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# Sycamore Hills Distribution Center

## TRAFFIC OPERATIONS ANALYSIS CITY OF RIVERSIDE

PREPARED BY:

Aric Evatt, PTP  
aevatt@urbanxroads.com  
(949) 336-5978

Robert Vu, PE  
rvu@urbanxroads.com  
(949) 336-5980



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## TABLE OF CONTENTS

<b>TABLE OF CONTENTS.....</b>	<b>III</b>
<b>APPENDICES.....</b>	<b>V</b>
<b>LIST OF EXHIBITS.....</b>	<b>VII</b>
<b>LIST OF TABLES .....</b>	<b>IX</b>
<b>LIST OF ABBREVIATED TERMS .....</b>	<b>XI</b>
<b>1 INTRODUCTION.....</b>	<b>1</b>
1.1 Project Description.....	1
1.2 Analysis Scenarios .....	3
1.3 Study Area .....	4
1.4 Summary of Findings.....	6
1.5 Site Adjacent Roadway and Site Access Improvements .....	11
1.6 Truck Access and Circulation.....	12
1.7 Sight Distance Analysis.....	15
<b>2 METHODOLOGIES .....</b>	<b>17</b>
2.1 Level of Service .....	17
2.2 Intersection Capacity Analysis .....	17
2.3 Roadway Segment Capacity Analysis.....	19
2.4 Freeway Off-Ramp Queuing Analysis.....	20
2.5 Traffic Signal Warrant Analysis Methodology.....	20
2.6 Minimum Level of Service (LOS) .....	21
2.7 Deficiency Criteria .....	23
2.8 SB 743 Requirements.....	24
<b>3 AREA CONDITIONS .....</b>	<b>27</b>
3.1 Existing Circulation Network.....	27
3.2 General Plan Circulation Element .....	27
3.3 Truck Routes .....	36
3.4 Transit Service.....	36
3.5 Bicycle & Pedestrian Facilities.....	36
3.6 Existing (2018) Traffic Counts .....	42
3.7 Intersection Operations Analysis .....	44
3.8 Traffic Signal Warrants Analysis.....	44
3.9 Roadway Segment Capacity Analysis.....	44
3.10 Off-Ramp Queuing Analysis .....	48
<b>4 PROJECTED FUTURE TRAFFIC.....</b>	<b>51</b>
4.1 Project Trip Generation.....	51
4.2 Project Trip Distribution.....	54
4.3 Modal Split .....	54
4.4 Project Trip Assignment .....	54
4.5 Background Traffic .....	58
4.6 Cumulative Development Traffic .....	58
4.7 Near-Term Traffic Forecasts .....	59
4.8 Horizon Year (2040) Volume Development .....	63
<b>5 E+P TRAFFIC CONDITIONS .....</b>	<b>65</b>



5.1	Roadway Improvements .....	65
5.2	Traffic Volume Forecasts.....	65
5.3	Intersection Operations Analysis .....	65
5.4	Traffic Signal Warrants Analysis.....	69
5.5	Roadway Segment Capacity Analysis.....	69
5.6	Off-Ramp Queuing Analysis .....	69
5.7	Recommended Improvements .....	73
<b>6</b>	<b>OPENING YEAR CUMULATIVE (2023) TRAFFIC CONDITIONS.....</b>	<b>75</b>
6.1	Roadway Improvements .....	75
6.2	Opening Year Cumulative (2023) Without Project Traffic Volume Forecasts .....	75
6.3	Opening Year Cumulative (2023) With Project Traffic Volume Forecasts .....	75
6.4	Intersection Operations Analysis .....	75
6.5	Traffic Signal Warrants Analysis.....	79
6.6	Roadway Segment Capacity Analysis.....	79
6.7	Off-Ramp Queuing Analysis .....	84
6.8	Opening Year Cumulative (2023) Deficiencies and Recommendations .....	84
<b>7</b>	<b>HORIZON YEAR (2040) TRAFFIC CONDITIONS .....</b>	<b>89</b>
7.1	Roadway Improvements .....	89
7.2	Horizon Year (2040) Without Project Traffic Volume Forecasts.....	89
7.3	Horizon Year (2040) With Project Traffic Volume Forecasts .....	89
7.4	Intersection Operations Analysis .....	89
7.5	Traffic Signal Warrants Analysis.....	93
7.6	Roadway Segment Capacity Analysis.....	93
7.7	Off-Ramp Queuing Analysis .....	93
7.8	Horizon Year (2040) Deficiencies and Recommended Improvements .....	99
<b>8</b>	<b>SUPPLEMENTAL ANALYSIS .....</b>	<b>101</b>
<b>9</b>	<b>LOCAL AND REGIONAL FUNDING MECHANISMS.....</b>	<b>105</b>
<b>10</b>	<b>REFERENCES.....</b>	<b>107</b>



