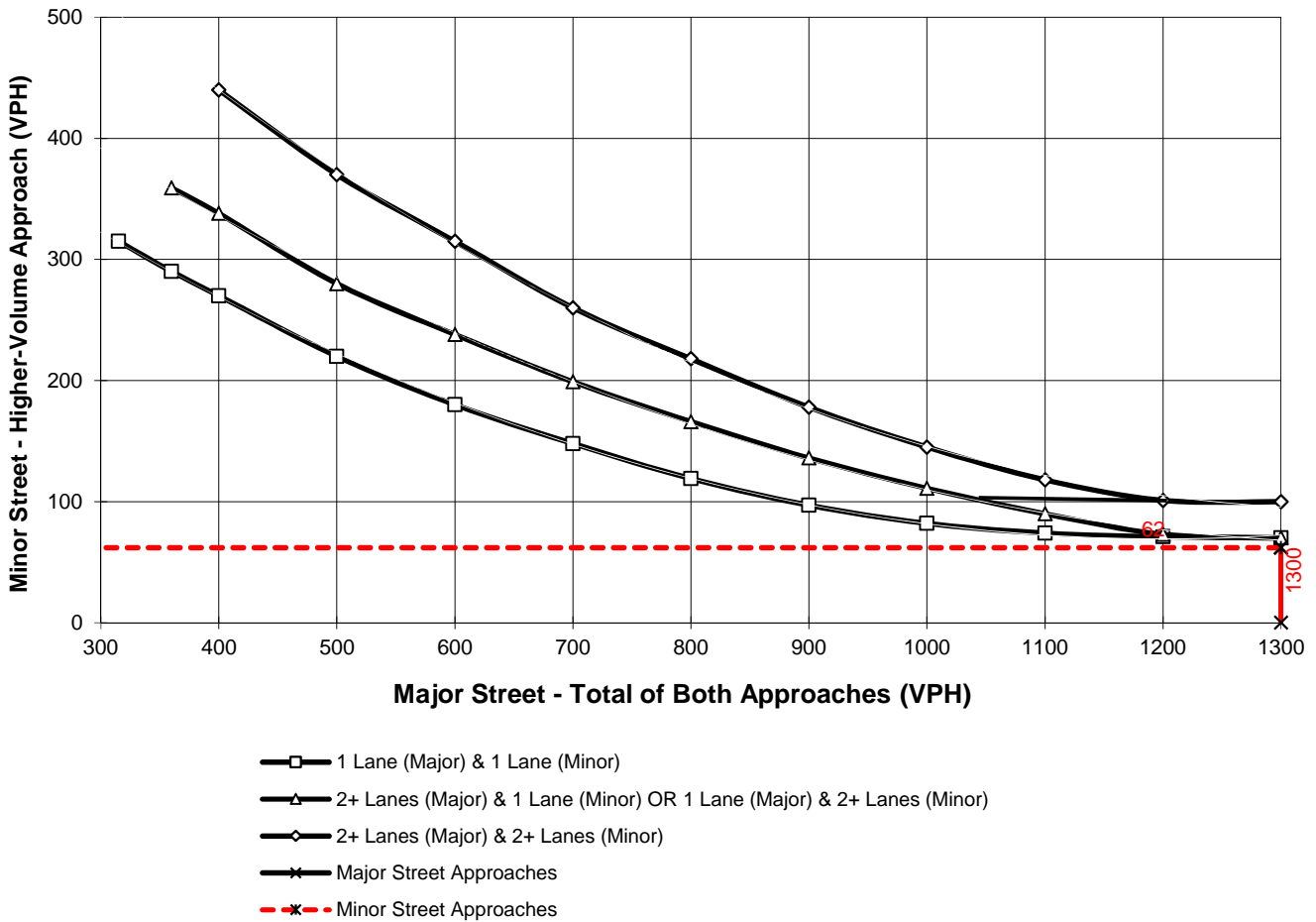
Major Street Name = **Ortega Hwy. (SR-74)**

Total of Both Approaches (VPH) = **1,857**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Long Cyn. Rd.**

High Volume Approach (VPH) = **62**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

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

Traffic Conditions = **2035 With Project Conditions - Weekday PM Peak Hour**

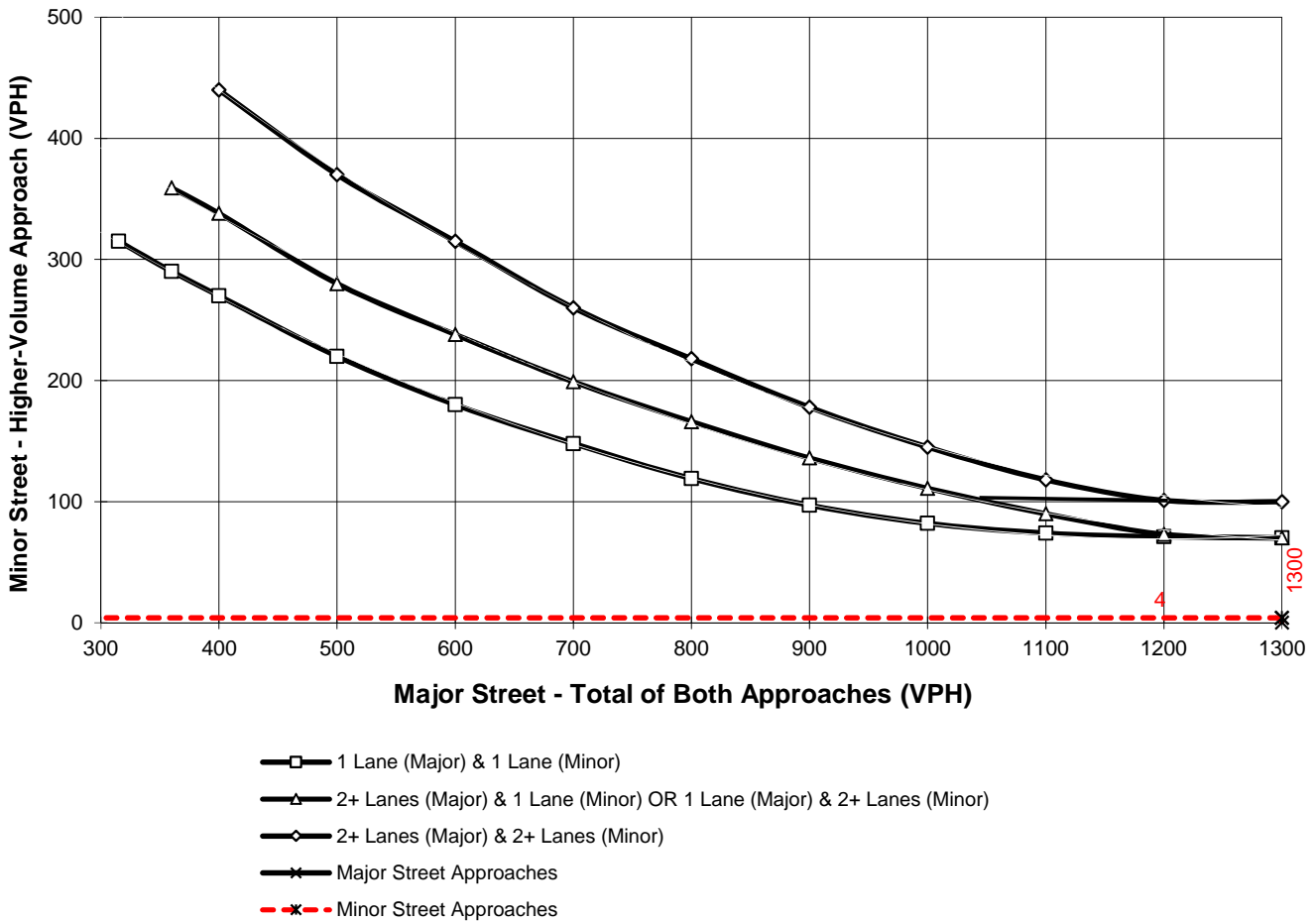
Major Street Name = **Ortega Hwy. (SR-74)**

Total of Both Approaches (VPH) = **1,858**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Monte Vista St.**

High Volume Approach (VPH) = **4**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	2035WP
Jurisdiction: <u>County of Orange</u>				CALC <u>JC</u>	DATE <u>03/09/17</u>
Major Street: <u>Long Cyn. Rd. (EW)</u>				CHK _____	DATE _____
Minor Street: <u>South Dwy. (NS)</u>				Critical Approach Speed (Major) _____	<u>35</u> mph
				Critical Approach Speed (Minor) _____	<u>35</u> mph
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =		<u>684</u>	vpd	Minor Street Future ADT =	<u>205</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 684	1 205	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 684	1 205	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	9%				
	<u>B</u>				
	6%				

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

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



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	2035WP
Jurisdiction: <u>County of Orange</u>				CALC <u>JC</u>	DATE <u>03/09/17</u>
Major Street: <u>Long Cyn. Rd. (EW)</u>				CHK _____	DATE _____
Minor Street: <u>North Dwy. (NS)</u>				Critical Approach Speed (Major) _____	<u>35</u> mph
				Critical Approach Speed (Minor) _____	<u>35</u> mph
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =		<u>339</u>	vpd	Minor Street Future ADT =	<u>141</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		8,000	5,600	2,400	1,680
<u>Major Street</u>	<u>Minor Street</u>	9,600	6,720	2,400	1,680
1 339	1 141	9,600	6,720	3,200	2,240
2 +	1	8,000	5,600	3,200	2,240
2 +	2 +	CONDITION B - Interruption of Continuous Traffic			
1	2 +	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX		12,000	8,400	1,200	850
Number of lanes for moving traffic on each approach		14,400	10,080	1,200	850
<u>Major Street</u>	<u>Minor Street</u>	14,400	10,080	1,600	1,120
1 339	1 141	12,000	8,400	1,600	1,120
2 +	1	Combination of CONDITIONS A + B			
2 +	2 +	2 CONDITIONS		2 CONDITIONS	
1	2 +	80%		80%	
<u>Satisfied</u>		No one condition satisfied, but following conditions fulfilled 80% of more			
<u>Not Satisfied</u>					
XX		<u>A</u>		<u>B</u>	
		4%		3%	

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

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



APPENDIX 5.6:

**EXISTING (2017) PLUS PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

This Page Intentionally Left Blank

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Existing Plus Project Traffic Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.661
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxxx
Optimal Cycle:	33	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1	0	1	0	3	0	2	0

Volume Module:												
Base Vol:	483	537	54	145	728	531	385	260	433	109	707	323
Growth 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
Initial Bse:	483	537	54	145	728	531	385	260	433	109	707	323
Added Vol:	0	0	0	4	0	0	0	6	0	0	16	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	483	537	54	149	728	531	385	266	433	109	723	333
User 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
PHF 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
PHF Volume:	483	537	54	149	728	531	385	266	433	109	723	333
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	483	537	54	149	728	531	385	266	433	109	723	333
PCE 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
MLF 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
FinalVolume:	483	537	54	149	728	531	385	266	433	109	723	333
OvlAdjVol:	146											

Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:												
Vol/Sat:	0.14	0.11	0.03	0.09	0.14	0.16	0.11	0.08	0.25	0.06	0.21	0.20
OvlAdjV/S:	0.04											
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

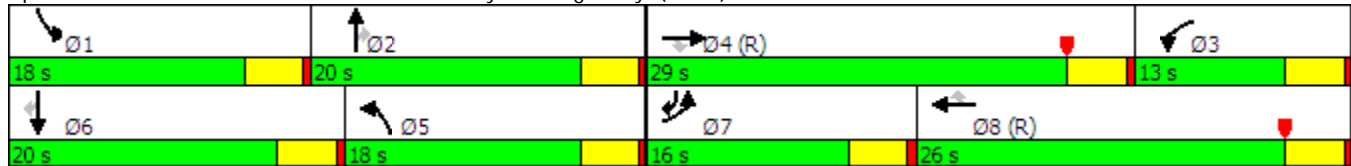
Existing + Project AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑	↔	↔↔	↑↑↑	↔	↔	↑↑↑	↔↔
Traffic Volume (vph)	385	266	433	109	723	333	483	537	54	149	728	531
Future Volume (vph)	385	266	433	109	723	333	483	537	54	149	728	531
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	16.0	29.0	29.0	13.0	26.0	26.0	18.0	20.0	20.0	18.0	20.0	16.0
Total Split (%)	20.0%	36.3%	36.3%	16.3%	32.5%	32.5%	22.5%	25.0%	25.0%	22.5%	25.0%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary































Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

Existing + Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 	  		  		
Traffic Volume (veh/h)	385	266	433	109	723	333	483	537	54	149	728	531
Future Volume (veh/h)	385	266	433	109	723	333	483	537	54	149	728	531
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	470	324	528	133	882	406	589	655	66	182	888	648
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	516	1106	495	200	973	435	602	1272	396	222	1017	975
Arrive On Green	0.15	0.31	0.31	0.11	0.28	0.28	0.17	0.25	0.25	0.12	0.20	0.20
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	470	324	528	133	882	406	589	655	66	182	888	648
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	10.8	5.5	25.0	5.8	19.3	20.0	13.6	8.9	1.9	8.0	13.5	7.9
Cycle Q Clear(g_c), s	10.8	5.5	25.0	5.8	19.3	20.0	13.6	8.9	1.9	8.0	13.5	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	516	1106	495	200	973	435	602	1272	396	222	1017	975
V/C Ratio(X)	0.91	0.29	1.07	0.67	0.91	0.93	0.98	0.51	0.17	0.82	0.87	0.66
Avail Cap(c_a), veh/h	516	1106	495	200	973	435	602	1272	396	310	1017	975
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	33.5	20.8	27.5	34.1	28.0	28.3	32.8	25.8	12.1	34.1	31.0	8.1
Incr Delay (d2), s/veh	20.3	0.7	59.5	8.2	13.5	29.1	31.0	1.5	0.9	11.5	10.3	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	6.5	2.8	19.0	3.3	11.1	12.2	9.1	4.3	0.9	4.6	7.3	3.5
LnGrp Delay(d),s/veh	53.7	21.5	87.0	42.2	41.5	57.4	63.9	27.3	13.0	45.6	41.3	11.7
LnGrp LOS	D	C	F	D	D	E	E	C	B	D	D	B
Approach Vol, veh/h		1322			1421			1310			1718	
Approach Delay, s/veh		59.1			46.1			43.0			30.6	
Approach LOS		E			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	24.0	13.0	29.0	18.0	20.0	16.0	26.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	16.0	9.0	25.0	14.0	16.0	12.0	22.0				
Max Q Clear Time (g_c+I1), s	10.0	10.9	7.8	27.0	15.6	15.5	12.8	22.0				
Green Ext Time (p_c), s	0.2	2.9	0.9	0.0	0.0	0.4	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			43.8									
HCM 2010 LOS			D									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

Existing + Project AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	27	13	97	764	15
Future Volume (vph)	19	27	13	97	764	15
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection							
Int Delay, s/veh	1.1						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Vol, veh/h	19	27	13	97	764	15	
Future Vol, veh/h	19	27	13	97	764	15	
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	87	87	87	87	87	87	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	22	31	15	111	878	17	

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1028	887	895	0	-	0
Stage 1	887	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	259	343	758	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	254	343	758	-	-	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	867	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.6	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	758	-	300	-	-
HCM Lane V/C Ratio	0.02	-	0.176	-	-
HCM Control Delay (s)	9.8	0	19.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

Existing + Project AM Peak Hour
 WITH LEFT TURN REFUGE



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	27	13	97	764	15
Future Volume (vph)	19	27	13	97	764	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	Y	Y	
Traffic Vol, veh/h	19	27	13	97	764	15
Future Vol, veh/h	19	27	13	97	764	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	31	15	111	878	17

















Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1028	887	895	0	-	0
Stage 1	887	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	259	343	758	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	254	343	758	-	-	-
Mov Cap-2 Maneuver	341	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	868	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.4	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	758	-	342	-	-
HCM Lane V/C Ratio	0.02	-	0.155	-	-
HCM Control Delay (s)	9.8	-	17.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

Existing + Project AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	118	0	0	766	1
Future Volume (vph)	1	0	1	0	0	0	0	118	0	0	766	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 2010 TWSC
 3: Ortega Hwy. (SR74) & Monte Vista St.

Existing + Project AM Peak Hour

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	118	0	0	766	1
Future Vol, veh/h	1	0	1	0	0	0	0	118	0	0	766	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	133	0	0	861	1
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	994	994	861	995	995	133	862	0	0	133	0	0
Stage 1	861	861	-	133	133	-	-	-	-	-	-	-
Stage 2	133	133	-	862	862	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	224	245	355	224	245	916	780	-	-	1452	-	-
Stage 1	350	372	-	870	786	-	-	-	-	-	-	-
Stage 2	870	786	-	350	372	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	224	245	355	223	245	916	780	-	-	1452	-	-
Mov Cap-2 Maneuver	224	245	-	223	245	-	-	-	-	-	-	-
Stage 1	350	372	-	870	786	-	-	-	-	-	-	-
Stage 2	870	786	-	349	372	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	18.2			0			0			0		
HCM LOS	C			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	780	-	-	275	-	1452	-	-				
HCM Lane V/C Ratio	-	-	-	0.008	-	-	-	-				
HCM Control Delay (s)	0	-	-	18.2	0	0	-	-				
HCM Lane LOS	A	-	-	C	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-				

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

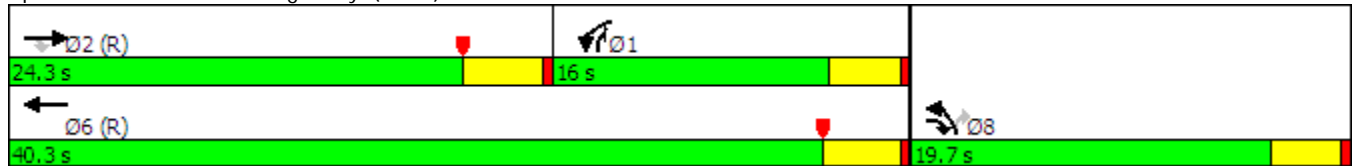
Existing + Project AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑↑	↙	↑	↑↑	↙
Traffic Volume (vph)	457	476	279	605	114	60
Future Volume (vph)	457	476	279	605	114	60
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	24.3	19.7	16.0	40.3	19.7	16.0
Total Split (%)	40.5%	32.8%	26.7%	67.2%	32.8%	26.7%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
 4: Ortega Hwy. (SR74) & Grand Av.

Existing + Project AM Peak Hour

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	457	476	279	605	114	60		
Future Volume (veh/h)	457	476	279	605	114	60		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	497	517	303	658	124	65		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	630	1144	700	1489	248	739		
Arrive On Green	0.34	0.34	0.39	0.80	0.07	0.07		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	497	517	303	658	124	65		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	14.4	8.1	7.5	6.6	2.1	0.0		
Cycle Q Clear(g_c), s	14.4	8.1	7.5	6.6	2.1	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	630	1144	700	1489	248	739		
V/C Ratio(X)	0.79	0.45	0.43	0.44	0.50	0.09		
Avail Cap(c_a), veh/h	630	1144	700	1489	918	1047		
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	17.9	12.8	13.3	1.9	26.8	8.9		
Incr Delay (d2), s/veh	9.7	1.3	0.4	1.0	1.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.0	3.7	3.7	3.7	1.0	0.6		
LnGrp Delay(d),s/veh	27.6	14.1	13.7	2.8	28.3	8.9		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	1014			961	189			
Approach Delay, s/veh	20.7			6.2	21.7			
Approach LOS	C			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.7	24.3				52.0		8.0
Change Period (Y+Rc), s	4.0	* 4				4.0		3.7
Max Green Setting (Gmax), s	12.3	* 20				36.3		16.0
Max Q Clear Time (g_c+I1), s	9.5	16.4				8.6		4.1
Green Ext Time (p_c), s	1.7	2.4				8.2		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			14.4					
HCM 2010 LOS			B					
Notes								

Lanes, Volumes, Timings
 5: South Dwy. & Long Canyon Rd.

Existing + Project AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Volume (vph)	22	0	8	20	0	24
Future Volume (vph)	22	0	8	20	0	24
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	179			346	515	
Travel Time (s)	4.1			7.9	11.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↓	
Traffic Vol, veh/h	22	0	8	20	0	24
Future Vol, veh/h	22	0	8	20	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	0	8	20	0	24

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	22	58
Stage 1	-	-	22
Stage 2	-	-	36
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1593	949
Stage 1	-	0	1001
Stage 2	-	0	986
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1593	944
Mov Cap-2 Maneuver	-	-	944
Stage 1	-	-	1001
Stage 2	-	-	981

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1055	-	1593	-
HCM Lane V/C Ratio	0.023	-	0.005	-
HCM Control Delay (s)	8.5	-	7.3	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0	-

Lanes, Volumes, Timings
6: Long Canyon Rd. & North Dwy.

Existing + Project AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	6	13	7	16	0
Future Volume (vph)	0	6	13	7	16	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30	30		30	
Link Distance (ft)		567	440		640	
Travel Time (s)		12.9	10.0		14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	6	13	7	16	0
Future Vol, veh/h	0	6	13	7	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	6	13	7	16	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	23	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	6	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	993	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1596	-	-	-	993	1062
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	1017	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		8.7	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1596	-	-	-	993	
HCM Lane V/C Ratio	-	-	-	-	0.016	
HCM Control Delay (s)	0	-	-	-	8.7	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Existing Plus Project Traffic Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.618
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 30 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1	0	3	0	2	2	0	1

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	300	448	108	330	394	428	347	862	267	35	334	135
Growth 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
Initial Bse:	300	448	108	330	394	428	347	862	267	35	334	135
Added Vol:	0	0	0	11	0	0	0	18	0	0	11	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	448	108	341	394	428	347	880	267	35	345	142
User 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
PHF 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
PHF Volume:	300	448	108	341	394	428	347	880	267	35	345	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	448	108	341	394	428	347	880	267	35	345	142
PCE 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
MLF 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
FinalVolume:	300	448	108	341	394	428	347	880	267	35	345	142
OvlAdjVol:	81											

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.09	0.09	0.06	0.20	0.08	0.13	0.10	0.26	0.16	0.02	0.10	0.08
OvlAdjV/S:	0.02											
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

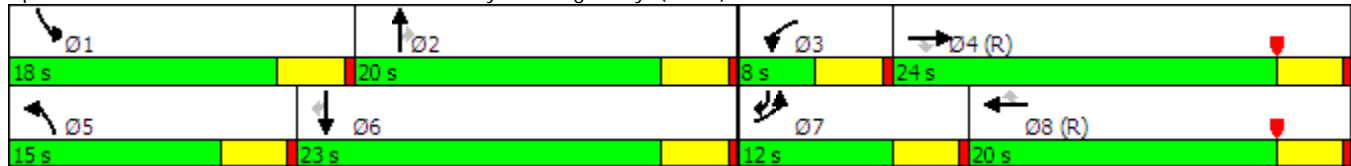
Existing + Project PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑	↗	↖	↑↑	↗	↖↖	↑↑↑	↗	↖	↑↑↑	↖↖
Traffic Volume (vph)	347	880	267	35	345	142	300	448	108	341	394	428
Future Volume (vph)	347	880	267	35	345	142	300	448	108	341	394	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
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
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	12.0	24.0	24.0	8.0	20.0	20.0	15.0	20.0	20.0	18.0	23.0	12.0
Total Split (%)	17.1%	34.3%	34.3%	11.4%	28.6%	28.6%	21.4%	28.6%	28.6%	25.7%	32.9%	17.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

Existing + Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	347	880	267	35	345	142	300	448	108	341	394	428
Future Volume (veh/h)	347	880	267	35	345	142	300	448	108	341	394	428
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	361	917	278	36	359	148	312	467	112	355	410	446
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	1112	497	51	809	362	414	1162	362	355	1567	1177
Arrive On Green	0.11	0.31	0.31	0.03	0.23	0.23	0.12	0.23	0.23	0.20	0.31	0.31
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	361	917	278	36	359	148	312	467	112	355	410	446
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	7.3	16.8	10.2	1.4	6.1	5.6	6.1	5.5	4.1	14.0	4.2	7.7
Cycle Q Clear(g_c), s	7.3	16.8	10.2	1.4	6.1	5.6	6.1	5.5	4.1	14.0	4.2	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	1112	497	51	809	362	414	1162	362	355	1567	1177
V/C Ratio(X)	0.92	0.82	0.56	0.71	0.44	0.41	0.75	0.40	0.31	1.00	0.26	0.38
Avail Cap(c_a), veh/h	393	1112	497	101	809	362	541	1162	362	355	1567	1177
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	30.7	22.2	20.0	33.7	23.2	23.0	29.8	22.9	22.4	28.0	18.2	13.9
Incr Delay (d2), s/veh	26.1	7.0	4.5	16.3	1.8	3.4	4.3	1.0	2.2	47.9	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	9.2	5.1	0.9	3.1	2.8	3.2	2.7	2.0	11.5	2.0	3.1
LnGrp Delay(d),s/veh	56.8	29.2	24.5	50.0	24.9	26.4	34.1	24.0	24.6	75.9	18.6	14.8
LnGrp LOS	E	C	C	D	C	C	C	C	C	F	B	B
Approach Vol, veh/h		1556			543			891			1211	
Approach Delay, s/veh		34.8			27.0			27.6			34.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	20.0	6.0	26.0	12.4	25.6	12.0	20.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	16.0	4.0	20.0	11.0	19.0	8.0	16.0				
Max Q Clear Time (g_c+I1), s	16.0	7.5	3.4	18.8	8.1	9.7	9.3	8.1				
Green Ext Time (p_c), s	0.0	4.7	0.0	1.0	0.3	5.0	0.0	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

Existing + Project PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	26	29	1244	118	17
Future Volume (vph)	32	26	29	1244	118	17
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	32	26	29	1244	118	17
Future Vol, veh/h	32	26	29	1244	118	17
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	27	30	1296	123	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1488	132	141	0	0
Stage 1	132	-	-	-	-
Stage 2	1356	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	137	917	1442	-	-
Stage 1	894	-	-	-	-
Stage 2	240	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	127	917	1442	-	-
Mov Cap-2 Maneuver	127	-	-	-	-
Stage 1	894	-	-	-	-
Stage 2	222	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.4	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1442	-	207	-	-
HCM Lane V/C Ratio	0.021	-	0.292	-	-
HCM Control Delay (s)	7.5	0	29.4	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

Existing + Project PM Peak Hour
 WITH LEFT TURN REFUGE



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	26	29	1244	118	17
Future Volume (vph)	32	26	29	1244	118	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	26	29	1244	118	17
Future Vol, veh/h	32	26	29	1244	118	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	27	30	1296	123	18

















Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	1488	132	141	0
Stage 1	132	-	-	-
Stage 2	1356	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Pot Cap-1 Maneuver	137	917	1442	-
Stage 1	894	-	-	-
Stage 2	240	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	134	917	1442	-
Mov Cap-2 Maneuver	204	-	-	-
Stage 1	894	-	-	-
Stage 2	235	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.2	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1442	-	313	-	-
HCM Lane V/C Ratio	0.021	-	0.193	-	-
HCM Control Delay (s)	7.5	-	19.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

Existing + Project PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	1283	0	1	132	3
Future Volume (vph)	1	0	1	0	0	0	0	1283	0	1	132	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 2010 TWSC
 3: Ortega Hwy. (SR74) & Monte Vista St.

Existing + Project PM Peak Hour

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	1283	0	1	132	3
Future Vol, veh/h	1	0	1	0	0	0	0	1283	0	1	132	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	1336	0	1	138	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1477	1477	139	1478	1479	1336	141	0	0	1336	0	0
Stage 1	141	141	-	1336	1336	-	-	-	-	-	-	-
Stage 2	1336	1336	-	142	143	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	104	126	909	104	126	188	1442	-	-	516	-	-
Stage 1	862	780	-	189	222	-	-	-	-	-	-	-
Stage 2	189	222	-	861	779	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	104	126	909	104	126	188	1442	-	-	516	-	-
Mov Cap-2 Maneuver	104	126	-	104	126	-	-	-	-	-	-	-
Stage 1	862	778	-	189	222	-	-	-	-	-	-	-
Stage 2	189	222	-	858	777	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.5	0	0	0.1
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	187	-	516	-
HCM Lane V/C Ratio	-	-	-	0.011	-	0.002	-
HCM Control Delay (s)	0	-	-	24.5	0	12	0
HCM Lane LOS	A	-	-	C	A	B	A
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

Existing + Project PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗↘	↙	↑	↗↘	↙
Traffic Volume (vph)	589	105	47	458	717	483
Future Volume (vph)	589	105	47	458	717	483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	28.2	20.1	11.7	39.9	20.1	11.7
Total Split (%)	47.0%	33.5%	19.5%	66.5%	33.5%	19.5%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

Existing + Project PM Peak Hour

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	589	105	47	458	717	483		
Future Volume (veh/h)	589	105	47	458	717	483		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	620	111	49	482	755	508		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	930	2154	66	1115	941	492		
Arrive On Green	0.50	0.50	0.04	0.60	0.27	0.27		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	620	111	49	482	755	508		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	15.0	0.6	1.6	8.4	12.3	16.4		
Cycle Q Clear(g_c), s	15.0	0.6	1.6	8.4	12.3	16.4		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	930	2154	66	1115	941	492		
V/C Ratio(X)	0.67	0.05	0.74	0.43	0.80	1.03		
Avail Cap(c_a), veh/h	930	2154	237	1115	941	492		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	1.6	28.6	6.5	20.3	20.7		
Incr Delay (d2), s/veh	3.8	0.0	15.0	1.2	5.1	49.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.6	0.5	1.1	4.7	6.4	14.9		
LnGrp Delay(d),s/veh	15.0	1.7	43.6	7.8	25.4	70.1		
LnGrp LOS	B	A	D	A	C	F		
Approach Vol, veh/h	731			531	1263			
Approach Delay, s/veh	13.0			11.1	43.4			
Approach LOS	B			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.9	34.0				39.9		20.1
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	8.0	24.2				35.9		16.4
Max Q Clear Time (g_c+I1), s	3.6	17.0				10.4		18.4
Green Ext Time (p_c), s	0.0	5.0				12.3		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			27.8					
HCM 2010 LOS			C					

Lanes, Volumes, Timings
 5: South Dwy. & Long Canyon Rd.

Existing + Project PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	42	0	27	19	0	16
Future Volume (vph)	42	0	27	19	0	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	179			346	515	
Travel Time (s)	4.1			7.9	11.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	42	0	27	19	0	16
Future Vol, veh/h	42	0	27	19	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	0	27	19	0	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	42	115
Stage 1	-	-	42
Stage 2	-	-	73
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1567	881
Stage 1	-	0	980
Stage 2	-	0	950
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1567	866
Mov Cap-2 Maneuver	-	-	866
Stage 1	-	-	980
Stage 2	-	-	934

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1029	-	1567	-
HCM Lane V/C Ratio	0.016	-	0.017	-
HCM Control Delay (s)	8.6	-	7.3	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Lanes, Volumes, Timings
6: Long Canyon Rd. & North Dwy.

Existing + Project PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	30	1	18	12	0
Future Volume (vph)	0	30	1	18	12	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30	30		30	
Link Distance (ft)		567	440		640	
Travel Time (s)		12.9	10.0		14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	30	1	18	12	0
Future Vol, veh/h	0	30	1	18	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	30	1	18	12	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	19	0	-	0	40	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1597	-	-	-	972	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	993	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1597	-	-	-	972	1071
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	993	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		8.8	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1597	-	-	-	972	
HCM Lane V/C Ratio	-	-	-	-	0.012	
HCM Control Delay (s)	0	-	-	-	8.8	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

APPENDIX 5.7:

2020 WITHOUT PROJECT CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 2020 Without Project Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.687
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxxx
 Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Ovl			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	3	0	1	1	0	3	0	2	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	485	627	55	147	845	545	400	264	430	118	718	330
Growth 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
Initial Bse:	485	627	55	147	845	545	400	264	430	118	718	330
User 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
PHF 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
PHF Volume:	485	627	55	147	845	545	400	264	430	118	718	330
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	627	55	147	845	545	400	264	430	118	718	330
PCE 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
MLF 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
FinalVolume:	485	627	55	147	845	545	400	264	430	118	718	330
OvlAdjVol:	145											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.14	0.12	0.03	0.09	0.17	0.16	0.12	0.08	0.25	0.07	0.21	0.19
OvlAdjV/S:	0.04											
Crit Moves:	****	****					****	****				

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

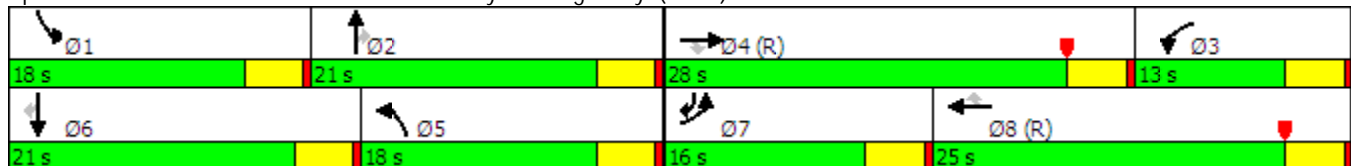
2020NP AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑	↗	↖	↑↑	↗	↖↖	↑↑↑	↗	↖	↑↑↑	↖↖
Traffic Volume (vph)	400	264	430	118	718	330	485	627	55	147	845	545
Future Volume (vph)	400	264	430	118	718	330	485	627	55	147	845	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	16.0	28.0	28.0	13.0	25.0	25.0	18.0	21.0	21.0	18.0	21.0	16.0
Total Split (%)	20.0%	35.0%	35.0%	16.3%	31.3%	31.3%	22.5%	26.3%	26.3%	22.5%	26.3%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2020NP AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	400	264	430	118	718	330	485	627	55	147	845	545
Future Volume (veh/h)	400	264	430	118	718	330	485	627	55	147	845	545
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	488	322	524	144	876	402	591	765	67	179	1030	665
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	516	1062	475	200	929	416	602	1345	419	218	1081	1010
Arrive On Green	0.15	0.30	0.30	0.11	0.26	0.26	0.17	0.26	0.26	0.12	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	488	322	524	144	876	402	591	765	67	179	1030	665
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	11.2	5.6	24.0	6.3	19.4	20.1	13.7	10.4	1.8	7.9	16.0	7.8
Cycle Q Clear(g_c), s	11.2	5.6	24.0	6.3	19.4	20.1	13.7	10.4	1.8	7.9	16.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	516	1062	475	200	929	416	602	1345	419	218	1081	1010
V/C Ratio(X)	0.95	0.30	1.10	0.72	0.94	0.97	0.98	0.57	0.16	0.82	0.95	0.66
Avail Cap(c_a), veh/h	516	1062	475	200	929	416	602	1345	419	310	1081	1010
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	33.7	21.6	28.0	34.3	28.9	29.2	32.9	25.5	11.4	34.2	31.1	7.8
Incr Delay (d2), s/veh	26.5	0.7	72.4	12.0	18.6	36.7	31.8	1.8	0.8	11.1	18.2	3.4
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	7.3	2.8	20.0	3.7	11.9	12.9	9.1	5.1	0.9	4.5	9.3	3.4
LnGrp Delay(d),s/veh	60.2	22.3	100.4	46.3	47.5	65.8	64.7	27.2	12.2	45.3	49.3	11.1
LnGrp LOS	E	C	F	D	D	E	E	C	B	D	D	B
Approach Vol, veh/h		1334			1422			1423			1874	
Approach Delay, s/veh		66.8			52.5			42.1			35.4	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	25.2	13.0	28.0	18.0	21.0	16.0	25.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	17.0	9.0	24.0	14.0	17.0	12.0	21.0				
Max Q Clear Time (g_c+I1), s	9.9	12.4	8.3	26.0	15.7	18.0	13.2	22.1				
Green Ext Time (p_c), s	0.2	2.8	0.5	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			47.9									
HCM 2010 LOS			D									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2020NP AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	1	3	111	765	10
Future Volume (vph)	5	1	3	111	765	10
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	5	1	3	111	765	10
Future Vol, veh/h	5	1	3	111	765	10
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	1	3	128	879	11

















Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	1019	885	891	0
Stage 1	885	-	-	-
Stage 2	134	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Pot Cap-1 Maneuver	263	344	761	-
Stage 1	403	-	-	-
Stage 2	892	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	262	344	761	-
Mov Cap-2 Maneuver	262	-	-	-
Stage 1	403	-	-	-
Stage 2	888	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.5	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	761	-	273	-	-
HCM Lane V/C Ratio	0.005	-	0.025	-	-
HCM Control Delay (s)	9.8	0	18.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2020NP AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	123	0	0	773	1
Future Volume (vph)	1	0	1	0	0	0	0	123	0	0	773	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	123	0	0	773	1
Future Vol, veh/h	1	0	1	0	0	0	0	123	0	0	773	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	138	0	0	869	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1007	1007	869	1008	1008	138	870	0	0	138	0	0
Stage 1	869	869	-	138	138	-	-	-	-	-	-	-
Stage 2	138	138	-	870	870	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	219	241	351	219	240	910	775	-	-	1446	-	-
Stage 1	347	369	-	865	782	-	-	-	-	-	-	-
Stage 2	865	782	-	346	369	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	219	241	351	218	240	910	775	-	-	1446	-	-
Mov Cap-2 Maneuver	219	241	-	218	240	-	-	-	-	-	-	-
Stage 1	347	369	-	865	782	-	-	-	-	-	-	-
Stage 2	865	782	-	345	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.4	0	0	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	775	-	-	270	-	1446	-
HCM Lane V/C Ratio	-	-	-	0.008	-	-	-
HCM Control Delay (s)	0	-	-	18.4	0	0	-
HCM Lane LOS	A	-	-	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

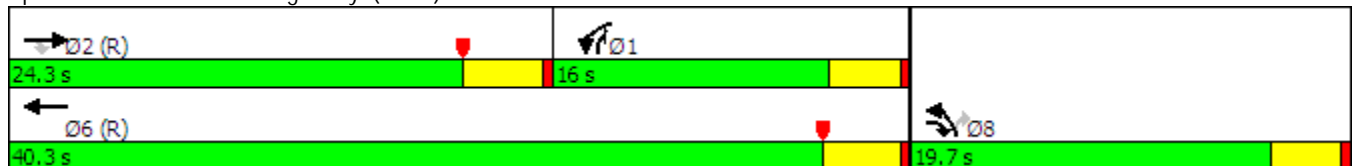
2020NP AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗↗	↙	↑	↖↖	↗
Traffic Volume (vph)	494	488	281	673	130	60
Future Volume (vph)	494	488	281	673	130	60
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	24.3	19.7	16.0	40.3	19.7	16.0
Total Split (%)	40.5%	32.8%	26.7%	67.2%	32.8%	26.7%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary







Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2020NP AM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	494	488	281	673	130	60		
Future Volume (veh/h)	494	488	281	673	130	60		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	537	530	305	732	141	65		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	630	1161	689	1478	269	739		
Arrive On Green	0.34	0.34	0.39	0.79	0.08	0.08		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	537	530	305	732	141	65		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	16.1	8.2	7.6	8.0	2.4	0.0		
Cycle Q Clear(g_c), s	16.1	8.2	7.6	8.0	2.4	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	630	1161	689	1478	269	739		
V/C Ratio(X)	0.85	0.46	0.44	0.50	0.52	0.09		
Avail Cap(c_a), veh/h	630	1161	689	1478	918	1037		
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	18.5	12.6	13.6	2.1	26.6	8.9		
Incr Delay (d2), s/veh	13.7	1.3	0.4	1.2	1.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.6	3.7	3.8	4.4	1.2	0.6		
LnGrp Delay(d),s/veh	32.1	13.9	14.0	3.3	28.1	8.9		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	1067			1037	206			
Approach Delay, s/veh	23.1			6.4	22.1			
Approach LOS	C			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.3	24.3				51.6		8.4
Change Period (Y+Rc), s	4.0	* 4				4.0		3.7
Max Green Setting (Gmax), s	12.3	* 20				36.3		16.0
Max Q Clear Time (g_c+I1), s	9.6	18.1				10.0		4.4
Green Ext Time (p_c), s	1.8	1.5				9.2		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			15.5					
HCM 2010 LOS			B					
Notes								

The Preserve at San Juan Traffic Impact Analysis (JN:10784)
2020 Without Project Conditions
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.632
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns for volume and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume, and OvlAdjVol.

Saturation Flow Module: Table with 12 columns for saturation flow and adjustment factors. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity and critical moves. Rows include Vol/Sat, OvlAdjV/S, and Crit Moves.

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

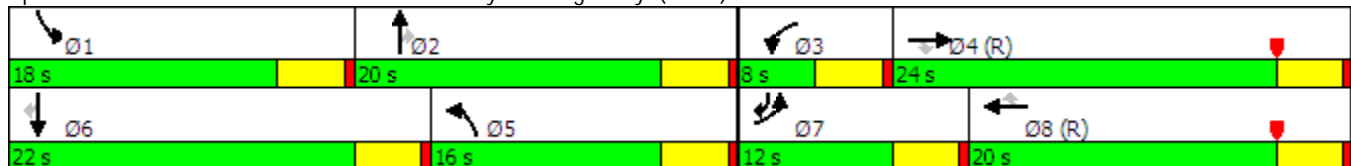
2020NP PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑↑	↖	↖	↑↑↑	↖↗
Traffic Volume (vph)	363	876	301	38	339	137	329	534	117	335	472	437
Future Volume (vph)	363	876	301	38	339	137	329	534	117	335	472	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
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
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	12.0	24.0	24.0	8.0	20.0	20.0	16.0	20.0	20.0	18.0	22.0	12.0
Total Split (%)	17.1%	34.3%	34.3%	11.4%	28.6%	28.6%	22.9%	28.6%	28.6%	25.7%	31.4%	17.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2020NP PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	876	301	38	339	137	329	534	117	335	472	437
Future Volume (veh/h)	363	876	301	38	339	137	329	534	117	335	472	437
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	378	912	314	40	353	143	343	556	122	349	492	455
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	1104	494	55	809	362	590	1162	362	355	1308	1035
Arrive On Green	0.11	0.31	0.31	0.03	0.23	0.23	0.17	0.23	0.23	0.20	0.26	0.26
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	378	912	314	40	353	143	343	556	122	349	492	455
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	7.6	16.7	7.0	1.6	6.0	5.4	6.4	6.6	4.5	13.7	5.6	3.9
Cycle Q Clear(g_c), s	7.6	16.7	7.0	1.6	6.0	5.4	6.4	6.6	4.5	13.7	5.6	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	1104	494	55	809	362	590	1162	362	355	1308	1035
V/C Ratio(X)	0.96	0.83	0.64	0.73	0.44	0.40	0.58	0.48	0.34	0.98	0.38	0.44
Avail Cap(c_a), veh/h	393	1104	494	101	809	362	590	1162	362	355	1308	1035
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	30.8	22.3	7.1	33.6	23.1	22.9	26.7	23.4	22.6	27.9	21.4	5.6
Incr Delay (d2), s/veh	35.2	7.1	6.1	16.8	1.7	3.2	1.4	1.4	2.5	43.2	0.8	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	5.5	9.2	3.8	1.0	3.1	2.7	3.2	3.2	2.2	11.0	2.7	1.6
LnGrp Delay(d),s/veh	66.1	29.4	13.2	50.5	24.8	26.1	28.1	24.8	25.1	71.1	22.2	7.0
LnGrp LOS	E	C	B	D	C	C	C	C	C	E	C	A
Approach Vol, veh/h		1604			536			1021			1296	
Approach Delay, s/veh		34.9			27.1			26.0			30.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	20.0	6.2	25.8	16.0	22.0	12.0	20.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	16.0	4.0	20.0	12.0	18.0	8.0	16.0				
Max Q Clear Time (g_c+I1), s	15.7	8.6	3.6	18.7	8.4	7.6	9.6	8.0				
Green Ext Time (p_c), s	0.0	3.0	0.0	1.0	1.8	3.6	0.0	5.3				
Intersection Summary												
HCM 2010 Ctrl Delay			30.5									
HCM 2010 LOS			C									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2020NP PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	8	0	1290	135	1
Future Volume (vph)	22	8	0	1290	135	1
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	8	0	1290	135	1
Future Vol, veh/h	22	8	0	1290	135	1
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	8	0	1344	141	1

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1485	141	142	0	- 0
Stage 1	141	-	-	-	- -
Stage 2	1344	-	-	-	- -
Critical Hdwy	6.42	6.22	4.12	-	- -
Critical Hdwy Stg 1	5.42	-	-	-	- -
Critical Hdwy Stg 2	5.42	-	-	-	- -
Follow-up Hdwy	3.518	3.318	2.218	-	- -
Pot Cap-1 Maneuver	137	907	1441	-	- -
Stage 1	886	-	-	-	- -
Stage 2	243	-	-	-	- -
Platoon blocked, %				-	- -
Mov Cap-1 Maneuver	137	907	1441	-	- -
Mov Cap-2 Maneuver	137	-	-	-	- -
Stage 1	886	-	-	-	- -
Stage 2	243	-	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	29.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1441	-	177	-	-
HCM Lane V/C Ratio	-	-	0.177	-	-
HCM Control Delay (s)	0	-	29.7	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2020NP PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	1313	0	1	135	4
Future Volume (vph)	1	0	1	0	0	0	0	1313	0	1	135	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	1313	0	1	135	4
Future Vol, veh/h	1	0	1	0	0	0	0	1313	0	1	135	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	1368	0	1	141	4

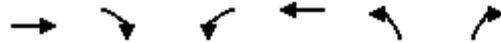
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1513	1513	143	1513	1515	1368	145	0	0	1368	0	0
Stage 1	145	145	-	1368	1368	-	-	-	-	-	-	-
Stage 2	1368	1368	-	145	147	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	98	120	905	98	119	180	1437	-	-	502	-	-
Stage 1	858	777	-	181	215	-	-	-	-	-	-	-
Stage 2	181	215	-	858	775	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	98	120	905	98	119	180	1437	-	-	502	-	-
Mov Cap-2 Maneuver	98	120	-	98	119	-	-	-	-	-	-	-
Stage 1	858	775	-	181	215	-	-	-	-	-	-	-
Stage 2	181	215	-	855	773	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.6	0	0	0.1
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1437	-	-	177	-	502	-
HCM Lane V/C Ratio	-	-	-	0.012	-	0.002	-
HCM Control Delay (s)	0	-	-	25.6	0	12.2	0
HCM Lane LOS	A	-	-	D	A	B	A
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2020NP PM Peak Hour

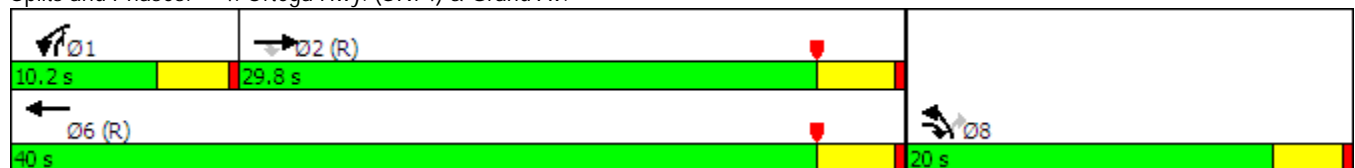


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑↑	↙	↑	↑↑	↗
Traffic Volume (vph)	665	114	46	524	760	488
Future Volume (vph)	665	114	46	524	760	488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	29.8	20.0	10.2	40.0	20.0	10.2
Total Split (%)	49.7%	33.3%	17.0%	66.7%	33.3%	17.0%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2020NP PM Peak Hour

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	665	114	46	524	760	488		
Future Volume (veh/h)	665	114	46	524	760	488		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	700	120	48	552	800	514		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	934	2155	65	1118	935	488		
Arrive On Green	0.50	0.50	0.04	0.60	0.27	0.27		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	700	120	48	552	800	514		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	18.0	0.6	1.6	10.1	13.2	16.3		
Cycle Q Clear(g_c), s	18.0	0.6	1.6	10.1	13.2	16.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	934	2155	65	1118	935	488		
V/C Ratio(X)	0.75	0.06	0.74	0.49	0.86	1.05		
Avail Cap(c_a), veh/h	934	2155	192	1118	935	488		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.9	1.6	28.6	6.8	20.7	20.7		
Incr Delay (d2), s/veh	5.5	0.0	14.9	1.6	7.9	55.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.6	0.5	1.1	5.5	7.2	15.6		
LnGrp Delay(d),s/veh	17.4	1.7	43.5	8.4	28.6	76.0		
LnGrp LOS	B	A	D	A	C	F		
Approach Vol, veh/h	820			600	1314			
Approach Delay, s/veh	15.1			11.2	47.2			
Approach LOS	B			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.9	34.1				40.0		20.0
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	6.5	25.8				36.0		16.3
Max Q Clear Time (g_c+I1), s	3.6	20.0				12.1		18.3
Green Ext Time (p_c), s	0.0	4.5				13.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			29.7					
HCM 2010 LOS			C					

APPENDIX 5.8:

2020 WITH PROJECT CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 2020 With Project Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.692
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1	0	3	0	2	2	0	1

Volume Module:

Base Vol:	485	627	55	147	845	545	400	264	430	118	718	330
Growth 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
Initial Bse:	485	627	55	147	845	545	400	264	430	118	718	330
Added Vol:	0	0	0	4	0	0	0	6	0	0	16	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	627	55	151	845	545	400	270	430	118	734	340
User 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
PHF 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
PHF Volume:	485	627	55	151	845	545	400	270	430	118	734	340
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	627	55	151	845	545	400	270	430	118	734	340
PCE 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
MLF 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
FinalVolume:	485	627	55	151	845	545	400	270	430	118	734	340
OvlAdjVol:	145											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.14	0.12	0.03	0.09	0.17	0.16	0.12	0.08	0.25	0.07	0.22	0.20
OvlAdjV/S:	0.04											
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

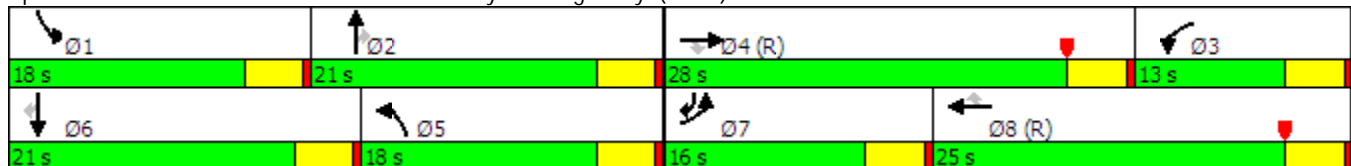
2020WP AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑	↗	↖	↑↑	↗	↖↖	↑↑↑	↗	↖	↑↑↑	↖↖
Traffic Volume (vph)	400	270	430	118	734	340	485	627	55	151	845	545
Future Volume (vph)	400	270	430	118	734	340	485	627	55	151	845	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	16.0	28.0	28.0	13.0	25.0	25.0	18.0	21.0	21.0	18.0	21.0	16.0
Total Split (%)	20.0%	35.0%	35.0%	16.3%	31.3%	31.3%	22.5%	26.3%	26.3%	22.5%	26.3%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2020WP AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	400	270	430	118	734	340	485	627	55	151	845	545
Future Volume (veh/h)	400	270	430	118	734	340	485	627	55	151	845	545
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	488	329	524	144	895	415	591	765	67	184	1030	665
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	516	1062	475	200	929	416	602	1330	414	224	1081	1010
Arrive On Green	0.15	0.30	0.30	0.11	0.26	0.26	0.17	0.26	0.26	0.13	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	488	329	524	144	895	415	591	765	67	184	1030	665
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	11.2	5.7	24.0	6.3	20.0	21.0	13.7	10.5	1.9	8.1	16.0	7.8
Cycle Q Clear(g_c), s	11.2	5.7	24.0	6.3	20.0	21.0	13.7	10.5	1.9	8.1	16.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	516	1062	475	200	929	416	602	1330	414	224	1081	1010
V/C Ratio(X)	0.95	0.31	1.10	0.72	0.96	1.00	0.98	0.58	0.16	0.82	0.95	0.66
Avail Cap(c_a), veh/h	516	1062	475	200	929	416	602	1330	414	310	1081	1010
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	33.7	21.6	28.0	34.3	29.1	29.5	32.9	25.7	11.6	34.1	31.1	7.8
Incr Delay (d2), s/veh	26.5	0.8	72.4	12.0	21.9	43.8	31.8	1.8	0.8	11.8	18.2	3.4
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	7.3	2.9	20.0	3.7	12.5	14.2	9.1	5.1	0.9	4.7	9.3	3.4
LnGrp Delay(d),s/veh	60.2	22.4	100.4	46.3	51.0	73.3	64.7	27.5	12.4	45.9	49.3	11.1
LnGrp LOS	E	C	F	D	D	E	E	C	B	D	D	B
Approach Vol, veh/h		1341			1454			1423			1879	
Approach Delay, s/veh		66.6			56.9			42.2			35.5	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	24.9	13.0	28.0	18.0	21.0	16.0	25.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	17.0	9.0	24.0	14.0	17.0	12.0	21.0				
Max Q Clear Time (g_c+I1), s	10.1	12.5	8.3	26.0	15.7	18.0	13.2	23.0				
Green Ext Time (p_c), s	0.2	2.8	0.5	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			49.0									
HCM 2010 LOS			D									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2020WP AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	27	13	111	765	15
Future Volume (vph)	19	27	13	111	765	15
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1	
Traffic Vol, veh/h	19	27	13	111	765	15
Future Vol, veh/h	19	27	13	111	765	15
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	31	15	128	879	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1045	888	897	0	-	0
Stage 1	888	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	253	343	757	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	248	343	757	-	-	-
Mov Cap-2 Maneuver	248	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	853	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.8	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	757	-	296	-	-
HCM Lane V/C Ratio	0.02	-	0.179	-	-
HCM Control Delay (s)	9.9	0	19.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2020WP AM Peak Hour
 WITH LEFT TURN REFUGE



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	27	13	111	765	15
Future Volume (vph)	19	27	13	111	765	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	27	13	111	765	15
Future Vol, veh/h	19	27	13	111	765	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	31	15	128	879	17

















Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1045	888	897	0	-	0
Stage 1	888	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	253	343	757	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	248	343	757	-	-	-
Mov Cap-2 Maneuver	338	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	854	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	757	-	341	-	-
HCM Lane V/C Ratio	0.02	-	0.155	-	-
HCM Control Delay (s)	9.9	-	17.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2020WP AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	137	0	0	778	1
Future Volume (vph)	1	0	1	0	0	0	0	137	0	0	778	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	137	0	0	778	1
Future Vol, veh/h	1	0	1	0	0	0	0	137	0	0	778	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	154	0	0	874	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1029	1029	875	1029	1029	154	875	0	0	154	0	0
Stage 1	875	875	-	154	154	-	-	-	-	-	-	-
Stage 2	154	154	-	875	875	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	212	234	349	212	234	892	771	-	-	1426	-	-
Stage 1	344	367	-	848	770	-	-	-	-	-	-	-
Stage 2	848	770	-	344	367	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	212	234	349	211	234	892	771	-	-	1426	-	-
Mov Cap-2 Maneuver	212	234	-	211	234	-	-	-	-	-	-	-
Stage 1	344	367	-	848	770	-	-	-	-	-	-	-
Stage 2	848	770	-	343	367	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	0	0	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	771	-	-	264	-	1426	-
HCM Lane V/C Ratio	-	-	-	0.009	-	-	-
HCM Control Delay (s)	0	-	-	18.8	0	0	-
HCM Lane LOS	A	-	-	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

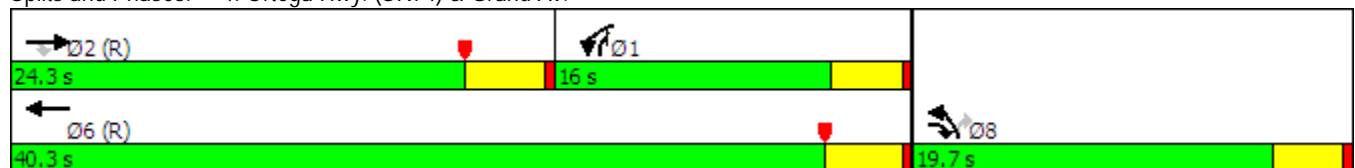
2020WP AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑↑	↘	↑	↑↑	↘
Traffic Volume (vph)	494	491	283	673	138	64
Future Volume (vph)	494	491	283	673	138	64
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	24.3	19.7	16.0	40.3	19.7	16.0
Total Split (%)	40.5%	32.8%	26.7%	67.2%	32.8%	26.7%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary







Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2020WP AM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	494	491	283	673	138	64		
Future Volume (veh/h)	494	491	283	673	138	64		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	537	534	308	732	150	70		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	630	1171	683	1471	282	739		
Arrive On Green	0.34	0.34	0.38	0.79	0.08	0.08		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	537	534	308	732	150	70		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	16.1	8.2	7.8	8.2	2.5	0.0		
Cycle Q Clear(g_c), s	16.1	8.2	7.8	8.2	2.5	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	630	1171	683	1471	282	739		
V/C Ratio(X)	0.85	0.46	0.45	0.50	0.53	0.09		
Avail Cap(c_a), veh/h	630	1171	683	1471	918	1032		
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	18.5	12.5	13.7	2.2	26.4	8.9		
Incr Delay (d2), s/veh	13.7	1.3	0.5	1.2	1.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.6	3.8	3.9	4.6	1.2	0.7		
LnGrp Delay(d),s/veh	32.1	13.8	14.2	3.4	28.0	9.0		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	1071			1040	220			
Approach Delay, s/veh	23.0			6.6	22.0			
Approach LOS	C			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.1	24.3				51.4		8.6
Change Period (Y+Rc), s	4.0	* 4				4.0		3.7
Max Green Setting (Gmax), s	12.3	* 20				36.3		16.0
Max Q Clear Time (g_c+I1), s	9.8	18.1				10.2		4.5
Green Ext Time (p_c), s	1.7	1.5				9.2		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			15.6					
HCM 2010 LOS			B					
Notes								

Lanes, Volumes, Timings
 5: South Dwy. & Long Canyon Rd.

2020WP AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Volume (vph)	22	0	8	20	0	24
Future Volume (vph)	22	0	8	20	0	24
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	179			346	515	
Travel Time (s)	4.1			7.9	11.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↓	
Traffic Vol, veh/h	22	0	8	20	0	24
Future Vol, veh/h	22	0	8	20	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	0	8	20	0	24

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	22	58
Stage 1	-	-	22
Stage 2	-	-	36
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1593	949
Stage 1	-	0	1001
Stage 2	-	0	986
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1593	944
Mov Cap-2 Maneuver	-	-	944
Stage 1	-	-	1001
Stage 2	-	-	981

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1055	-	1593	-
HCM Lane V/C Ratio	0.023	-	0.005	-
HCM Control Delay (s)	8.5	-	7.3	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0	-

Lanes, Volumes, Timings
 6: Long Canyon Rd. & North Dwy.

2020WP AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	6	13	7	16	0
Future Volume (vph)	0	6	13	7	16	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30	30		30	
Link Distance (ft)		567	440		640	
Travel Time (s)		12.9	10.0		14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	6	13	7	16	0
Future Vol, veh/h	0	6	13	7	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	6	13	7	16	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	20	0	23
Stage 1	-	-	17
Stage 2	-	-	6
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1596	-	993
Stage 1	-	-	1006
Stage 2	-	-	1017
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1596	-	993
Mov Cap-2 Maneuver	-	-	993
Stage 1	-	-	1006
Stage 2	-	-	1017

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	993
HCM Lane V/C Ratio	-	-	-	-	0.016
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 2020 With Project Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.644
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Ovl			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	3	0	1	1	0	3	0	2	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	329	534	117	335	472	437	363	876	301	38	339	137
Growth 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
Initial Bse:	329	534	117	335	472	437	363	876	301	38	339	137
Added Vol:	0	0	0	11	0	0	0	18	0	0	11	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	329	534	117	346	472	437	363	894	301	38	350	144
User 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
PHF 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
PHF Volume:	329	534	117	346	472	437	363	894	301	38	350	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	329	534	117	346	472	437	363	894	301	38	350	144
PCE 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
MLF 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
FinalVolume:	329	534	117	346	472	437	363	894	301	38	350	144
OvlAdjVol:	74											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.10	0.10	0.07	0.20	0.09	0.13	0.11	0.26	0.18	0.02	0.10	0.08
OvlAdjV/S:	0.02											
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

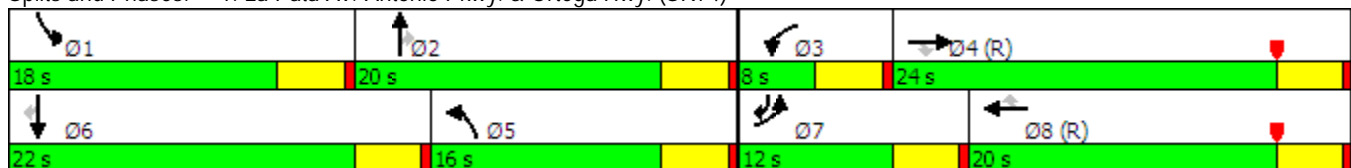
2020WP PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑↑	↖	↖	↑↑↑	↖↗
Traffic Volume (vph)	363	894	301	38	350	144	329	534	117	346	472	437
Future Volume (vph)	363	894	301	38	350	144	329	534	117	346	472	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
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
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	12.0	24.0	24.0	8.0	20.0	20.0	16.0	20.0	20.0	18.0	22.0	12.0
Total Split (%)	17.1%	34.3%	34.3%	11.4%	28.6%	28.6%	22.9%	28.6%	28.6%	25.7%	31.4%	17.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2020WP PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	894	301	38	350	144	329	534	117	346	472	437
Future Volume (veh/h)	363	894	301	38	350	144	329	534	117	346	472	437
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	378	931	314	40	365	150	343	556	122	360	492	455
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	1104	494	55	809	362	590	1162	362	355	1308	1035
Arrive On Green	0.11	0.31	0.31	0.03	0.23	0.23	0.17	0.23	0.23	0.20	0.26	0.26
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	378	931	314	40	365	150	343	556	122	360	492	455
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	7.6	17.2	7.0	1.6	6.2	5.7	6.4	6.6	4.5	14.0	5.6	3.9
Cycle Q Clear(g_c), s	7.6	17.2	7.0	1.6	6.2	5.7	6.4	6.6	4.5	14.0	5.6	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	1104	494	55	809	362	590	1162	362	355	1308	1035
V/C Ratio(X)	0.96	0.84	0.64	0.73	0.45	0.41	0.58	0.48	0.34	1.01	0.38	0.44
Avail Cap(c_a), veh/h	393	1104	494	101	809	362	590	1162	362	355	1308	1035
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	30.8	22.5	7.1	33.6	23.2	23.0	26.7	23.4	22.6	28.0	21.4	5.6
Incr Delay (d2), s/veh	35.2	7.9	6.1	16.8	1.8	3.5	1.4	1.4	2.5	51.5	0.8	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	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.6	3.8	1.0	3.2	2.8	3.2	3.2	2.2	11.9	2.7	1.6
LnGrp Delay(d),s/veh	66.1	30.4	13.2	50.5	25.0	26.5	28.1	24.8	25.1	79.6	22.2	7.0
LnGrp LOS	E	C	B	D	C	C	C	C	C	F	C	A
Approach Vol, veh/h		1623			555			1021			1307	
Approach Delay, s/veh		35.4			27.3			26.0			32.7	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	20.0	6.2	25.8	16.0	22.0	12.0	20.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	16.0	4.0	20.0	12.0	18.0	8.0	16.0				
Max Q Clear Time (g_c+I1), s	16.0	8.6	3.6	19.2	8.4	7.6	9.6	8.2				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.7	1.8	3.6	0.0	5.3				
Intersection Summary												
HCM 2010 Ctrl Delay			31.5									
HCM 2010 LOS			C									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2020WP PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	26	29	1290	135	17
Future Volume (vph)	32	26	29	1290	135	17
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1	
Traffic Vol, veh/h	32	26	29	1290	135	17
Future Vol, veh/h	32	26	29	1290	135	17
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	27	30	1344	141	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1553	149	158	0	0
Stage 1	149	-	-	-	-
Stage 2	1404	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	125	898	1422	-	-
Stage 1	879	-	-	-	-
Stage 2	227	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	115	898	1422	-	-
Mov Cap-2 Maneuver	115	-	-	-	-
Stage 1	879	-	-	-	-
Stage 2	208	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.8	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1422	-	189	-	-
HCM Lane V/C Ratio	0.021	-	0.32	-	-
HCM Control Delay (s)	7.6	0	32.8	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2020WP PM Peak Hour
 WITH LEFT TURN REFUGE



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	26	29	1290	135	17
Future Volume (vph)	32	26	29	1290	135	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	26	29	1290	135	17
Future Vol, veh/h	32	26	29	1290	135	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	27	30	1344	141	18

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1553	149	158	0	0
Stage 1	149	-	-	-	-
Stage 2	1404	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	125	898	1422	-	-
Stage 1	879	-	-	-	-
Stage 2	227	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	122	898	1422	-	-
Mov Cap-2 Maneuver	192	-	-	-	-
Stage 1	879	-	-	-	-
Stage 2	222	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.3	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1422	-	296	-	-
HCM Lane V/C Ratio	0.021	-	0.204	-	-
HCM Control Delay (s)	7.6	-	20.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2020WP PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	0	0	0	0	1323	0	1	151	4
Future Volume (vph)	1	0	1	0	0	0	0	1323	0	1	151	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	0	0	1323	0	1	151	4
Future Vol, veh/h	1	0	1	0	0	0	0	1323	0	1	151	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	0	0	1378	0	1	157	4

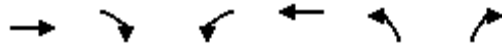
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1539	1539	159	1540	1542	1378	161	0	0	1378	0	0
Stage 1	161	161	-	1378	1378	-	-	-	-	-	-	-
Stage 2	1378	1378	-	162	164	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	94	116	886	94	115	177	1418	-	-	498	-	-
Stage 1	841	765	-	179	212	-	-	-	-	-	-	-
Stage 2	179	212	-	840	762	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	94	116	886	94	115	177	1418	-	-	498	-	-
Mov Cap-2 Maneuver	94	116	-	94	115	-	-	-	-	-	-	-
Stage 1	841	763	-	179	212	-	-	-	-	-	-	-
Stage 2	179	212	-	837	760	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.4	0	0	0.1
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	170	-	498	-
HCM Lane V/C Ratio	-	-	-	0.012	-	0.002	-
HCM Control Delay (s)	0	-	-	26.4	0	12.2	0
HCM Lane LOS	A	-	-	D	A	B	A
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2020WP PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	665	123	51	524	766	491
Future Volume (vph)	665	123	51	524	766	491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	29.8	20.0	10.2	40.0	20.0	10.2
Total Split (%)	49.7%	33.3%	17.0%	66.7%	33.3%	17.0%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary







Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2020WP PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	665	123	51	524	766	491		
Future Volume (veh/h)	665	123	51	524	766	491		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	700	129	54	552	806	517		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	929	2147	70	1118	935	493		
Arrive On Green	0.50	0.50	0.04	0.60	0.27	0.27		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	700	129	54	552	806	517		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	18.1	0.7	1.8	10.1	13.4	16.3		
Cycle Q Clear(g_c), s	18.1	0.7	1.8	10.1	13.4	16.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	929	2147	70	1118	935	493		
V/C Ratio(X)	0.75	0.06	0.77	0.49	0.86	1.05		
Avail Cap(c_a), veh/h	929	2147	192	1118	935	493		
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	12.1	1.7	28.5	6.8	20.8	20.7		
Incr Delay (d2), s/veh	5.6	0.1	16.0	1.6	8.3	54.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.6	0.6	1.2	5.5	7.3	15.5		
LnGrp Delay(d),s/veh	17.7	1.7	44.6	8.4	29.1	74.7		
LnGrp LOS	B	A	D	A	C	F		
Approach Vol, veh/h	829			606	1323			
Approach Delay, s/veh	15.2			11.6	46.9			
Approach LOS	B			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.1	33.9				40.0		20.0
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	6.5	25.8				36.0		16.3
Max Q Clear Time (g_c+I1), s	3.8	20.1				12.1		18.3
Green Ext Time (p_c), s	0.0	4.5				13.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			29.6					
HCM 2010 LOS			C					

Lanes, Volumes, Timings
 5: South Dwy. & Long Canyon Rd.

2020WP PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Volume (vph)	42	0	27	19	0	16
Future Volume (vph)	42	0	27	19	0	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	179			346	515	
Travel Time (s)	4.1			7.9	11.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	42	0	27	19	0	16
Future Vol, veh/h	42	0	27	19	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	0	27	19	0	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	42	115
Stage 1	-	-	42
Stage 2	-	-	73
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1567	881
Stage 1	-	-	980
Stage 2	-	-	950
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1567	866
Mov Cap-2 Maneuver	-	-	866
Stage 1	-	-	980
Stage 2	-	-	934

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1029	-	1567	-
HCM Lane V/C Ratio	0.016	-	0.017	-
HCM Control Delay (s)	8.6	-	7.3	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Lanes, Volumes, Timings
 6: Long Canyon Rd. & North Dwy.

2020WP PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	30	1	18	12	0
Future Volume (vph)	0	30	1	18	12	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30	30		30	
Link Distance (ft)		567	440		640	
Travel Time (s)		12.9	10.0		14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	30	1	18	12	0
Future Vol, veh/h	0	30	1	18	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	30	1	18	12	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	19	0	-	0	40	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1597	-	-	-	972	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	993	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1597	-	-	-	972	1071
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	993	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		8.8	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1597	-	-	-	972	
HCM Lane V/C Ratio	-	-	-	-	0.012	
HCM Control Delay (s)	0	-	-	-	8.8	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

APPENDIX 5.9:

2035 WITHOUT PROJECT CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) Without Project Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.914
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 96 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Ovl			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	3	0	1	1	0	3	0	2	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	493	1361	62	160	1777	624	482	286	416	177	778	367
Growth 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
Initial Bse:	493	1361	62	160	1777	624	482	286	416	177	778	367
User 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
PHF 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
PHF Volume:	493	1361	62	160	1777	624	482	286	416	177	778	367
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	493	1361	62	160	1777	624	482	286	416	177	778	367
PCE 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
MLF 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
FinalVolume:	493	1361	62	160	1777	624	482	286	416	177	778	367
OvlAdjVol:	142											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.15	0.27	0.04	0.09	0.35	0.18	0.14	0.08	0.24	0.10	0.23	0.22
OvlAdjV/S:	0.04											
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

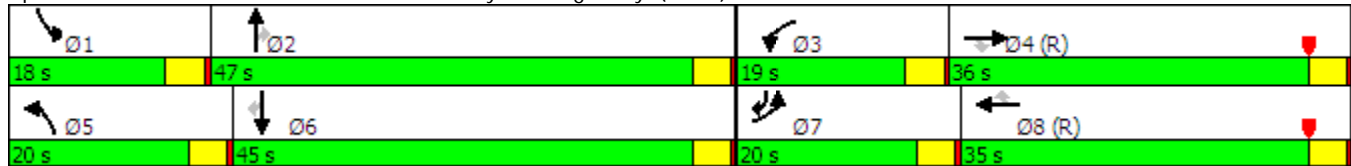
2035NP AM Peak Hour
 03/10/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	482	286	416	177	778	367	493	1361	62	160	1777	624
Future Volume (vph)	482	286	416	177	778	367	493	1361	62	160	1777	624
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	20.0	36.0	36.0	19.0	35.0	35.0	20.0	47.0	47.0	18.0	45.0	20.0
Total Split (%)	16.7%	30.0%	30.0%	15.8%	29.2%	29.2%	16.7%	39.2%	39.2%	15.0%	37.5%	16.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2035NP AM Peak Hour
 03/10/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	482	286	416	177	778	367	493	1361	62	160	1777	624
Future Volume (veh/h)	482	286	416	177	778	367	493	1361	62	160	1777	624
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	588	349	507	216	949	448	601	1660	76	195	2167	761
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	944	422	222	914	409	459	1822	567	207	1737	1324
Arrive On Green	0.13	0.27	0.27	0.13	0.26	0.26	0.13	0.36	0.36	0.12	0.34	0.34
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	588	349	507	216	949	448	601	1660	76	195	2167	761
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	16.0	9.6	32.0	14.6	31.0	31.0	16.0	37.3	3.9	13.1	41.0	23.7
Cycle Q Clear(g_c), s	16.0	9.6	32.0	14.6	31.0	31.0	16.0	37.3	3.9	13.1	41.0	23.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	944	422	222	914	409	459	1822	567	207	1737	1324
V/C Ratio(X)	1.28	0.37	1.20	0.97	1.04	1.10	1.31	0.91	0.13	0.94	1.25	0.57
Avail Cap(c_a), veh/h	459	944	422	222	914	409	459	1822	567	207	1737	1324
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	52.0	35.8	44.0	52.3	44.5	44.5	52.0	36.7	25.9	52.6	39.5	22.8
Incr Delay (d2), s/veh	142.5	1.1	111.1	52.9	40.0	72.7	154.3	8.4	0.5	46.3	116.2	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	4.8	27.0	10.4	20.2	21.8	17.4	18.8	1.8	9.1	37.8	9.4
LnGrp Delay(d),s/veh	194.5	36.9	155.1	105.2	84.5	117.2	206.3	45.0	26.4	98.9	155.7	24.6
LnGrp LOS	F	D	F	F	F	F	F	D	C	F	F	C
Approach Vol, veh/h		1444			1613			2337			3123	
Approach Delay, s/veh		142.6			96.4			85.9			120.2	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	47.0	19.0	36.0	20.0	45.0	20.0	35.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	43.0	15.0	32.0	16.0	41.0	16.0	31.0				
Max Q Clear Time (g_c+I1), s	15.1	39.3	16.6	34.0	18.0	43.0	18.0	33.0				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			110.1									
HCM 2010 LOS			F									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035NP AM Peak Hour
 03/10/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	2	4	222	768	11
Future Volume (vph)	8	2	4	222	768	11
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	2	4	222	768	11
Future Vol, veh/h	8	2	4	222	768	11
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	2	5	255	883	13

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1153	889	895 0
Stage 1	889	-	-
Stage 2	264	-	-
Critical Hdwy	6.42	6.22	4.12 -
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218 -
Pot Cap-1 Maneuver	218	342	758 -
Stage 1	402	-	-
Stage 2	780	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	216	342	758 -
Mov Cap-2 Maneuver	216	-	-
Stage 1	402	-	-
Stage 2	774	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.3	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	758	-	233	-	-
HCM Lane V/C Ratio	0.006	-	0.049	-	-
HCM Control Delay (s)	9.8	0	21.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035NP AM Peak Hour
 WITH IMPROVEMENTS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	2	4	222	768	11
Future Volume (vph)	8	2	4	222	768	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	2	4	222	768	11
Future Vol, veh/h	8	2	4	222	768	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	2	5	255	883	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1153	889	895	0	-	0
Stage 1	889	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	218	342	758	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	217	342	758	-	-	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	775	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.4	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	758	-	328	-	-
HCM Lane V/C Ratio	0.006	-	0.035	-	-
HCM Control Delay (s)	9.8	-	16.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2035NP AM Peak Hour
 03/10/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	2	1	1	2	1	1	280	1	1	837	1
Future Volume (vph)	1	2	1	1	2	1	1	280	1	1	837	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	1	2	1	1	280	1	1	837	1
Future Vol, veh/h	1	2	1	1	2	1	1	280	1	1	837	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	1	1	2	1	1	315	1	1	940	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1262	1261	941	1262	1261	315	942	0	0	316	0	0
Stage 1	943	943	-	317	317	-	-	-	-	-	-	-
Stage 2	319	318	-	945	944	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	147	170	319	147	170	725	728	-	-	1244	-	-
Stage 1	315	341	-	694	654	-	-	-	-	-	-	-
Stage 2	693	654	-	314	341	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	145	169	319	145	169	725	728	-	-	1244	-	-
Mov Cap-2 Maneuver	145	169	-	145	169	-	-	-	-	-	-	-
Stage 1	314	340	-	693	653	-	-	-	-	-	-	-
Stage 2	688	653	-	310	340	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.2	23.5	0	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	728	-	-	183	199	1244	-
HCM Lane V/C Ratio	0.002	-	-	0.025	0.023	0.001	-
HCM Control Delay (s)	10	0	-	25.2	23.5	7.9	0
HCM Lane LOS	A	A	-	D	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2035NP AM Peak Hour
03/10/2017

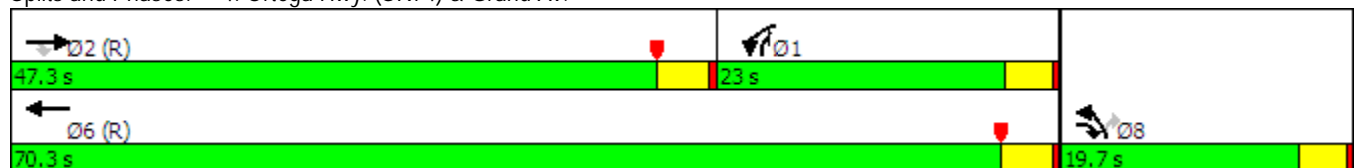


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	733	571	305	1146	364	87
Future Volume (vph)	733	571	305	1146	364	87
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	47.3	19.7	23.0	70.3	19.7	23.0
Total Split (%)	52.6%	21.9%	25.6%	78.1%	21.9%	25.6%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035NP AM Peak Hour
03/10/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	733	571	305	1146	364	87		
Future Volume (veh/h)	733	571	305	1146	364	87		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	797	621	332	1246	396	95		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	896	1736	438	1439	488	616		
Arrive On Green	0.48	0.48	0.25	0.77	0.14	0.14		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	797	621	332	1246	396	95		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	34.9	9.7	15.6	41.4	10.0	0.0		
Cycle Q Clear(g_c), s	34.9	9.7	15.6	41.4	10.0	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	896	1736	438	1439	488	616		
V/C Ratio(X)	0.89	0.36	0.76	0.87	0.81	0.15		
Avail Cap(c_a), veh/h	896	1736	438	1439	612	673		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.2	8.2	31.4	7.0	37.4	17.9		
Incr Delay (d2), s/veh	12.8	0.6	7.5	7.2	6.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	20.9	5.2	8.6	23.3	5.2	1.6		
LnGrp Delay(d),s/veh	34.0	8.8	38.8	14.2	44.0	18.0		
LnGrp LOS	C	A	D	B	D	B		
Approach Vol, veh/h	1418			1578	491			
Approach Delay, s/veh	23.0			19.4	39.0			
Approach LOS	C			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	26.2	47.3				73.5		16.5
Change Period (Y+Rc), s	4.0	* 4				4.0		3.7
Max Green Setting (Gmax), s	19.3	* 43				66.3		16.0
Max Q Clear Time (g_c+I1), s	17.6	36.9				43.4		12.0
Green Ext Time (p_c), s	1.4	4.9				17.2		0.7
Intersection Summary								
HCM 2010 Ctrl Delay			23.6					
HCM 2010 LOS			C					
Notes								

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2035NP AM Peak Hour
WITH IMPROVEMENTS

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	733	571	305	1146	364	87
Future Volume (vph)	733	571	305	1146	364	87
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	21.3	19.7	19.0	40.3	19.7	19.0
Total Split (%)	35.5%	32.8%	31.7%	67.2%	32.8%	31.7%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035NP AM Peak Hour
WITH IMPROVEMENTS

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	733	571	305	1146	364	87		
Future Volume (veh/h)	733	571	305	1146	364	87		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	797	621	332	1246	396	95		
Adj No. of Lanes	2	2	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1528	1652	385	2515	555	599		
Arrive On Green	0.43	0.43	0.22	0.71	0.16	0.16		
Sat Flow, veh/h	3632	2787	1774	3632	3442	1583		
Grp Volume(v), veh/h	797	621	332	1246	396	95		
Grp Sat Flow(s),veh/h/ln	1770	1393	1774	1770	1721	1583		
Q Serve(g_s), s	9.9	7.0	10.8	9.4	6.5	2.4		
Cycle Q Clear(g_c), s	9.9	7.0	10.8	9.4	6.5	2.4		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1528	1652	385	2515	555	599		
V/C Ratio(X)	0.52	0.38	0.86	0.50	0.71	0.16		
Avail Cap(c_a), veh/h	1528	1652	452	2515	918	766		
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	12.5	6.4	22.6	3.9	23.9	12.3		
Incr Delay (d2), s/veh	1.3	0.7	13.8	0.7	1.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.0	3.9	6.7	4.7	3.2	1.1		
LnGrp Delay(d),s/veh	13.8	7.1	36.4	4.6	25.6	12.5		
LnGrp LOS	B	A	D	A	C	B		
Approach Vol, veh/h	1418			1578	491			
Approach Delay, s/veh	10.8			11.3	23.0			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.7	29.9				46.6		13.4
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	15.3	17.3				36.3		16.0
Max Q Clear Time (g_c+I1), s	12.8	11.9				11.4		8.5
Green Ext Time (p_c), s	0.3	5.2				22.3		1.1
Intersection Summary								
HCM 2010 Ctrl Delay			12.8					
HCM 2010 LOS			B					

The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) Without Project Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Ortega Hwy. (SR-74) (NS) / Cow Camp (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.607
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	0	0	2	0	0	1	0	0	0

Volume Module:

Base Vol:	26	281	0	0	1223	704	619	0	97	0	0	0
Growth 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
Initial Bse:	26	281	0	0	1223	704	619	0	97	0	0	0
User 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
PHF 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
PHF Volume:	26	281	0	0	1223	704	619	0	97	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	281	0	0	1223	704	619	0	97	0	0	0
PCE 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
MLF 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
FinalVolume:	26	281	0	0	1223	704	619	0	97	0	0	0

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	3400	3400	3400	0	1700	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.02	0.06	0.00	0.00	0.36	0.21	0.18	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****			****			****					

Lanes, Volumes, Timings
7: Ortega Hwy. (SR74) & Cow Camp

2035NP AM Peak Hour
03/10/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖	↖	↖	↑↑↑	↑↑	↖↖
Traffic Volume (vph)	619	97	26	281	1223	704
Future Volume (vph)	619	97	26	281	1223	704
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0	300			300
Storage Lanes	1	1	1			2
Taper Length (ft)	150		150			
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	55	
Link Distance (ft)	2942			2088	2046	
Travel Time (s)	36.5			25.9	25.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	8.0	40.0	32.0	32.0
Total Split (%)	33.3%	33.3%	13.3%	66.7%	53.3%	53.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary













Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Ortega Hwy. (SR74) & Cow Camp



HCM 2010 Signalized Intersection Summary
7: Ortega Hwy. (SR74) & Cow Camp

2035NP AM Peak Hour
03/10/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	619	97	26	281	1223	704		
Future Volume (veh/h)	619	97	26	281	1223	704		
Number	7	14	5	2	6	16		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	619	97	26	281	1223	704		
Adj No. of Lanes	2	1	1	3	2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	761	350	42	3282	1965	1547		
Arrive On Green	0.22	0.22	0.02	0.65	0.56	0.56		
Sat Flow, veh/h	3442	1583	1774	5253	3632	2787		
Grp Volume(v), veh/h	619	97	26	281	1223	704		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1393		
Q Serve(g_s), s	10.2	3.0	0.9	1.2	14.1	9.0		
Cycle Q Clear(g_c), s	10.2	3.0	0.9	1.2	14.1	9.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	761	350	42	3282	1965	1547		
V/C Ratio(X)	0.81	0.28	0.63	0.09	0.62	0.45		
Avail Cap(c_a), veh/h	918	422	118	3282	1965	1547		
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	22.2	19.4	29.0	4.0	9.1	7.9		
Incr Delay (d2), s/veh	4.8	0.4	14.4	0.1	1.5	1.0		
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	2.9	0.6	0.6	7.2	3.6		
LnGrp Delay(d),s/veh	26.9	19.8	43.4	4.0	10.6	8.9		
LnGrp LOS	C	B	D	A	B	A		
Approach Vol, veh/h	716			307	1927			
Approach Delay, s/veh	26.0			7.4	10.0			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		5	6		
Phs Duration (G+Y+Rc), s	42.7		17.3		5.4	37.3		
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0		
Max Green Setting (Gmax), s	36.0		16.0		4.0	28.0		
Max Q Clear Time (g_c+I1), s	3.2		12.2		2.9	16.1		
Green Ext Time (p_c), s	16.8		1.0		0.0	8.7		
Intersection Summary								
HCM 2010 Ctrl Delay			13.6					
HCM 2010 LOS			B					

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) Without Project Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.865
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 70 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Ovl			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	3	0	1	1	0	3	0	2	2	0	1	1	0	2	0	1

Volume Module:

Base Vol:	520	1282	178	358	1165	488	454	948	548	53	367	149
Growth 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
Initial Bse:	520	1282	178	358	1165	488	454	948	548	53	367	149
User 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
PHF 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
PHF Volume:	520	1282	178	358	1165	488	454	948	548	53	367	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	520	1282	178	358	1165	488	454	948	548	53	367	149
PCE 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
MLF 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
FinalVolume:	520	1282	178	358	1165	488	454	948	548	53	367	149
OvlAdjVol:							34					

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.15	0.25	0.10	0.21	0.23	0.14	0.13	0.28	0.32	0.03	0.11	0.09
OvlAdjV/S:							0.01					
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

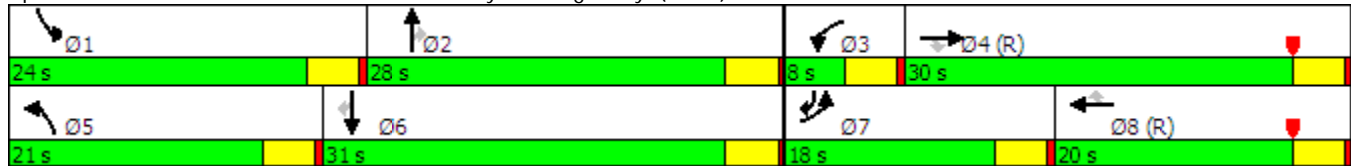
2035NP PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↑↑	↗	↔↔	↑↑↑	↗	↖	↑↑↑	↗↗
Traffic Volume (vph)	454	948	548	53	367	149	520	1282	178	358	1165	488
Future Volume (vph)	454	948	548	53	367	149	520	1282	178	358	1165	488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
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
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	18.0	30.0	30.0	8.0	20.0	20.0	21.0	28.0	28.0	24.0	31.0	18.0
Total Split (%)	20.0%	33.3%	33.3%	8.9%	22.2%	22.2%	23.3%	31.1%	31.1%	26.7%	34.4%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2035NP PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	948	548	53	367	149	520	1282	178	358	1165	488
Future Volume (veh/h)	454	948	548	53	367	149	520	1282	178	358	1165	488
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	473	988	571	55	382	155	542	1335	185	373	1214	508
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	535	1040	465	70	629	281	616	1356	422	394	1576	1297
Arrive On Green	0.16	0.29	0.29	0.04	0.18	0.18	0.18	0.27	0.27	0.22	0.31	0.31
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	473	988	571	55	382	155	542	1335	185	373	1214	508
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	12.1	24.6	26.4	2.8	9.0	8.0	13.8	23.5	8.7	18.6	19.5	10.7
Cycle Q Clear(g_c), s	12.1	24.6	26.4	2.8	9.0	8.0	13.8	23.5	8.7	18.6	19.5	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	535	1040	465	70	629	281	616	1356	422	394	1576	1297
V/C Ratio(X)	0.88	0.95	1.23	0.78	0.61	0.55	0.88	0.98	0.44	0.95	0.77	0.39
Avail Cap(c_a), veh/h	535	1040	465	79	629	281	650	1356	422	394	1576	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	31.1	31.8	42.8	34.1	33.7	36.0	32.8	27.4	34.5	28.1	15.7
Incr Delay (d2), s/veh	16.0	18.2	120.2	35.7	4.3	7.6	12.8	21.0	3.3	31.8	3.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	14.6	27.1	2.1	4.7	4.1	7.6	13.6	4.2	12.6	9.6	4.3
LnGrp Delay(d),s/veh	53.2	49.4	152.0	78.6	38.4	41.3	48.9	53.8	30.7	66.2	31.8	16.6
LnGrp LOS	D	D	F	E	D	D	D	D	C	E	C	B
Approach Vol, veh/h		2032			592			2062			2095	
Approach Delay, s/veh		79.1			42.9			50.4			34.3	
Approach LOS		E			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	28.0	7.6	30.4	20.1	31.9	18.0	20.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	20.0	24.0	4.0	26.0	17.0	27.0	14.0	16.0				
Max Q Clear Time (g_c+I1), s	20.6	25.5	4.8	28.4	15.8	21.5	14.1	11.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.3	5.2	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.4									
HCM 2010 LOS			D									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035NP PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	10	1	1550	260	1
Future Volume (vph)	24	10	1	1550	260	1
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	10	1	1550	260	1
Future Vol, veh/h	24	10	1	1550	260	1
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	10	1	1615	271	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1888	271	272	0	-
Stage 1	271	-	-	-	-
Stage 2	1617	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	77	768	1291	-	-
Stage 1	775	-	-	-	-
Stage 2	178	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	76	768	1291	-	-
Mov Cap-2 Maneuver	76	-	-	-	-
Stage 1	775	-	-	-	-
Stage 2	177	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	57.3	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1291	-	103	-	-
HCM Lane V/C Ratio	0.001	-	0.344	-	-
HCM Control Delay (s)	7.8	0	57.3	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035NP PM Peak Hour
 WITH IMPROVEMENTS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	10	1	1550	260	1
Future Volume (vph)	24	10	1	1550	260	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	10	1	1550	260	1
Future Vol, veh/h	24	10	1	1550	260	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	10	1	1615	271	1

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	1888	271	272	0
Stage 1	271	-	-	-
Stage 2	1617	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Pot Cap-1 Maneuver	77	768	1291	-
Stage 1	775	-	-	-
Stage 2	178	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	77	768	1291	-
Mov Cap-2 Maneuver	151	-	-	-
Stage 1	775	-	-	-
Stage 2	178	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1291	-	198	-	-
HCM Lane V/C Ratio	0.001	-	0.179	-	-
HCM Control Delay (s)	7.8	-	27.1	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2035NP PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	2	1	1	2	1	1	1530	1	1	290	9
Future Volume (vph)	1	2	1	1	2	1	1	1530	1	1	290	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	1	2	1	1	1530	1	1	290	9
Future Vol, veh/h	1	2	1	1	2	1	1	1530	1	1	290	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	1	1	2	1	1	1594	1	1	302	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1907	1906	307	1906	1910	1594	311	0	0	1595	0	0
Stage 1	309	309	-	1596	1596	-	-	-	-	-	-	-
Stage 2	1598	1597	-	310	314	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	52	69	733	52	68	132	1249	-	-	411	-	-
Stage 1	701	660	-	134	166	-	-	-	-	-	-	-
Stage 2	134	166	-	700	656	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	50	68	733	50	67	132	1249	-	-	411	-	-
Mov Cap-2 Maneuver	50	68	-	50	67	-	-	-	-	-	-	-
Stage 1	696	658	-	133	165	-	-	-	-	-	-	-
Stage 2	130	165	-	695	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	53.1	59.7	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1249	-	-	79	70	411	-	-
HCM Lane V/C Ratio	0.001	-	-	0.053	0.06	0.003	-	-
HCM Control Delay (s)	7.9	0	-	53.1	59.7	13.8	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

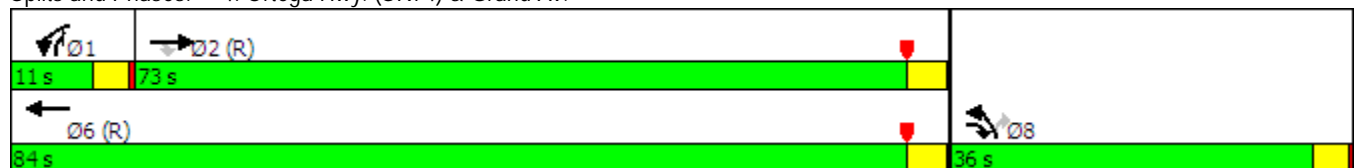
2035NP PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗↘	↙	↑	↗↘	↙
Traffic Volume (vph)	1219	272	75	1031	1060	528
Future Volume (vph)	1219	272	75	1031	1060	528
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	73.0	36.0	11.0	84.0	36.0	11.0
Total Split (%)	60.8%	30.0%	9.2%	70.0%	30.0%	9.2%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary







Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035NP PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	1219	272	75	1031	1060	528		
Future Volume (veh/h)	1219	272	75	1031	1060	528		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1283	286	79	1085	1116	556		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1080	2365	100	1242	926	515		
Arrive On Green	0.58	0.58	0.06	0.67	0.27	0.27		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	1283	286	79	1085	1116	556		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	69.5	2.1	5.3	55.8	32.3	32.3		
Cycle Q Clear(g_c), s	69.5	2.1	5.3	55.8	32.3	32.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1080	2365	100	1242	926	515		
V/C Ratio(X)	1.19	0.12	0.79	0.87	1.20	1.08		
Avail Cap(c_a), veh/h	1080	2365	108	1242	926	515		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	25.2	1.5	55.9	16.0	43.8	40.5		
Incr Delay (d2), s/veh	94.3	0.1	30.0	8.7	102.4	62.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	63.7	2.3	3.4	31.3	28.5	26.0		
LnGrp Delay(d),s/veh	119.5	1.6	85.9	24.7	146.2	103.1		
LnGrp LOS	F	A	F	C	F	F		
Approach Vol, veh/h	1569			1164	1672			
Approach Delay, s/veh	98.0			28.8	131.9			
Approach LOS	F			C	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.5	73.5				84.0		36.0
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	7.3	69.0				80.0		32.3
Max Q Clear Time (g_c+I1), s	7.3	71.5				57.8		34.3
Green Ext Time (p_c), s	0.0	0.0				21.4		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			92.6					
HCM 2010 LOS			F					

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2035NP PM Peak Hour
WITH IMPROVEMENTS

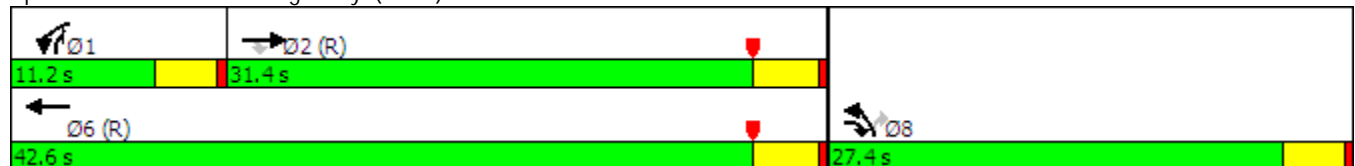


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↙	↑↑	↑↑	↙
Traffic Volume (vph)	1219	272	75	1031	1060	528
Future Volume (vph)	1219	272	75	1031	1060	528
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	31.4	27.4	11.2	42.6	27.4	11.2
Total Split (%)	44.9%	39.1%	16.0%	60.9%	39.1%	16.0%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035NP PM Peak Hour
WITH IMPROVEMENTS

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1219	272	75	1031	1060	528		
Future Volume (veh/h)	1219	272	75	1031	1060	528		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1283	286	79	1085	1116	556		
Adj No. of Lanes	2	2	1	2	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1562	2173	102	1952	1165	627		
Arrive On Green	0.44	0.44	0.06	0.55	0.34	0.34		
Sat Flow, veh/h	3632	2787	1774	3632	3442	1583		
Grp Volume(v), veh/h	1283	286	79	1085	1116	556		
Grp Sat Flow(s),veh/h/ln	1770	1393	1774	1770	1721	1583		
Q Serve(g_s), s	22.2	1.8	3.1	13.9	22.2	22.9		
Cycle Q Clear(g_c), s	22.2	1.8	3.1	13.9	22.2	22.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1562	2173	102	1952	1165	627		
V/C Ratio(X)	0.82	0.13	0.78	0.56	0.96	0.89		
Avail Cap(c_a), veh/h	1562	2173	190	1952	1165	627		
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	17.1	1.9	32.6	10.2	22.7	19.7		
Incr Delay (d2), s/veh	5.0	0.1	12.0	1.1	17.2	14.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.8	1.7	1.9	6.9	13.3	12.4		
LnGrp Delay(d),s/veh	22.1	2.0	44.5	11.3	39.8	34.2		
LnGrp LOS	C	A	D	B	D	C		
Approach Vol, veh/h	1569			1164	1672			
Approach Delay, s/veh	18.5			13.6	37.9			
Approach LOS	B			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.7	34.9				42.6		27.4
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	7.5	27.4				38.6		23.7
Max Q Clear Time (g_c+I1), s	5.1	24.2				15.9		24.9
Green Ext Time (p_c), s	0.0	3.1				20.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			24.6					
HCM 2010 LOS			C					

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) Without Project Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Ortega Hwy. (SR-74) (NS) / Cow Camp (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.627
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxxx
 Optimal Cycle: 44 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	0	0	2	0	0	0	1	0	0

Volume Module:

Base Vol:	100	1737	0	0	435	580	803	0	35	0	0	0
Growth 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
Initial Bse:	100	1737	0	0	435	580	803	0	35	0	0	0
User 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
PHF 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
PHF Volume:	100	1737	0	0	435	580	803	0	35	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	1737	0	0	435	580	803	0	35	0	0	0
PCE 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
MLF 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
FinalVolume:	100	1737	0	0	435	580	803	0	35	0	0	0

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	3400	3400	3400	0	1700	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.06	0.34	0.00	0.00	0.13	0.17	0.24	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
7: Ortega Hwy. (SR74) & Cow Camp

2035NP PM Peak Hour

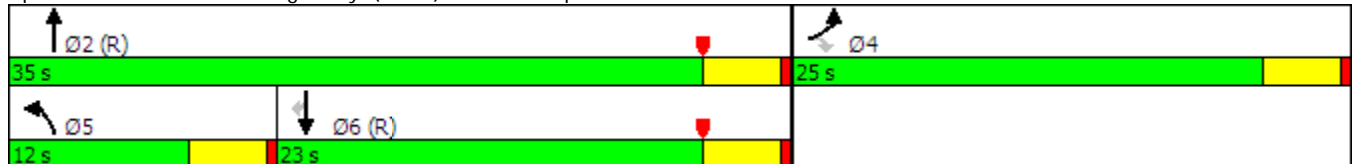


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↗	↖	↑↑↑	↑↑	↖↗
Traffic Volume (vph)	803	35	100	1737	435	580
Future Volume (vph)	803	35	100	1737	435	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0	300			300
Storage Lanes	1	1	1			2
Taper Length (ft)	150		150			
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	55	
Link Distance (ft)	2942			2088	2046	
Travel Time (s)	36.5			25.9	25.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	12.0	35.0	23.0	23.0
Total Split (%)	41.7%	41.7%	20.0%	58.3%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary


















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Ortega Hwy. (SR74) & Cow Camp



HCM 2010 Signalized Intersection Summary
7: Ortega Hwy. (SR74) & Cow Camp

2035NP PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			  	 	 		
Traffic Volume (veh/h)	803	35	100	1737	435	580		
Future Volume (veh/h)	803	35	100	1737	435	580		
Number	7	14	5	2	6	16		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	803	35	100	1737	435	580		
Adj No. of Lanes	2	1	1	3	2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	966	445	129	2979	1581	1245		
Arrive On Green	0.28	0.28	0.07	0.59	0.45	0.45		
Sat Flow, veh/h	3442	1583	1774	5253	3632	2787		
Grp Volume(v), veh/h	803	35	100	1737	435	580		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1393		
Q Serve(g_s), s	13.1	1.0	3.3	12.9	4.7	8.7		
Cycle Q Clear(g_c), s	13.1	1.0	3.3	12.9	4.7	8.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	966	445	129	2979	1581	1245		
V/C Ratio(X)	0.83	0.08	0.78	0.58	0.28	0.47		
Avail Cap(c_a), veh/h	1205	554	237	2979	1581	1245		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	20.2	15.9	27.3	7.8	10.5	11.6		
Incr Delay (d2), s/veh	4.1	0.1	9.6	0.8	0.4	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	6.8	1.0	2.0	6.2	2.3	3.5		
LnGrp Delay(d),s/veh	24.4	15.9	36.9	8.7	10.9	12.9		
LnGrp LOS	C	B	D	A	B	B		
Approach Vol, veh/h	838			1837	1015			
Approach Delay, s/veh	24.0			10.2	12.0			
Approach LOS	C			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		5	6		
Phs Duration (G+Y+Rc), s	39.2		20.8		8.4	30.8		
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0		
Max Green Setting (Gmax), s	31.0		21.0		8.0	19.0		
Max Q Clear Time (g_c+I1), s	14.9		15.1		5.3	10.7		
Green Ext Time (p_c), s	13.0		1.7		0.0	7.3		
Intersection Summary								
HCM 2010 Ctrl Delay			13.8					
HCM 2010 LOS			B					

APPENDIX 5.10:

2035 WITH PROJECT CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) With Project Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.918
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 99 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1	0	3	0	2	2	0	1

Volume Module:

Base Vol:	493	1361	62	160	1777	624	482	286	416	177	778	367
Growth 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
Initial Bse:	493	1361	62	160	1777	624	482	286	416	177	778	367
Added Vol:	0	0	0	0	0	0	0	5	0	0	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	493	1361	62	160	1777	624	482	291	416	177	792	367
User 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
PHF 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
PHF Volume:	493	1361	62	160	1777	624	482	291	416	177	792	367
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	493	1361	62	160	1777	624	482	291	416	177	792	367
PCE 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
MLF 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
FinalVolume:	493	1361	62	160	1777	624	482	291	416	177	792	367
OvlAdjVol:	142											

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.15	0.27	0.04	0.09	0.35	0.18	0.14	0.09	0.24	0.10	0.23	0.22
OvlAdjV/S:	0.04											
Crit Moves:	****			****			****			****		

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

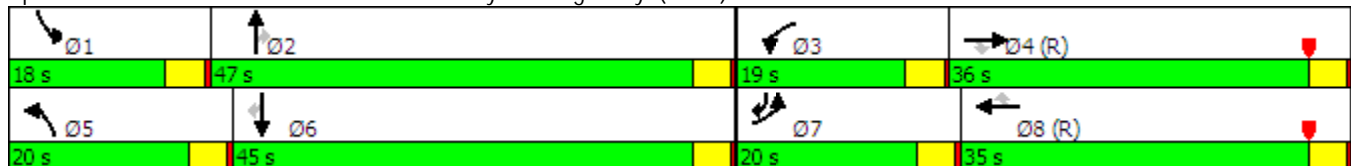
2035WP AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	482	291	416	177	792	367	493	1361	62	160	1777	624
Future Volume (vph)	482	291	416	177	792	367	493	1361	62	160	1777	624
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	20.0	36.0	36.0	19.0	35.0	35.0	20.0	47.0	47.0	18.0	45.0	20.0
Total Split (%)	16.7%	30.0%	30.0%	15.8%	29.2%	29.2%	16.7%	39.2%	39.2%	15.0%	37.5%	16.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2035WP AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	482	291	416	177	792	367	493	1361	62	160	1777	624
Future Volume (veh/h)	482	291	416	177	792	367	493	1361	62	160	1777	624
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	588	355	507	216	966	448	601	1660	76	195	2167	761
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	944	422	222	914	409	459	1822	567	207	1737	1324
Arrive On Green	0.13	0.27	0.27	0.13	0.26	0.26	0.13	0.36	0.36	0.12	0.34	0.34
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	588	355	507	216	966	448	601	1660	76	195	2167	761
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	16.0	9.8	32.0	14.6	31.0	31.0	16.0	37.3	3.9	13.1	41.0	23.7
Cycle Q Clear(g_c), s	16.0	9.8	32.0	14.6	31.0	31.0	16.0	37.3	3.9	13.1	41.0	23.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	944	422	222	914	409	459	1822	567	207	1737	1324
V/C Ratio(X)	1.28	0.38	1.20	0.97	1.06	1.10	1.31	0.91	0.13	0.94	1.25	0.57
Avail Cap(c_a), veh/h	459	944	422	222	914	409	459	1822	567	207	1737	1324
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	52.0	35.9	44.0	52.3	44.5	44.5	52.0	36.7	25.9	52.6	39.5	22.8
Incr Delay (d2), s/veh	142.5	1.1	111.1	52.9	45.9	72.7	154.3	8.4	0.5	46.3	116.2	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	4.9	27.0	10.4	20.9	21.8	17.4	18.8	1.8	9.1	37.8	9.4
LnGrp Delay(d),s/veh	194.5	37.0	155.1	105.2	90.4	117.2	206.3	45.0	26.4	98.9	155.7	24.6
LnGrp LOS	F	D	F	F	F	F	F	D	C	F	F	C
Approach Vol, veh/h		1450			1630			2337			3123	
Approach Delay, s/veh		142.2			99.7			85.9			120.2	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	47.0	19.0	36.0	20.0	45.0	20.0	35.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	14.0	43.0	15.0	32.0	16.0	41.0	16.0	31.0				
Max Q Clear Time (g_c+I1), s	15.1	39.3	16.6	34.0	18.0	43.0	18.0	33.0				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	110.6											
HCM 2010 LOS	F											

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035WP AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	28	14	222	768	16
Future Volume (vph)	22	28	14	222	768	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection							
Int Delay, s/veh	1.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Vol, veh/h	22	28	14	222	768	16	
Future Vol, veh/h	22	28	14	222	768	16	
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	87	87	87	87	87	87	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	25	32	16	255	883	18	

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1179	892	901	0	-	0
Stage 1	892	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	211	341	754	-	-	-
Stage 1	400	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	206	341	754	-	-	-
Mov Cap-2 Maneuver	206	-	-	-	-	-
Stage 1	400	-	-	-	-	-
Stage 2	743	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.3	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	754	-	265	-	-
HCM Lane V/C Ratio	0.021	-	0.217	-	-
HCM Control Delay (s)	9.9	0	22.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035WP AM Peak Hour
 WITH IMPROVEMENTS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	28	14	222	768	16
Future Volume (vph)	22	28	14	222	768	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	28	14	222	768	16
Future Vol, veh/h	22	28	14	222	768	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	32	16	255	883	18

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1179	892	901	0	- 0
Stage 1	892	-	-	-	- -
Stage 2	287	-	-	-	- -
Critical Hdwy	6.42	6.22	4.12	-	- -
Critical Hdwy Stg 1	5.42	-	-	-	- -
Critical Hdwy Stg 2	5.42	-	-	-	- -
Follow-up Hdwy	3.518	3.318	2.218	-	- -
Pot Cap-1 Maneuver	211	341	754	-	- -
Stage 1	400	-	-	-	- -
Stage 2	762	-	-	-	- -
Platoon blocked, %				-	- -
Mov Cap-1 Maneuver	207	341	754	-	- -
Mov Cap-2 Maneuver	319	-	-	-	- -
Stage 1	400	-	-	-	- -
Stage 2	746	-	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	754	-	331	-	-
HCM Lane V/C Ratio	0.021	-	0.174	-	-
HCM Control Delay (s)	9.9	-	18.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2035WP AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	2	1	1	2	1	1	294	1	1	842	1
Future Volume (vph)	1	2	1	1	2	1	1	294	1	1	842	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	1	2	1	1	294	1	1	842	1
Future Vol, veh/h	1	2	1	1	2	1	1	294	1	1	842	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	1	1	2	1	1	330	1	1	946	1
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1284	1283	947	1284	1282	331	947	0	0	331	0	0
Stage 1	949	949	-	333	333	-	-	-	-	-	-	-
Stage 2	335	334	-	951	949	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	142	165	317	142	165	711	725	-	-	1228	-	-
Stage 1	313	339	-	681	644	-	-	-	-	-	-	-
Stage 2	679	643	-	312	339	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	140	164	317	140	164	711	725	-	-	1228	-	-
Mov Cap-2 Maneuver	140	164	-	140	164	-	-	-	-	-	-	-
Stage 1	312	338	-	680	643	-	-	-	-	-	-	-
Stage 2	674	642	-	308	338	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	25.7			24.1			0			0		
HCM LOS	D			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	725	-	-	178	193	1228	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.025	0.023	0.001	-	-				
HCM Control Delay (s)	10	0	-	25.7	24.1	7.9	0	-				
HCM Lane LOS	A	A	-	D	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

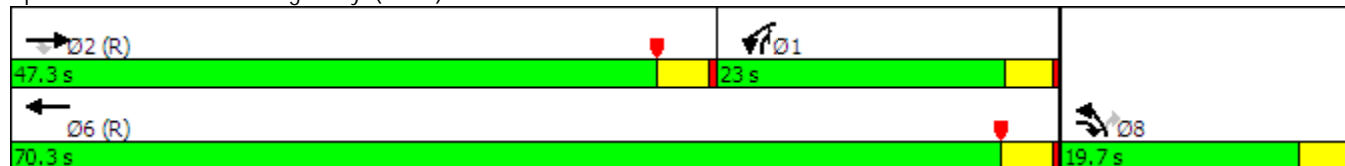
2035WP AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑↑	↙	↑	↑↑	↙
Traffic Volume (vph)	733	574	307	1146	372	91
Future Volume (vph)	733	574	307	1146	372	91
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	47.3	19.7	23.0	70.3	19.7	23.0
Total Split (%)	52.6%	21.9%	25.6%	78.1%	21.9%	25.6%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035WP AM Peak Hour

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	733	574	307	1146	372	91		
Future Volume (veh/h)	733	574	307	1146	372	91		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	797	624	334	1246	404	99		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	896	1742	434	1435	496	616		
Arrive On Green	0.48	0.48	0.24	0.77	0.14	0.14		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	797	624	334	1246	404	99		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	34.9	9.7	15.8	41.7	10.2	0.0		
Cycle Q Clear(g_c), s	34.9	9.7	15.8	41.7	10.2	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	896	1742	434	1435	496	616		
V/C Ratio(X)	0.89	0.36	0.77	0.87	0.81	0.16		
Avail Cap(c_a), veh/h	896	1742	434	1435	612	669		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.2	8.1	31.6	7.2	37.4	17.9		
Incr Delay (d2), s/veh	12.8	0.6	8.2	7.4	6.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	20.9	5.3	8.7	23.7	5.4	1.6		
LnGrp Delay(d),s/veh	34.0	8.7	39.8	14.5	44.2	18.0		
LnGrp LOS	C	A	D	B	D	B		
Approach Vol, veh/h	1421			1580	503			
Approach Delay, s/veh	22.9			19.9	39.1			
Approach LOS	C			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	26.0	47.3				73.3		16.7
Change Period (Y+Rc), s	4.0	* 4				4.0		3.7
Max Green Setting (Gmax), s	19.3	* 43				66.3		16.0
Max Q Clear Time (g_c+I1), s	17.8	36.9				43.7		12.2
Green Ext Time (p_c), s	1.3	4.9				17.0		0.7
Intersection Summary								
HCM 2010 Ctrl Delay			23.9					
HCM 2010 LOS			C					
Notes								

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2035WP AM Peak Hour
WITH IMPROVEMENTS



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	733	574	307	1146	372	91
Future Volume (vph)	733	574	307	1146	372	91
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	21.3	19.7	19.0	40.3	19.7	19.0
Total Split (%)	35.5%	32.8%	31.7%	67.2%	32.8%	31.7%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035WP AM Peak Hour
WITH IMPROVEMENTS

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	733	574	307	1146	372	91		
Future Volume (veh/h)	733	574	307	1146	372	91		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	797	624	334	1246	404	99		
Adj No. of Lanes	2	2	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1020	1259	626	2506	563	818		
Arrive On Green	0.29	0.29	0.35	0.71	0.16	0.16		
Sat Flow, veh/h	3632	2787	1774	3632	3442	1583		
Grp Volume(v), veh/h	797	624	334	1246	404	99		
Grp Sat Flow(s),veh/h/ln	1770	1393	1774	1770	1721	1583		
Q Serve(g_s), s	12.4	9.5	9.0	9.5	6.7	0.0		
Cycle Q Clear(g_c), s	12.4	9.5	9.0	9.5	6.7	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1020	1259	626	2506	563	818		
V/C Ratio(X)	0.78	0.50	0.53	0.50	0.72	0.12		
Avail Cap(c_a), veh/h	1020	1259	626	2506	918	981		
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	19.6	11.6	15.5	3.9	23.8	7.5		
Incr Delay (d2), s/veh	5.9	1.4	0.9	0.7	1.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.8	4.9	4.5	4.7	3.3	0.8		
LnGrp Delay(d),s/veh	25.5	13.0	16.3	4.7	25.5	7.5		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	1421			1580	503			
Approach Delay, s/veh	20.0			7.1	22.0			
Approach LOS	C			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	25.2	21.3				46.5		13.5
Change Period (Y+Rc), s	4.0	* 4				4.0		3.7
Max Green Setting (Gmax), s	15.3	* 17				36.3		16.0
Max Q Clear Time (g_c+I1), s	11.0	14.4				11.5		8.7
Green Ext Time (p_c), s	3.6	2.3				15.0		1.1
Intersection Summary								
HCM 2010 Ctrl Delay			14.5					
HCM 2010 LOS			B					
Notes								

Lanes, Volumes, Timings
 5: South Dwy. & Long Canyon Rd.

2035WP AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Volume (vph)	26	0	8	22	0	24
Future Volume (vph)	26	0	8	22	0	24
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	179			346	515	
Travel Time (s)	4.1			7.9	11.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	26	0	8	22	0	24
Future Vol, veh/h	26	0	8	22	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	0	8	22	0	24

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	26	64
Stage 1	-	-	26
Stage 2	-	-	38
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1588	942
Stage 1	-	0	997
Stage 2	-	0	984
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1588	937
Mov Cap-2 Maneuver	-	-	937
Stage 1	-	-	997
Stage 2	-	-	979

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1050	-	1588	-
HCM Lane V/C Ratio	0.023	-	0.005	-
HCM Control Delay (s)	8.5	-	7.3	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0	-

Lanes, Volumes, Timings
 6: Long Canyon Rd. & North Dwy.

2035WP AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	10	15	7	16	0
Future Volume (vph)	0	10	15	7	16	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30	30		30	
Link Distance (ft)		567	440		640	
Travel Time (s)		12.9	10.0		14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	10	15	7	16	0
Future Vol, veh/h	0	10	15	7	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	15	7	16	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	22	0	29
Stage 1	-	-	19
Stage 2	-	-	10
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1593	-	986
Stage 1	-	-	1004
Stage 2	-	-	1013
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1593	-	986
Mov Cap-2 Maneuver	-	-	986
Stage 1	-	-	1004
Stage 2	-	-	1013

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	986
HCM Lane V/C Ratio	-	-	-	-	0.016
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) With Project Conditions
 AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #7 Ortega Hwy. (SR-74) (NS) / Cow Camp (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.613
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 30 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	0	0	2	2	0	0	0	0	0

-----|-----|-----|-----|-----|

Volume Module:

Base Vol:	26	281	0	0	1223	704	619	0	97	0	0	0
Growth 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
Initial Bse:	26	281	0	0	1223	704	619	0	97	0	0	0
Added Vol:	0	5	0	0	14	12	5	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	286	0	0	1237	716	624	0	97	0	0	0
User 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
PHF 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
PHF Volume:	26	286	0	0	1237	716	624	0	97	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	286	0	0	1237	716	624	0	97	0	0	0
PCE 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
MLF 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
FinalVolume:	26	286	0	0	1237	716	624	0	97	0	0	0

-----|-----|-----|-----|-----|

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	3400	3400	3400	0	1700	0	0	0

-----|-----|-----|-----|-----|

Capacity Analysis Module:

Vol/Sat:	0.02	0.06	0.00	0.00	0.36	0.21	0.18	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****		****					

Lanes, Volumes, Timings
7: Ortega Hwy. (SR74) & Cow Camp

2035WP AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖	↖	↖	↑↑↑	↑↑	↖↖
Traffic Volume (vph)	624	97	26	286	1237	716
Future Volume (vph)	624	97	26	286	1237	716
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0	300			300
Storage Lanes	1	1	1			2
Taper Length (ft)	150		150			
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	55	
Link Distance (ft)	2942			2088	2046	
Travel Time (s)	36.5			25.9	25.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	8.0	40.0	32.0	32.0
Total Split (%)	33.3%	33.3%	13.3%	66.7%	53.3%	53.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary


















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Ortega Hwy. (SR74) & Cow Camp



HCM 2010 Signalized Intersection Summary
7: Ortega Hwy. (SR74) & Cow Camp

2035WP AM Peak Hour

									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	 			  	 	 			
Traffic Volume (veh/h)	624	97	26	286	1237	716			
Future Volume (veh/h)	624	97	26	286	1237	716			
Number	7	14	5	2	6	16			
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			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	624	97	26	286	1237	716			
Adj No. of Lanes	2	1	1	3	2	2			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2			
Cap, veh/h	766	352	42	3276	1961	1544			
Arrive On Green	0.22	0.22	0.02	0.64	0.55	0.55			
Sat Flow, veh/h	3442	1583	1774	5253	3632	2787			
Grp Volume(v), veh/h	624	97	26	286	1237	716			
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1393			
Q Serve(g_s), s	10.3	3.0	0.9	1.3	14.4	9.3			
Cycle Q Clear(g_c), s	10.3	3.0	0.9	1.3	14.4	9.3			
Prop In Lane	1.00	1.00	1.00			1.00			
Lane Grp Cap(c), veh/h	766	352	42	3276	1961	1544			
V/C Ratio(X)	0.81	0.28	0.63	0.09	0.63	0.46			
Avail Cap(c_a), veh/h	918	422	118	3276	1961	1544			
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	22.2	19.3	29.0	4.0	9.2	8.0			
Incr Delay (d2), s/veh	4.9	0.4	14.4	0.1	1.6	1.0			
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	2.9	0.6	0.6	7.3	3.7			
LnGrp Delay(d),s/veh	27.0	19.7	43.4	4.1	10.7	9.0			
LnGrp LOS	C	B	D	A	B	A			
Approach Vol, veh/h	721			312	1953				
Approach Delay, s/veh	26.0			7.4	10.1				
Approach LOS	C			A	B				
Timer	1	2	3	4	5	6	7	8	
Assigned Phs	2		4		5	6			
Phs Duration (G+Y+Rc), s	42.7		17.3		5.4	37.2			
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0			
Max Green Setting (Gmax), s	36.0		16.0		4.0	28.0			
Max Q Clear Time (g_c+I1), s	3.3		12.3		2.9	16.4			
Green Ext Time (p_c), s	17.1		1.0		0.0	8.6			
Intersection Summary									
HCM 2010 Ctrl Delay			13.7						
HCM 2010 LOS			B						

Lanes, Volumes, Timings
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

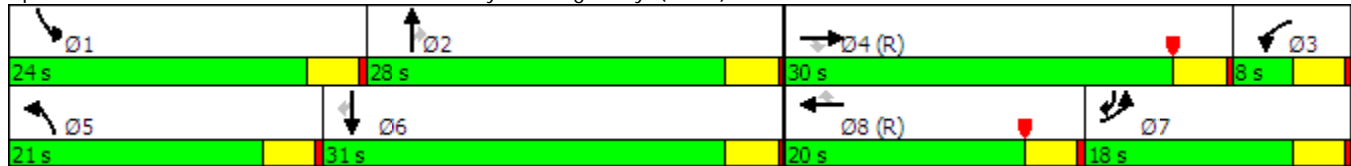
2035WP PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	964	548	53	377	149	520	1282	178	358	1165	488
Future Volume (vph)	454	964	548	53	377	149	520	1282	178	358	1165	488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	585		360	315		265	240		400	345		345
Storage Lanes	2		1	1		1	2		1	1		2
Taper Length (ft)	125			90			120			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		943			1205			547			1013	
Travel Time (s)		14.3			14.9			8.3			15.3	
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
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
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	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0
Total Split (s)	18.0	30.0	30.0	8.0	20.0	20.0	21.0	28.0	28.0	24.0	31.0	18.0
Total Split (%)	20.0%	33.3%	33.3%	8.9%	22.2%	22.2%	23.3%	31.1%	31.1%	26.7%	34.4%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)



The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) With Project Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Antonio Pkwy. (NS) / Ortega Hwy. (SR-74) (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.865
 Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 70 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1	0	3	0	2	2	0	1

Volume Module:

Base Vol:	520	1282	178	358	1165	488	454	948	548	53	367	149
Growth 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
Initial Bse:	520	1282	178	358	1165	488	454	948	548	53	367	149
Added Vol:	0	0	0	0	0	0	0	16	0	0	10	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	520	1282	178	358	1165	488	454	964	548	53	377	149
User 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
PHF 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
PHF Volume:	520	1282	178	358	1165	488	454	964	548	53	377	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	520	1282	178	358	1165	488	454	964	548	53	377	149
PCE 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
MLF 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
FinalVolume:	520	1282	178	358	1165	488	454	964	548	53	377	149
OvlAdjVol:	34											

Saturation Flow Module:

























Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	1700	5100	3400	3400	3400	1700	1700	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.15	0.25	0.10	0.21	0.23	0.14	0.13	0.28	0.32	0.03	0.11	0.09
OvlAdjV/S:						0.01						
Crit Moves:	****			****			****			****		

HCM 2010 Signalized Intersection Summary
 1: La Pata Av.-Antonio Pkwy. & Ortega Hwy. (SR74)

2035WP PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	964	548	53	377	149	520	1282	178	358	1165	488
Future Volume (veh/h)	454	964	548	53	377	149	520	1282	178	358	1165	488
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	473	1004	571	55	393	155	542	1335	185	373	1214	508
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	1	3	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	535	1022	457	79	629	281	616	1356	422	394	1576	1297
Arrive On Green	0.16	0.29	0.29	0.04	0.18	0.18	0.18	0.27	0.27	0.22	0.31	0.31
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	5085	1583	1774	5085	2787
Grp Volume(v), veh/h	473	1004	571	55	393	155	542	1335	185	373	1214	508
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1695	1583	1774	1695	1393
Q Serve(g_s), s	12.1	25.3	16.2	2.8	9.2	5.0	13.8	23.5	7.1	18.6	19.5	4.5
Cycle Q Clear(g_c), s	12.1	25.3	16.2	2.8	9.2	5.0	13.8	23.5	7.1	18.6	19.5	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	535	1022	457	79	629	281	616	1356	422	394	1576	1297
V/C Ratio(X)	0.88	0.98	1.25	0.70	0.62	0.55	0.88	0.98	0.44	0.95	0.77	0.39
Avail Cap(c_a), veh/h	535	1022	457	79	629	281	650	1356	422	394	1576	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	31.8	12.4	42.4	34.2	13.0	36.0	32.8	18.3	34.5	28.1	5.5
Incr Delay (d2), s/veh	16.0	24.1	128.9	23.6	4.6	7.6	12.8	21.0	3.3	31.8	3.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	15.7	23.4	1.9	4.9	2.7	7.6	13.6	3.5	12.6	9.6	1.9
LnGrp Delay(d),s/veh	53.2	55.9	141.3	66.0	38.9	20.6	48.9	53.8	21.6	66.2	31.8	6.4
LnGrp LOS	D	E	F	E	D	C	D	D	C	E	C	A
Approach Vol, veh/h		2048			603			2062			2095	
Approach Delay, s/veh		79.1			36.6			49.6			31.8	
Approach LOS		E			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	28.0	8.0	30.0	20.1	31.9	18.0	20.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	20.0	24.0	4.0	26.0	17.0	27.0	14.0	16.0				
Max Q Clear Time (g_c+I1), s	20.6	25.5	4.8	27.3	15.8	21.5	14.1	11.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.3	5.2	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			51.8									
HCM 2010 LOS			D									

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035WP PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	28	30	1550	260	17
Future Volume (vph)	34	28	30	1550	260	17
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	28	30	1550	260	17
Future Vol, veh/h	34	28	30	1550	260	17
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	29	31	1615	271	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1957	280	289	0	0
Stage 1	280	-	-	-	-
Stage 2	1677	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	70	759	1273	-	-
Stage 1	767	-	-	-	-
Stage 2	167	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	53	759	1273	-	-
Mov Cap-2 Maneuver	53	-	-	-	-
Stage 1	767	-	-	-	-
Stage 2	128	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	109.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1273	-	91	-	-
HCM Lane V/C Ratio	0.025	-	0.71	-	-
HCM Control Delay (s)	7.9	0	109.2	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.5	-	-

Lanes, Volumes, Timings
 2: Ortega Hwy. (SR74) & Long Canyon Rd.

2035WP PM Peak Hour
 WITH IMPROVEMENTS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	28	30	1550	260	17
Future Volume (vph)	34	28	30	1550	260	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		60			
Link Speed (mph)	30			30	30	
Link Distance (ft)	631			780	1046	
Travel Time (s)	14.3			17.7	23.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	W	W	
Traffic Vol, veh/h	34	28	30	1550	260	17
Future Vol, veh/h	34	28	30	1550	260	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	29	31	1615	271	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1957	280	289	0	0
Stage 1	280	-	-	-	-
Stage 2	1677	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	70	759	1273	-	-
Stage 1	767	-	-	-	-
Stage 2	167	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	68	759	1273	-	-
Mov Cap-2 Maneuver	138	-	-	-	-
Stage 1	767	-	-	-	-
Stage 2	163	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.2	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1273	-	219	-	-
HCM Lane V/C Ratio	0.025	-	0.295	-	-
HCM Control Delay (s)	7.9	-	28.2	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Lanes, Volumes, Timings
 3: Ortega Hwy. (SR74) & Monte Vista St.

2035WP PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	2	1	1	2	1	1	1540	1	1	306	9
Future Volume (vph)	1	2	1	1	2	1	1	1540	1	1	306	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			450			1075			916	
Travel Time (s)		8.5			10.2			24.4			20.8	
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
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	1	2	1	1	1540	1	1	306	9
Future Vol, veh/h	1	2	1	1	2	1	1	1540	1	1	306	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	1	1	2	1	1	1604	1	1	319	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1934	1933	323	1934	1937	1605	328	0	0	1605	0	0
Stage 1	326	326	-	1607	1607	-	-	-	-	-	-	-
Stage 2	1608	1607	-	327	330	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	50	66	718	50	66	130	1232	-	-	407	-	-
Stage 1	687	648	-	132	164	-	-	-	-	-	-	-
Stage 2	132	164	-	686	646	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	48	65	718	48	65	130	1232	-	-	407	-	-
Mov Cap-2 Maneuver	48	65	-	48	65	-	-	-	-	-	-	-
Stage 1	682	646	-	131	163	-	-	-	-	-	-	-
Stage 2	128	163	-	681	644	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	55.8	62.3	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1232	-	-	75	67	407	-
HCM Lane V/C Ratio	0.001	-	-	0.056	0.062	0.003	-
HCM Control Delay (s)	7.9	0	-	55.8	62.3	13.9	0
HCM Lane LOS	A	A	-	F	F	B	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2035WP PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗↘	↙	↑	↗↘	↙
Traffic Volume (vph)	1219	281	80	1031	1066	531
Future Volume (vph)	1219	281	80	1031	1066	531
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	72.0	36.0	12.0	84.0	36.0	12.0
Total Split (%)	60.0%	30.0%	10.0%	70.0%	30.0%	10.0%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035WP PM Peak Hour

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↑↑	↑	↑	↑↑	↑		
Traffic Volume (veh/h)	1219	281	80	1031	1066	531		
Future Volume (veh/h)	1219	281	80	1031	1066	531		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1283	296	84	1085	1122	559		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1073	2356	106	1242	926	521		
Arrive On Green	0.58	0.58	0.06	0.67	0.27	0.27		
Sat Flow, veh/h	1863	2787	1774	1863	3442	1583		
Grp Volume(v), veh/h	1283	296	84	1085	1122	559		
Grp Sat Flow(s),veh/h/ln	1863	1393	1774	1863	1721	1583		
Q Serve(g_s), s	69.1	2.2	5.6	55.8	32.3	32.3		
Cycle Q Clear(g_c), s	69.1	2.2	5.6	55.8	32.3	32.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1073	2356	106	1242	926	521		
V/C Ratio(X)	1.20	0.13	0.79	0.87	1.21	1.07		
Avail Cap(c_a), veh/h	1073	2356	123	1242	926	521		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	25.4	1.6	55.7	16.0	43.8	40.3		
Incr Delay (d2), s/veh	97.2	0.1	25.9	8.7	105.1	60.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	64.2	2.3	3.5	31.3	28.8	25.9		
LnGrp Delay(d),s/veh	122.6	1.7	81.6	24.7	149.0	101.0		
LnGrp LOS	F	A	F	C	F	F		
Approach Vol, veh/h	1579			1169	1681			
Approach Delay, s/veh	100.0			28.8	133.0			
Approach LOS	F			C	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.9	73.1				84.0		36.0
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	8.3	68.0				80.0		32.3
Max Q Clear Time (g_c+I1), s	7.6	71.1				57.8		34.3
Green Ext Time (p_c), s	0.0	0.0				21.4		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			93.7					
HCM 2010 LOS			F					

Lanes, Volumes, Timings
4: Ortega Hwy. (SR74) & Grand Av.

2035WP PM Peak Hour
WITH IMPROVEMENTS



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↙	↑↑	↑↑	↙
Traffic Volume (vph)	1219	281	80	1031	1066	531
Future Volume (vph)	1219	281	80	1031	1066	531
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		290	0		0	300
Storage Lanes		2	1		2	2
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	524			433	656	
Travel Time (s)	11.9			9.8	14.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	6.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	20.0	19.7	7.7	10.0	19.7	7.7
Total Split (s)	31.4	27.4	11.2	42.6	27.4	11.2
Total Split (%)	44.9%	39.1%	16.0%	60.9%	39.1%	16.0%
Yellow Time (s)	3.5	3.2	3.2	3.5	3.2	3.2
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	3.7	3.7	4.0	3.7	3.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Max	None	None	C-Max	None	None

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Ortega Hwy. (SR74) & Grand Av.



HCM 2010 Signalized Intersection Summary
4: Ortega Hwy. (SR74) & Grand Av.

2035WP PM Peak Hour
WITH IMPROVEMENTS

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1219	281	80	1031	1066	531		
Future Volume (veh/h)	1219	281	80	1031	1066	531		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1283	296	84	1085	1122	559		
Adj No. of Lanes	2	2	1	2	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1549	2163	108	1952	1165	633		
Arrive On Green	0.44	0.44	0.06	0.55	0.34	0.34		
Sat Flow, veh/h	3632	2787	1774	3632	3442	1583		
Grp Volume(v), veh/h	1283	296	84	1085	1122	559		
Grp Sat Flow(s),veh/h/ln	1770	1393	1774	1770	1721	1583		
Q Serve(g_s), s	22.4	1.9	3.3	13.9	22.4	22.9		
Cycle Q Clear(g_c), s	22.4	1.9	3.3	13.9	22.4	22.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1549	2163	108	1952	1165	633		
V/C Ratio(X)	0.83	0.14	0.78	0.56	0.96	0.88		
Avail Cap(c_a), veh/h	1549	2163	190	1952	1165	633		
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	17.4	2.0	32.4	10.2	22.7	19.5		
Incr Delay (d2), s/veh	5.2	0.1	11.3	1.1	18.1	14.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.0	1.8	1.9	6.9	13.5	12.4		
LnGrp Delay(d),s/veh	22.6	2.1	43.7	11.3	40.8	33.5		
LnGrp LOS	C	A	D	B	D	C		
Approach Vol, veh/h	1579			1169	1681			
Approach Delay, s/veh	18.8			13.6	38.4			
Approach LOS	B			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.0	34.6				42.6		27.4
Change Period (Y+Rc), s	3.7	4.0				4.0		3.7
Max Green Setting (Gmax), s	7.5	27.4				38.6		23.7
Max Q Clear Time (g_c+I1), s	5.3	24.4				15.9		24.9
Green Ext Time (p_c), s	0.0	2.9				20.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			24.9					
HCM 2010 LOS			C					

Lanes, Volumes, Timings
 5: South Dwy. & Long Canyon Rd.

2035WP PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	46	0	27	20	0	16
Future Volume (vph)	46	0	27	20	0	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	179			346	515	
Travel Time (s)	4.1			7.9	11.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	46	0	27	20	0	16
Future Vol, veh/h	46	0	27	20	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	0	27	20	0	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	46	120
Stage 1	-	-	46
Stage 2	-	-	74
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1562	876
Stage 1	-	0	976
Stage 2	-	0	949
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1562	861
Mov Cap-2 Maneuver	-	-	861
Stage 1	-	-	976
Stage 2	-	-	933

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1023	-	1562	-
HCM Lane V/C Ratio	0.016	-	0.017	-
HCM Control Delay (s)	8.6	-	7.3	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Lanes, Volumes, Timings
6: Long Canyon Rd. & North Dwy.

2035WP PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	34	2	18	12	0
Future Volume (vph)	0	34	2	18	12	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30	30		30	
Link Distance (ft)		567	440		640	
Travel Time (s)		12.9	10.0		14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	34	2	18	12	0
Future Vol, veh/h	0	34	2	18	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	2	18	12	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	20	0	45
Stage 1	-	-	11
Stage 2	-	-	34
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1596	-	965
Stage 1	-	-	1012
Stage 2	-	-	988
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1596	-	965
Mov Cap-2 Maneuver	-	-	965
Stage 1	-	-	1012
Stage 2	-	-	988

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	965
HCM Lane V/C Ratio	-	-	-	-	0.012
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

 The Preserve at San Juan Traffic Impact Analysis (JN:10784)
 Long-Range GPBO (2035) With Project Conditions
 PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #7 Ortega Hwy. (SR-74) (NS) / Cow Camp (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.634
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxxx
Optimal Cycle:	46	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	0	0	2	0	0	0	1	0	0

Volume Module:

Base Vol:	100	1737	0	0	435	580	803	0	35	0	0	0
Growth 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
Initial Bse:	100	1737	0	0	435	580	803	0	35	0	0	0
Added Vol:	0	16	0	0	10	8	14	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	1753	0	0	445	588	817	0	35	0	0	0
User 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
PHF 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
PHF Volume:	100	1753	0	0	445	588	817	0	35	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	1753	0	0	445	588	817	0	35	0	0	0
PCE 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
MLF 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
FinalVolume:	100	1753	0	0	445	588	817	0	35	0	0	0

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	3400	3400	3400	0	1700	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.06	0.34	0.00	0.00	0.13	0.17	0.24	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****			****								

Lanes, Volumes, Timings
7: Ortega Hwy. (SR74) & Cow Camp

2035WP PM Peak Hour

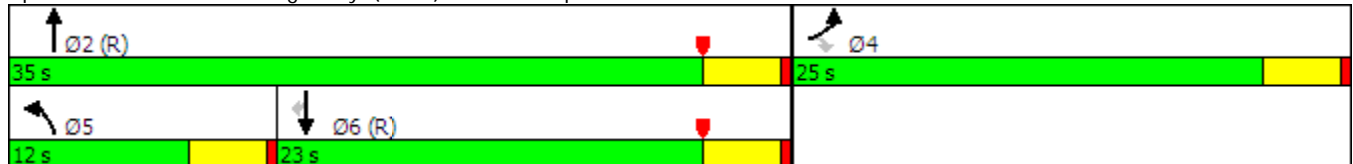


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↗	↖	↑↑↑	↑↑	↖↗
Traffic Volume (vph)	817	35	100	1753	445	588
Future Volume (vph)	817	35	100	1753	445	588
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0	300			300
Storage Lanes	1	1	1			2
Taper Length (ft)	150		150			
Right Turn on Red		Yes				Yes
Link Speed (mph)	55			55	55	
Link Distance (ft)	2942			2088	2046	
Travel Time (s)	36.5			25.9	25.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	12.0	35.0	23.0	23.0
Total Split (%)	41.7%	41.7%	20.0%	58.3%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary


















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Ortega Hwy. (SR74) & Cow Camp



HCM 2010 Signalized Intersection Summary
7: Ortega Hwy. (SR74) & Cow Camp

2035WP PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			  	 	 		
Traffic Volume (veh/h)	817	35	100	1753	445	588		
Future Volume (veh/h)	817	35	100	1753	445	588		
Number	7	14	5	2	6	16		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	817	35	100	1753	445	588		
Adj No. of Lanes	2	1	1	3	2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	979	450	129	2961	1568	1235		
Arrive On Green	0.28	0.28	0.07	0.58	0.44	0.44		
Sat Flow, veh/h	3442	1583	1774	5253	3632	2787		
Grp Volume(v), veh/h	817	35	100	1753	445	588		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1695	1770	1393		
Q Serve(g_s), s	13.4	1.0	3.3	13.2	4.8	8.9		
Cycle Q Clear(g_c), s	13.4	1.0	3.3	13.2	4.8	8.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	979	450	129	2961	1568	1235		
V/C Ratio(X)	0.83	0.08	0.78	0.59	0.28	0.48		
Avail Cap(c_a), veh/h	1205	554	237	2961	1568	1235		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	20.1	15.7	27.3	8.0	10.6	11.8		
Incr Delay (d2), s/veh	4.3	0.1	9.6	0.9	0.5	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	6.9	1.0	2.0	6.2	2.4	3.7		
LnGrp Delay(d),s/veh	24.5	15.8	36.9	8.9	11.1	13.1		
LnGrp LOS	C	B	D	A	B	B		
Approach Vol, veh/h	852			1853	1033			
Approach Delay, s/veh	24.1			10.4	12.2			
Approach LOS	C			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		5	6		
Phs Duration (G+Y+Rc), s	38.9		21.1		8.4	30.6		
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0		
Max Green Setting (Gmax), s	31.0		21.0		8.0	19.0		
Max Q Clear Time (g_c+I1), s	15.2		15.4		5.3	10.9		
Green Ext Time (p_c), s	12.9		1.7		0.0	7.1		
Intersection Summary								
HCM 2010 Ctrl Delay			14.0					
HCM 2010 LOS			B					

APPENDIX 6.1:

SOUTH COUNTY ROADWAY IMPROVEMENT PROGRAM (SCRIP)

This Page Intentionally Left Blank

South County Roadway Improvement Program
(SCRIP)

[Part I]

– County of Orange –

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION AND PROGRAM OVERVIEW	1
II. BACKGROUND/LEGAL AUTHORITY	2
III. AREA OF BENEFIT	2
IV. GOALS AND OBJECTIVES OF THE SCRIP	3
V. PROCEDURES AND PROTOCOLS	3
1. List of SCRIP Improvements	3
2. Cost of Improvements	4
3. Cost Share Methodology	4
4. Unit Cost Methodology/SCRIP Fees	4
5. Fee Application	5
6. Sources of Funds	5
7. Development and Traffic Monitoring Program.....	5
8. Improvement Phasing Plan.....	5
9. Alternative Improvements.....	5
10. Documentation	5
11. Development Agreements	6
12. SCRIP Fee Exemption	6
13. SCRIP Fee Credit.....	6
14. Adjustment of Improvement Costs and SCRIP Fees	7
15. Implementation Procedures.....	7
16. Fee reconciliation, appeal process.....	7
17. SCRIP Advisory Team.....	7

Definitions

List of Tables

- Table 1 – List and Description of SCRIP Improvements
- Table 2 – EDU Factors and SCRIP Fees for Ranch Plan
- Table 3 – Calculation of SCRIP Fees for Ranch Plan
- Table 4 – Improvement Phasing Plan

List of Figures

- Figure 1 – Area of Benefit
- Figure 2 – Locations of SCRIP Improvements

SOUTH COUNTY ROADWAY IMPROVEMENT PROGRAM (SCRIP) – PART I

I. INTRODUCTION AND PROGRAM OVERVIEW

The South County Roadway Improvement Program (SCRIP), establishes a comprehensive framework for implementing transportation improvements throughout an “area of benefit” in south Orange County, as defined below. The SCRIP will be adopted by the County concurrently with the approval of the General Plan Amendment/Zone Change (“GPA/ZC”) for that project proposed by Rancho Mission Viejo (RMV) and commonly referred to as the “Ranch Plan,” and will establish the basic procedural and administrative protocols for implementing the transportation improvement program outlined in the Ranch Plan EIR (EIR No. 589). Participation in the SCRIP will be a condition of approval for the Ranch Plan development. RMV also will enter into a development agreement (Ranch Plan Development Agreement) with the County that, among other things, will describe RMV’s further commitment to the SCRIP over and above its fair share obligations pursuant to the GPA/ZC conditions of approval. In the future, the scope of the SCRIP could be expanded to include transportation improvements beyond those to be implemented in conjunction with the Ranch Plan project.

The SCRIP includes a funding program that is intended to complement, not replace, existing road fee programs in the south Orange County area. These existing fee programs include the Major Thoroughfare and Bridge Fee Program for the San Joaquin Hills and Foothill/Eastern Transportation Corridors established by the Orange County Board of Supervisors in October 1984. That program, now implemented by the Transportation Corridor Agencies, establishes developer obligations for the financing of the Transportation Corridors and is separate from the SCRIP.

Local and Regional Improvements

The SCRIP identifies three categories of road system improvements for construction: (1) “local County improvements” (improvements to arterials, including intersections and widening) within the County’s jurisdiction, (2) “local City improvements” within one or more cities’ jurisdictions, and (3) “regional improvements” (improvements to state highway facilities). These improvements (collectively, the “SCRIP Improvements”) are identified in the SCRIP and will be implemented consistent with the Ranch Plan Improvement Phasing Plan (Table 4 attached) with the goal of maintaining specified LOS goals/conditions at certain identified locations significantly impacted by traffic from the Ranch Plan project and other projects.

SCRIP Part 1

The SCRIP will be adopted in two parts. Part 1, which is described herein and which is the subject of the County’s present action, sets forth the overall goals and objectives of the SCRIP, defines the area of benefit, and establishes the basic procedural and administrative protocols to be followed in carrying out the program. The adoption of Part 1 of the SCRIP by the County also provides a complete framework for (1) implementing the transportation improvement program outlined in the Ranch Plan EIR and Ranch Plan Development Agreement for local County improvements, and (2) funding and completing certain other local City and regional improvements that are to be funded whether or not the affected cities/agencies elect to participate in the SCRIP. This framework includes mechanisms for determining the amount and timing of payments of monies committed by the Ranch Plan, and the methods for applying these monies towards the specified improvements.

It should be noted that, for those improvements located outside the County's jurisdiction, implementation will be contingent on the County reaching agreement with the affected cities/agencies. Thus, all monies collected for their funding will be held by the County in a trust account until the affected city/cities and/or agency/agencies (as applicable) has/have entered into an agreement with the County regarding implementation of the improvement(s). If an agreement for any improvement has not been reached with the affected city/agency within 15 years of the effective date of the SCRIP, the County will thereafter endeavor to enter into an agreement with OCTA that will provide for the application of the monies collected for those improvements towards regional improvements within the Area of Benefit.

SCRIP Part 2

Part 2 of the SCRIP, when adopted, would complement Part 1 with regard to (1) the identified local City improvements that require the participation of the cities located within the Area of Benefit for their full funding and implementation (*i.e.*, improvements that require additional funding from public sources to supplement Ranch Plan funding), and (2) the identified regional improvements that require the participation of Caltrans and/or OCTA and/or the TCA and/or the cities for their full funding and implementation (*i.e.*, improvements that require additional funding from public sources to supplement Ranch Plan funding). The specific mechanisms for funding the unfunded portion of any of the local City or regional improvements would be articulated as part of SCRIP Part 2. The adoption of Part 2 of the SCRIP will therefore be contingent upon the cities and agencies, as applicable, agreeing to participate in the SCRIP and reaching agreement with them on any required supplemental inter-jurisdictional implementing procedures. Discussions with the cities and agencies regarding their potential participation in SCRIP are already underway and the County's goal is to be in a position for the Board of Supervisors, and the cities and agencies, to adopt Part 2 of the SCRIP within twelve (12) months following the adoption of SCRIP Part 1 and approval of the Ranch Plan GPA/ZC.

II. BACKGROUND/LEGAL AUTHORITY

California Constitution Article 11, Section 7 and Government Code Sections 50029 and 66484.3 permit the establishment of local ordinances to require payment of fees as a condition of approval of a final map or as a condition of issuing a building permit for purposes of defraying the actual or estimated costs of constructing bridges over waterways, railways, freeways and canyons, or constructing major thoroughfares.

Pursuant to the above provisions of the Government Code, the Board of Supervisors adopted Section 7-9-316 of the Orange County Codified Ordinances providing for the establishment of major thoroughfare and bridge construction fees to be paid by subdividers and building permit applicants in the County of Orange.

The SCRIP is being enacted pursuant to the above-described legal authority.

III. AREA OF BENEFIT

The area of benefit ("Area of Benefit") includes portions of the Cities of San Juan Capistrano, Mission Viejo, San Clemente and Laguna Niguel, plus certain developed and undeveloped unincorporated areas in south Orange County (see Figure 1 attached). Within this Area of Benefit, transportation improvements have been identified for all locations at which significant cumulative impacts were identified in the Ranch Plan EIR. The improvements and their locations are described in Table 1 (attached).

It is expected that, ultimately, the SCRIP Area of Benefit may be divided into zones, with one zone for each participating jurisdiction. Each zone will be expected to support the funding/implementation of local improvements within the zone, and to participate in the funding of regional improvements within the zone, pursuant to the SCRIP. It is anticipated that all affected jurisdictions within the Area of Benefit will adopt and participate in the program. With the adoption of Part 1, a zone for the County jurisdiction will be established. Other zones will be created with the adoption of Part 2.

IV. GOALS AND OBJECTIVES OF THE SCRIP

The following are the goals and objectives of the SCRIP:

- To secure full funding for circulation improvements identified in the SCRIP.
- To establish an improvement phasing plan that is consistent with the Ranch Plan development milestones.
- To implement transportation improvements in a timely manner with the goal of maintaining service goals/policies of the affected jurisdictions at the identified locations.
- To establish an equitable cost for equivalent units of development that is applied to development in the Area of Benefit.
- To establish a development and traffic monitoring program to allow the Ranch Plan EIR traffic assumptions to be tracked.
- To establish funding partnerships between affected jurisdictions and regional planning and funding agencies (OCTA, Caltrans, etc.) in order to finance and implement regional traffic improvements within the Area of Benefit.

In summary, the overall goal of the SCRIP is to implement identified transportation improvements in a coordinated and timely manner, anticipating and monitoring growth (through development monitoring procedures) so that the improvements are in place to serve the Ranch Plan and other development as it occurs. The SCRIP will thereby mitigate the future traffic impacts of the Ranch Plan and of other growth in the Area of Benefit.

V. PROCEDURES AND PROTOCOLS

The SCRIP includes a number of procedural and administrative actions and protocols that define the manner in which development will be monitored, and how associated transportation improvements will be identified and implemented. These can be summarized as follows: [Note: All of the following procedures and protocols are established as part of SCRIP Part 1 and are of general application for the entire SCRIP program (both Part 1 and Part 2), except as otherwise noted.]

1. **List of SCRIP Improvements.** The overall transportation improvement program will primarily consist of (a) the improvements comprising the cumulative mitigation measures set out in the Ranch Plan EIR (and formalized in the conditions of development approval for the Ranch Plan), (b) the public benefits set forth in Exhibit D to the Ranch Plan Development Agreement, and/or (c) those supplemental improvements proposed by the participants pursuant to the SCRIP. The list will include:

- Roadway Segments
- Intersections
- State Highway Facilities

The SCRIP Improvements are listed and described in Table 1. Their locations are shown in Figure 2. It should be understood that, in fully defining and implementing the SCRIP, the listed improvements may be refined/modified; for example, in response to jurisdictional requests, in accordance with the provisions regarding consideration of alternative improvements (see No. 9 below).

Also, upon request by a city, the County could consider declaring any local improvement in that city a "County facility." In that event, the County would have responsibility for the implementation of that improvement. The declaration of an improvement as a County facility would be contingent on (1) the County reaching a mutually agreeable arrangement with the city and (2) approval of the agreement by the Board of Supervisors and the applicable city council.

[Note: For any improvements that have not yet been included in CEQA documentation, the formal inclusion of said improvements in the SCRIP will be contingent on completing any required supplemental CEQA review and/or documentation. Furthermore, it is understood that additional environmental review and/or documentation may be required when the final design of improvements is completed.]

2. **Cost of Improvements.** Cost estimates will be prepared for the listed improvements, and will include all costs associated with implementing each improvement (including planning, environmental clearance, design, right-of-way acquisition and construction) plus 5 percent administration costs and a 10 percent cost contingency. Indexing will be applied to both the costs and the associated fees for funding the improvements, in accordance with No. 14 below.
3. **Cost Share Methodology.** The SCRIP will identify the cost shares for each of the circulation improvements in the SCRIP based on traffic share/use of said improvement. For local City and regional improvements, the shares will be refined based on agreements with the affected jurisdictions and/or agencies in consideration of established impact fees within their respective jurisdictions, transportation improvement programs in the affected jurisdictions, conditions of approval and/or development agreements for development projects in the affected jurisdictions, and other pertinent factors. For SCRIP Improvements that have been funded by other means (e.g., the regional STIP), the agreements reached with jurisdictions/agencies in conjunction with SCRIP Part 2 will consider to what extent the fair share fees for those improvements may be rolled over to other projects.
4. **Unit Cost Methodology/SCRIP Fees.** For SCRIP Part 1, the various land uses in the County zone of the Area of Benefit (single family dwelling, multi family dwelling, senior dwelling and non-residential uses) that are approved as part of the Ranch Plan GPA/ZC, are proposed to be reduced to equivalent dwelling units ("EDUs") and assigned relative values based on their traffic generation (see Table 2 for proposed EDU factors for each type of land use). The monies that have been committed to be paid by the Ranch Plan developers towards the SCRIP improvements have been divided by the total of EDUs within the County zone to determine the SCRIP fees ("SCRIP Fees") for each Ranch Plan EDU or fraction thereof (see Table 3).

The methodology for determining unit costs and SCRIP fees for other zones will be established as part of SCRIP Part 2, taking into account any established impact fees within the affected jurisdictions, conditions of approval and/or development agreements for development projects in the affected jurisdictions, and other pertinent factors. The methodology may or may not utilize the EDU concept.

In any event, in determining the cost of SCRIP improvements that are the responsibility of the participants within each zone, only the remaining net costs of the improvements (i.e., the shortfall after deducting any contributions made towards these improvements by the Ranch Plan developers) would be included.

5. **Fee Application.** SCRIP Fees are to be levied on “new development” only and are to be collected prior to issuance of any building permit for such development. (See definition of “new development” in definitions section below.) Existing development and tax exempt properties/users (see No. 12 below) will not be required to pay SCRIP Fees. SCRIP Fees will be applied consistent with the fee for the Area of Benefit zone in which the improvement is located.
6. **Sources of Funds.** SCRIP Fees paid at issuance of building permits will be the principal source of funds for the SCRIP Program. However, the Ranch Plan developers will be required to make an initial deposit of funds (amount and exact timing to be determined) to the SCRIP prior to the issuance of any building permit to facilitate implementation of SCRIP improvements if needed to comply with SCRIP goals and objectives. Other sources of funding may include local, state and federal funds. It is also anticipated that the road improvements could be partially funded through bond financing or other public financing which encumbers certain of the Ranch Plan properties.
7. **Development and Traffic Monitoring Program.** The County will utilize an Annual Monitoring Report (“AMR”) program to monitor development of the Ranch Plan (and other development subject to the SCRIP) and related traffic. (The “AMR” is defined in the definitions section below.)
8. **Improvement Phasing Plan.** An improvement phasing plan has been prepared to identify needed transportation improvements for anticipated Ranch Plan development (see Table 4). This improvement phasing plan has been prepared to be consistent with the Ranch Plan development milestones set forth in the Ranch Plan Development Agreement. The phasing plan will be updated to respond to information derived from the AMR and from agreements reached in conjunction with SCRIP Part 2, as well as to respond to significant developer-initiated changes in the Ranch Plan project phasing.
9. **Alternative Improvements.** The County may consider the implementation of alternative improvements, either on its own recommendation or upon a request by a jurisdiction/agency. Prior to approving any such alternative improvement, the County will consider whether (a) the jurisdiction/agency cost share, and obligation of SCRIP to fund, the alternative improvement is consistent with the cost share and funding obligation for the original improvement, and (b) whether the alternative improvement will provide an equivalent level of mitigation. If approved, the rationale for funding/implementing the alternative improvement will be memorialized in a written document.
10. **Documentation.** The SCRIP administrator (See No. 15 below) will prepare an annual written report, available to all participants. The documentation will report on development

milestones achieved, describe the phasing steps yet to be accomplished and will provide the supporting technical material for updates to the phasing program. The information/documentation will guide administrative actions, such as the issuance of building permits, and the timing of the steps involved in implementing improvements (planning, environmental clearance, design, right-of-way acquisition and construction).

- 11. Development Agreements.** The County and Cities have adopted road fee programs and have entered into a number of development agreements that require developers to provide road improvements and participate in fee programs. The SCRIP does not supersede these programs or agreements; rather, it is intended to complement them. The applicability of, and means of application of, SCRIP to any development within areas covered by an approved development agreement (including the Ranch Plan Development Agreement) will be governed by the terms of that development agreement. In the event of any conflict between these provisions and the terms of the development agreement, the development agreement will prevail.
- 12. SCRIP Fee Exemption.** All tax exempt properties/uses shall be exempt from the payment of SCRIP Fees. The final determination of whether a property is exempt will be based upon verification of a property tax exemption for those specified categories on the latest Assessor's roll as defined for Orange County by the State of California.

The construction of government-owned facilities or utilities shall be exempt from payment of SCRIP Fees to the extent that the facilities will not be used for generating revenue or commercial purposes. Examples of exempt public uses are city halls, park buildings, and other similar public building uses. The construction of privately owned utilities will not be exempt from payment of SCRIP Fees.

- 13. SCRIP Fee Credit.** Development project proponents will be eligible to receive credit for (a) monies paid to SCRIP as a deposit in advance of the issuance of building permits (see No. 6 above), and (b) SCRIP improvements which they are required to construct pursuant to the provisions of development agreements, subdivision approvals or other discretionary permits/approvals. These credits ("SCRIP Fee Credits") may be used in lieu of the payment of SCRIP Fees in order to obtain building permits. SCRIP Fee Credits earned by a project proponent may be transferred to another landowner together with the transfer of land title. Otherwise, transfer of SCRIP Fee Credits will not be permitted.

The amount of any SCRIP Fee Credit will be fixed in a fee credit agreement and will be a credit towards the fee applicable at the time building permit(s) are issued for the subject EDU(s). With regard to credits for SCRIP improvements, no such credits will be granted unless the subject improvement is consistent with an approved SCRIP improvement. Furthermore, the amount of SCRIP Fee Credits available for SCRIP improvements will be based upon the costs included in the fee program or the actual costs of the improvement, whichever is less. Credit for the value of land dedicated by a developer for a SCRIP Improvement may be allowed to the extent the dedication is beyond the normal exaction associated with a subdivision approval.

SCRIP Fee Credits will also be given in the amount of any bond proceeds which have been received by the County (and allocated by the County) for the facilities covered by this SCRIP.

14. **Adjustment of Improvement Costs and SCRIP Fees.** The estimated costs of improvements and the SCRIP Fees will be automatically adjusted, periodically, based on the California Construction Cost Index (CCI Index) prepared and published by the State Department of Transportation. To the extent that such adjustments place a disproportionate burden on landowners or developers who are not limited by a maximum fee in a development agreement or vesting subdivision map, such adjustments may be appealed to the SCRIP administrator under the process outlined in No. 16 below.

Updated project cost estimates, substantial changes in General Plan elements, or other pertinent information which may also be cause for program and fee modification/adjustment will be presented to the Board of Supervisors for further action.

15. **Implementation Procedures.** The SCRIP will be administered by the Manager of Transportation Services, or other person designated by the Director RDMD. Following the adoption of SCRIP Part 2, the SCRIP administrator will consult with the SCRIP Advisory Team in implementing the SCRIP.
16. **Fee reconciliation, appeal process.** A fee reconciliation and appeal process is established as part of SCRIP. As part of that process, all disputes regarding the applicability of SCRIP Fees and/or SCRIP Fee Credits to specific projects, or the exemption of projects from SCRIP Fee requirements, will be presented to the Director of the Resource Development Management Department (“RDMD”), or his designee, for resolution. Following the adoption of SCRIP Part 2, the Director RDMD, or his designee, would consult with the SCRIP Advisory Team prior to rendering a decision on an appeal.
17. **SCRIP Advisory Team.** Following the adoption of Part 1 of the SCRIP, an Advisory Team consisting of one member each from the County of Orange, and each participating city and agency will be established to advise the County in SCRIP development, implementation and administration. The duties and responsibilities of the Advisory Team with regard to program monitoring, reporting, program costs and fees, etc., will be defined in Part 2 of SCRIP.

DEFINITIONS AND SPECIFICATIONS

The following are the key technical definitions and administrative specifications in the SCRIP.

Level of Service Goals. The level of service goals (*i.e.*, “performance criteria”) for local County and City facilities included in the SCRIP are those used by the respective jurisdictions in the study area. For regional/CMP facilities, the level of service goals are those prescribed in the CMP.

Annual Monitoring Report (AMR). The AMR program is the program outlined in General Provision 11 of the Ranch Plan Planned Community Program Text and in Section 7.9-103.2(a)(11) of the County Zoning Code.

New Development. Residential units that are to be newly constructed for the first time and that require a building permit will be assessed a flat fee for each such unit (regardless of size) on a one-time basis, according to their respective EDU factors. Non-residential construction that requires a building permit will be assessed a fee based on its gross square footage, in accordance with its EDU factor. Supplemental construction that increases the square footage of non-residential structures will be assessed an additional fee if required according to the applicable EDU factor.

Table 1 – List and Description of SCRIP Improvements

<u>IMPROVEMENT LOCATION/JURISDICTIONS</u>	<u>DESCRIPTION OF IMPROVEMENTS</u>
<u>Mission Viejo</u>	
I-5 – Saddleback Connector	Per Caltrans design plans/PSR
CVP/I-5 Bridge widening	Per Caltrans design plans/PSR
Oso/I-5 – Southbound Ramp	Per Caltrans design plans/PSR
Oso Pkwy Widening (I-5/Marguerite)	Add 4th lane in each direction
Oso/Felipe Intersection	Felipe Road: Southbound – add 2nd left turn lane
CVP/Marguerite Parkway Intersection	CVP-Westbound – Add 2nd left lane, 4th thru-lane & 1 right turn lane
<u>San Juan Capistrano</u>	
I-5/Ortega Interchange	Per Caltrans/City design plans/PSR
Ortega – Context sensitive design in City	Per Caltrans/City design plans/PSR
Rancho Viejo/Ortega Hwy. Intersection	Rancho Viejo Rd.-Northbound – add 2nd left turn lane
La Novia/Ortega Hwy. Intersection	Ortega – Add 2nd EB Left turn lane
Valle Rd/SJC Road Intersection	Per City nexus program
I-5/Junipero Sierra Road	Per Caltrans/City design plans/PSR
Camino Capistrano/Del Obipso	Per City nexus program
<u>San Clemente</u>	
I-5/SB Ramp @ Pico	Per Caltrans design plans PSR-SB off ramp restripe and Signal modification
Camino Vera Cruz/V. Hermosa Intersection	Vera Cruz – Add 2nd SB left lane
La Pata/V. Hermosa Intersection	La Pata – Add SB free right turn lane, Vista Hermosa/EB – Add 2nd & 3rd left turn lane
<u>Laguna Niguel</u>	
CVP/Railroad Bridge Improvement.	Per City Design
CVP/Forbes	Per City 'Gateway' Project conditions
CVP @ Cabot Road	Per City 'Gateway' Project conditions
CVP/I-5 Bridge widening	Per Caltrans design plans PSR
Avery/I-5 Interchange	Per Caltrans/City design plans/PSR
<u>County Of Orange</u>	
Oso Parkway Widening Meandering Trail to Solano	Add one lane (3rd lane) in each direction
La Pata construction & widening Ortega/Vista Hermosa	Add one lane from Ortega Hwy. to Landfill and 4 lanes from landfill to Calle Saluda
Antonio Parkway Widening – Ladera to Ortega Highway	Add one lane (3rd lane) in each direction and widen bridge
Antonio/Oso Intersection	Antonio – Add 4th SB through lane, add 3rd NB left land, Oso add 4th WB through lane
Antonio/La Pata/Ortega Intersection	Antonio – Add 2nd through lane & free right lane, La Pata Add 2nd NB left turn & 2nd through lane, Ortega – Add 2nd EB through lane
Antonio/CVP Intersection	CVP – Add 2nd EB right lane, Antonio-Add 3rd NB left lane

Table 2 – EDU Factors and SCRIP Fees for Ranch Plan

Proposed Land Use	EDU Factor ^{1/}	Fee Per Unit ^{2/}
Single-Family Detached	1.00	\$ 14,225.99
Single-Family Attached	0.80	\$ 11,380.79
Multi-Family Attached	0.70	\$ 9,958.20
Age-Restricted Detached	0.40	\$ 5,690.40
Age-Restricted Attached	0.30	\$ 4,267.80
Non-Residential ^{3/}	0.50	\$ 7,113.00

^{1/} To calculate the fees, the “equivalent dwelling unit” factor was used. An “equivalent dwelling unit” (EDU) is a unit of measure which expresses single-family, multi-family and non-residential development on a common trip generation basis.

^{2/} Fees are based on estimated contributions towards road improvement costs in the total amount of \$143,775,000 (see Table 3 for details regarding fee calculation). The fee for each unit of a proposed land use is the EDU Factor for that land use multiplied by the fee for a single-family detached unit.

^{3/} Each unit of non-residential is equal to 1,000 square feet of gross floor area.

Table 3 – Calculation of SCRIP Fee

Proposed Land Use	Total # of Units	EDU Factor Per Unit	Total EDU's	.85 EDU's ^{2/}	Adj # of Units ^{3/}	Fee Per Unit	Amount ^{4/}
Single-Family Detached	4400	1.00	4400	3740	3740	\$14,225.99	\$53,205,214
Single-Family Attached	2400	0.80	1920	1632	2040	\$11,380.79	\$23,216,821
Multi-Family Attached	1200	0.70	840	714	1020	\$9,958.20	\$10,157,359
Age-Restricted Detached	4300	0.40	1720	1462	3655	\$5,690.40	\$20,798,402
Age-Restricted Attached	1700	0.30	510	434	1445	\$4,267.80	\$6,166,968
Non Residential ^{1/}	5000	0.50	2500	2125	4250	\$7,113.00	\$30,230,236
	19000		11890	10107	16150		\$143,775,000

Estimated Total Contributions towards Road Improvement Costs: **\$143,775,000**

SCRIP Fee Per EDU^{5/} **\$14,225.99**

Notes:

- ^{1/} Each unit of non-residential is equal to 1,000 square feet of gross floor area.
- ^{2/} The above calculation of the SCRIP Fee is based on the obligation that requires the Ranch Plan contribution of \$143,775,000 to be fully paid by the time building permits for 85 percent of the Ranch Plan EDU's have been issued.
- ^{3/} For each land use, the adjusted # of units is equal to the total number of units multiplied by .85.
- ^{4/} Adjusted number of units multiplied by fee per unit of land use.
- ^{5/} Estimated total contribution of \$143,775,000 divided by a number equal to 85 percent of the Total EDUs.

Table 4 – Improvement Phasing Plan

Development Milestone	Circulation Improvements	Cost of Improvements Inc. Contingency (000's)	Engineering, Admin and Indirects (000's)	Project Fair Share (%)	Project Fair Share (000's)	Total Project Share (000's)	Other (Non-Project) Funding Req's (000's)	Jurisdictions
0 EDU - 1 EDU (Except for Model Homes)	Offer of Dedication of La Pata ROW including Slopes (Width to be determined per Project Report)	(TBD)	(TBD)	100%				County
	Allocate Funds for Local Improvements in the City of Mission Viejo	\$17,624 See Note 1	(INC)			\$2,000	\$4,350 See Note 2	City of Mission Viejo
	Fund Preliminary Designs, Env. Studies for Select Projects (25% of Admin/Contingency Amount)		\$12,200	0%	0	\$5,320	\$6,880	All
	Oso Parkway Widening in Unincorporated County (e/o Las Flores)	\$2,500	(INC)	50%	\$1,250	\$1,250	\$1,250	County
1 EDU - 1000 EDU	Pico/I-5 Interchange Improvements (See Note 3).	\$4,082	See Note 4	14%	\$571	\$571	\$3,511	Caltrans/San Clemente
	Reallocate Funds previously identified for I-5 SB Ramps @ Oso Parkway to Local Improvements in Mission Viejo	See Note 5		31%	\$4,126	\$3,068	See Note 5	City of Mission Viejo
	Widen Ortega Highway - Antonio Parkway to west of San Juan Creek (including bridge)	\$15,000	See Note 4	40%	\$6,000	\$6,000	\$9,000	Caltrans/County
	Crown Valley Parkway and Marguerite Parkway	See Note 6		19%	\$170	\$1,078	\$0	Mission Viejo
	Oso Parkway and Felipe	See Note 6		37%	\$324	\$1,750	\$0	Mission Viejo
	Flex Funds for Roadway Improvements (Part I)					\$5,000	(\$5,000)	
1001 EDU - 2500 EDU	I-5/Crown Valley Parkway (ramp improvements for SB off-ramp)	\$6,000	See Note 4	4%	\$240	\$240	\$5,760	Caltrans/Laguna Niguel
	Crown Valley Parkway/I-5 Bridge Widening	\$2,875	\$250	4%	\$109	\$109	\$3,016	Caltrans/Mission Viejo
	I-5/Ortega Highway Interchange	\$40,000	See Note 4	34%	\$13,600	\$13,600	\$26,400	Caltrans/SJC
	Allocate Funds for Local Improvements in the City of Mission Viejo	See Note 6				\$2,000	See Note 7	City of Mission Viejo

Development Milestone	Circulation Improvements	Cost of Improvements inc. Contingency (000's)	Engineering, Admin and Indirects (000's)	Project Fair Share (%)	Project Fair Share (000's)	Total Project Share (000's)	Other (Non-Project) Funding Req's (000's)	Jurisdictions	
	Flex Funds for Roadway Improvements (Part II)					\$3,000	(\$3,000)		
2501 EDU - 5000 EDU	La Pata Avenue - Phase 1 (Two Lane Ext. from Landfill s'ly to Vista Hermosa)	\$25,000	(INC)	21%	\$5,250	\$15,000	\$10,000	County/San Clemente	
	Avenida La Pata and Avenida Vista Hermosa	\$331	\$41	14%	\$52	\$372	\$0	San Clemente	
	Camino Vera Cruz and Avenida Vista Hermosa	\$833	\$104	7%	\$66	\$937	\$0	San Clemente	
	Ortega Highway and Rancho Viejo Road	\$830	\$104	40%	\$374	\$374	\$561	Caltrans/SJC	
	Ortega Highway and La Novia	\$491	\$61	45%	\$248	\$248	\$303	Caltrans/SJC	
	Camino Capistrano and Del Obispo	\$300	(INC)	18%	\$54	\$54	\$246	Caltrans/SJC	
	San Juan Creek Road and Valle Road	\$3,000	(INC)	10%	\$300	\$300	\$2,700	Caltrans/SJC	
	Ortega Highway 4-Lane Widening (Context Sensitive Design) in SJC	\$10,000	See Note 4	40%	\$4,000	\$4,000	\$6,000	Caltrans/SJC	
	Antonio Parkway and Oso Parkway	\$1,789	\$224	32%	\$644	\$1,349	\$664	County	
	Antonio Parkway and Crown Valley Parkway	\$404	\$51	30%	\$137	\$305	\$150	County	
	Antonio Parkway and Ortega Highway	\$557	\$70	48%	\$301	\$420	\$207	RMV/County	
	Avery Parkway Interchange	\$1,725	\$150	8%	\$152	\$152	\$1,723	Caltrans/LN/MV	
	Reallocate Funds previously identified for Park and Ride Facility to City of Mission Viejo Local Improvements	See Notes 6 and 8				\$600	\$600	See Note 7	City of Mission Viejo
	Fund Preliminary Designs, Env. Studies for Transportation Projects (25% of Admin/Contingency Amount)		\$12,200	0%	0	\$4,880	\$7,320	All	

Development Milestone	Circulation Improvements	Cost of Improvements inc. Contingency (000's)	Engineering, Admin and Indirects (000's)	Project Fair Share (%)	Project Fair Share (000's)	Total Project Share (000's)	Other (Non-Project) Funding Req's (000's)	Jurisdictions
5001 EDU - 7500 EDU	Allocate Funds for Local Improvements in the City of Mission Viejo	See Note 6				\$2,778	See Note 7	City of Mission Viejo
	Flex Funds for Roadway Improvements (Part III)					\$3,222	(\$3,222)	
	Reallocate Portion of Funds previously identified for Saddleback/I-5 Connectors to Regional Improvements Benefiting Mission Viejo	\$70,000	Note 2	10%	\$7,000	\$4,348 See Note 9	\$65,652	Caltrans/Mission Viejo
	Extend Cow Camp Road easterly to existing Ortega	\$48,000	(INC)	67%	\$32,160	\$32,160	\$15,840	TCA/RMV
	Antonio Parkway Widening	\$11,000	(INC)	67%	\$7,370	\$7,370	\$3,630	RMV/County
	Crown Valley Parkway and Cabot Road	\$2,699	\$235	4%	\$103	\$977	\$1,957	Laguna Niguel
	Crown Valley Parkway and Forbes	\$1,866	\$162	4%	\$71	\$676	\$1,353	Laguna Niguel
	Widen Railroad Bridge along Crown Valley Parkway	\$2,013	\$175	4%	\$77	\$728	\$1,459	Laguna Niguel
	Park and Ride Facility	\$1,200	(INC)	50%	\$600	\$600	\$600	Caltrans/RMV
	Reallocate Funds previously identified for Oso Parkway Widening in Mission Viejo - Marguerite to I-5	See Note 6		29%	\$2,741	See Note 10	See Note 7	Mission Viejo
7501 EDU - 10000 EDU	Allocate to Remaining Admin/Contingency		\$24,400	0%	\$0	\$2,000	\$22,400	All
	Flex Funds for Roadway Improvements					\$4,778	(\$4,778)	
	La Pata Avenue - Phase 2	\$25,000	(INC)	21%	\$5,250	\$10,000	\$15,000	County
	Road Improvements to Junipero Serra At I-5 Interchange	\$4,000	See Note 4	4%	\$160	\$160	\$3,840	Caltrans/SJC
	Ramp Improvements to SR 241	\$10	(N/A)	7%	\$1	\$1	\$9	TCA

Development Milestone	Circulation Improvements	Cost of Improvements inc. Contingency (000's)	Engineering, Admin and Indirects (000's)	Project Fair Share (%)	Project Fair Share (000's)	Total Project Share (000's)	Other (Non-Project) Funding Req's (000's)	Jurisdictions
	Extend FTC-South or Arterial Connector (Cow Camp Road to FTC at Oso) (Contingency Project)	(TBD)		(TBD)				County/TCA/RMV
	Totals	\$299,129	\$50,427		\$93,501	\$143,775	\$205,781	
	Grand Total		\$349,556					
	Contribution in Excess of Fair Share					\$50,274		

NOTES:

- 1 The cost of improvements shown here is an aggregate cost for all City of Mission Viejo Local Improvements as set forth in the Mission Viejo Settlement Agreement (Exhibit A – Table 1)
- 2 The amount shown here is an aggregate of currently available funds for Mission Viejo Local Improvements as set forth in the Mission Viejo Settlement Agreement (Exhibit A – Table 1)
- 3 This project is fully funded by OCTA/Caltrans. Project's Fair Share assumed to be available for reallocation to other State Highway projects
- 4 Caltrans Support Costs/Overhead (inc. design) is not included and is assumed to be the total responsibility of Caltrans as administrator of State Highway system
- 5 The I-5 SB Ramps at Oso Parkway improvements are fully funded by OCTA/Caltrans. The Total Project Share shown is allocated to Mission Viejo Local Improvements per the Mission Viejo Settlement Agreement.
- 6 The costs of improvements are included in the aggregate cost for all Mission Viejo Local Improvements. See Note 1.
- 7 Non-project funding requirements for Mission Viejo Local Improvements are shown as an aggregate amount. See Note 2.
- 8 Funding for the Park and Ride Facility will be provided at the 5001 EDU - 7500 EDU milestone.
- 9 Total Project Share is less than Project Fair Share due to reallocation of funding obligations pursuant to the Mission Viejo Settlement Agreement.
- 10 Funds for Oso Parkway Widening were included as part of another reallocation under an earlier milestone. Thus, no Total Project Share is shown here.

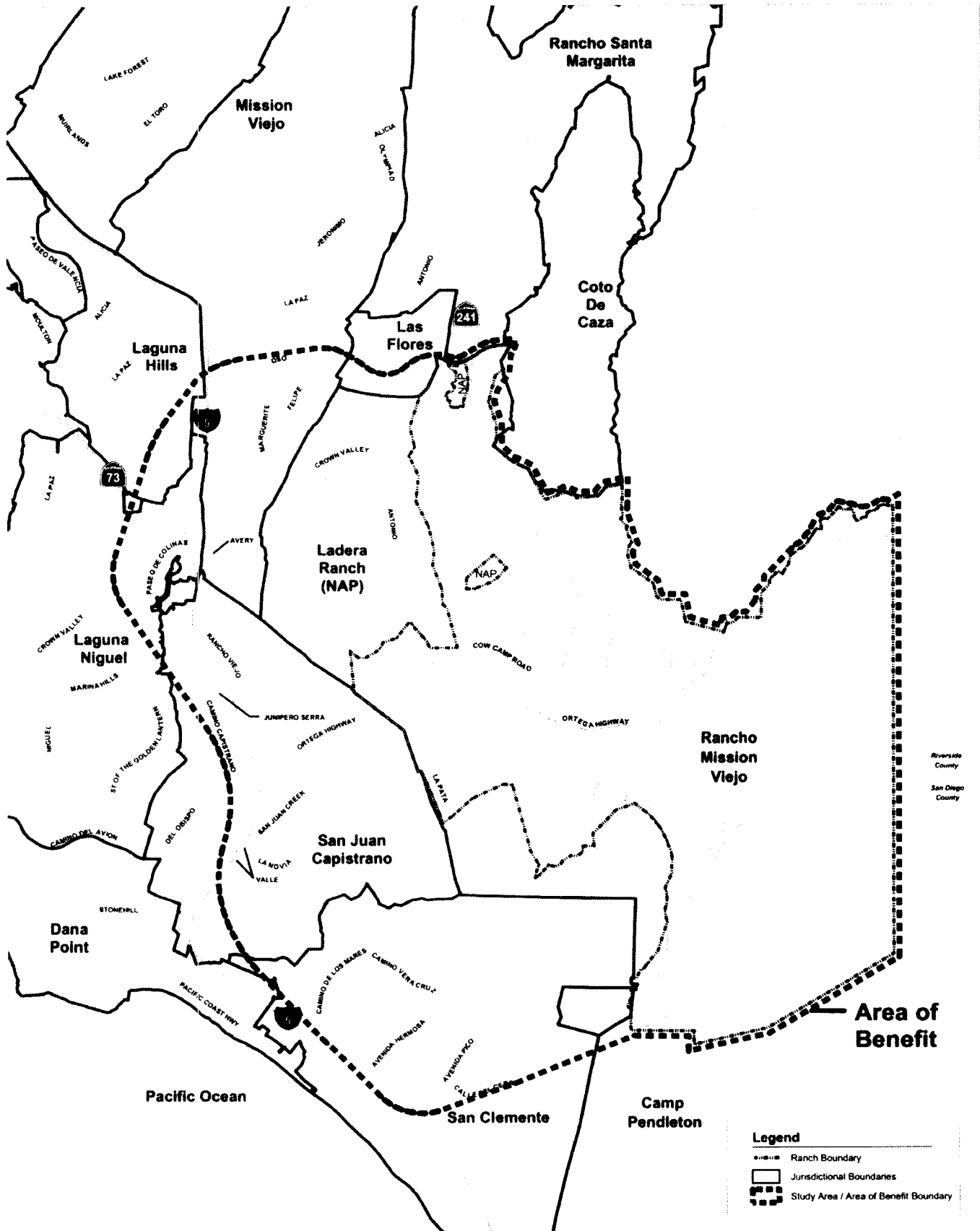


Figure 1 - Area of Benefit

This Page Intentionally Left Blank

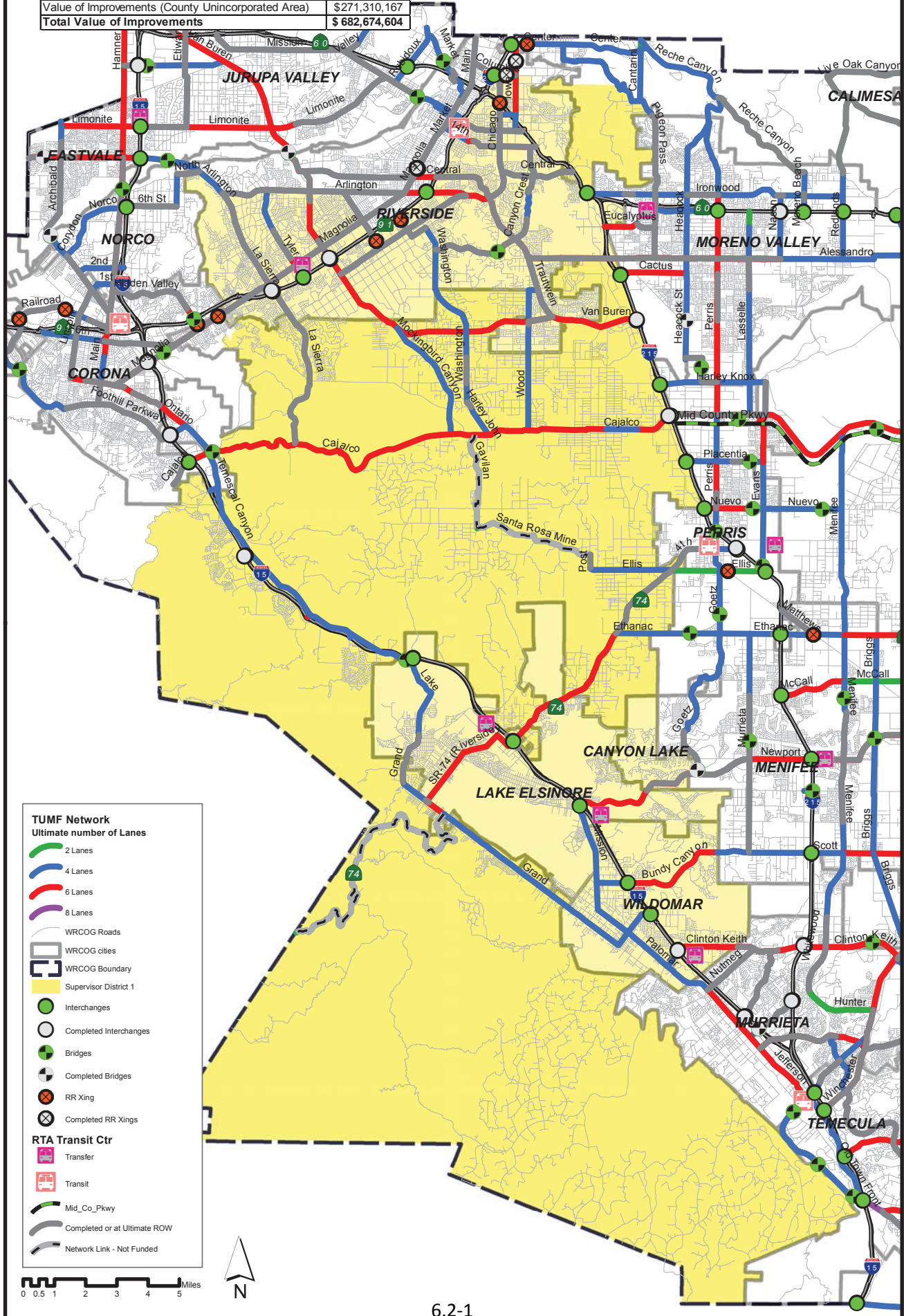
APPENDIX 6.2:

TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

This Page Intentionally Left Blank

TUMF Improvements for Riverside County District 1

Value of Improvements (County Incorporated Area)	\$ 411,364,437
Value of Improvements (County Unincorporated Area)	\$271,310,167
Total Value of Improvements	\$ 682,674,604



TUMF Network
Ultimate number of Lanes

- 2 Lanes
- 4 Lanes
- 6 Lanes
- 8 Lanes

 WRCOG Roads
 WRCOG cities
 WRCOG Boundary
 Supervisor District 1

● Interchanges
 Completed Interchanges
— Bridges
 Completed Bridges
⊗ RR Xing
 Completed RR Xings

RTA Transit Ctr

- Transfer
- Transit

— Mid_Co_Pkwy
— Completed or at Ultimate ROW
— Network Link - Not Funded



Fee Levels - 2009 Nexus Update as adopted October 5, 2009*

Land Use Type	Units	Fee Per Unit
Single Family Residential	DU	\$ 8,873
Multi Family Residential	DU	\$ 6,231
Industrial	SF GFA	\$ 1.73
Retail	SF GFA	\$ 10.49
Service	SF GFA	\$ 4.19
Class A & B Office**	SF GFA	\$ 2.19

Notes:

* - Actual implementation date and fee levels for this period are in accordance with local TUMF ordinances

** - Class A & B Office fee after July 1, 2007 to be reviewed based on results of detailed market analysis.