## **APPENDICES**

**APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT**  
**APPENDIX 1.2: SITE ADJACENT QUEUING ANALYSIS WORKSHEETS**  
**APPENDIX 3.1: EXISTING TRAFFIC COUNTS – OCTOBER 2018**  
**APPENDIX 3.2: EXISTING (2019) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**  
**APPENDIX 3.3: EXISTING (2019) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**  
**APPENDIX 3.4: EXISTING (2019) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**  
**APPENDIX 4.1: POST PROCESSING WORKSHEETS**  
**APPENDIX 5.1: E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**  
**APPENDIX 5.2: E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**  
**APPENDIX 5.3: E+P CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**  
**APPENDIX 5.4: E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS**  
**APPENDIX 6.1: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**  
**APPENDIX 6.2: OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**  
**APPENDIX 6.3: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**  
**APPENDIX 6.4: OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**  
**APPENDIX 6.5: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**  
**APPENDIX 6.6: OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**  
**APPENDIX 6.7: OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS**  
**APPENDIX 7.1: HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**  
**APPENDIX 7.2: HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**  
**APPENDIX 7.3: HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**  
**APPENDIX 7.4: HORIZON YEAR (2040) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**  
**APPENDIX 7.5: HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**  
**APPENDIX 7.6: HORIZON YEAR (2040) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**  
**APPENDIX 7.7: HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS**  
**APPENDIX 8.1: SUPPLEMENTAL ANALYSIS (ALTERNATIVE 1) WORKSHEETS**  
**APPENDIX 8.2: SUPPLEMENTAL ANALYSIS (ALTERNATIVE 2) WORKSHEETS**  
**APPENDIX 8.3: SUPPLEMENTAL ANALYSIS (ALTERNATIVE 3) WORKSHEETS**



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## LIST OF EXHIBITS

EXHIBIT 1-1: PRELIMINARY SITE PLAN .....	2
EXHIBIT 1-2: LOCATION MAP.....	5
EXHIBIT 1-3: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO .....	7
EXHIBIT 1-4: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS.....	13
EXHIBIT 1-5: TRUCK ACCESS .....	14
EXHIBIT 1-6: SIGHT DISTANCE .....	16
EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS.....	28
EXHIBIT 3-2: CITY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT .....	29
EXHIBIT 3-3: CITY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS.....	30
EXHIBIT 3-4: COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT .....	31
EXHIBIT 3-5: COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS .....	32
EXHIBIT 3-6: MARCH JOINT POWERS AUTHORITY GENERAL PLAN CIRCULATION ELEMENT.....	33
EXHIBIT 3-7: MARCH JOINT POWERS AUTHORITY GENERAL PLAN ROADWAY CROSS-SECTIONS .....	34
EXHIBIT 3-7.A: MERIDIAN GENERAL PLAN AMENDMENT ROADWAY SYSTEM.....	35
EXHIBIT 3-8: CITY OF MORENO VALLEY GENERAL PLAN CIRCULATION ELEMENT .....	37
EXHIBIT 3-9: CITY OF MORENO VALLEY GENERAL PLAN ROADWAY CROSS-SECTIONS .....	38
EXHIBIT 3-10: MARCH JOINT POWERS AUTHORITY TRUCK ROUTES .....	39
EXHIBIT 3-11: EXISTING TRANSIT ROUTES .....	40
EXHIBIT 3-12: EXISTING PEDESTRIAN FACILITIES.....	41
EXHIBIT 3-13: EXISTING (2019) TRAFFIC VOLUMES (IN PCE) .....	43
EXHIBIT 3-14: EXISTING (2019) SUMMARY OF LOS .....	45
EXHIBIT 4-1: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION.....	55
EXHIBIT 4-2: PROJECT (TRUCK) TRIP DISTRIBUTION .....	56
EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES (IN PCE) .....	57
EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP .....	60
EXHIBIT 4-5: CUMULATIVE DEVELOPMENT ONLY TRAFFIC VOLUMES (IN PCE) .....	61
EXHIBIT 5-1: E+P TRAFFIC VOLUMES (IN PCE) .....	66
EXHIBIT 5-2: E+P SUMMARY OF LOS.....	70
EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE) ....	76
EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUMES (IN PCE) .....	77
EXHIBIT 6-3: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT SUMMARY OF LOS.....	80
EXHIBIT 6-4: OPENING YEAR CUMULATIVE (2023) WITH PROJECT SUMMARY OF LOS.....	81
EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE).....	90
EXHIBIT 7-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES (IN PCE).....	91
EXHIBIT 7-3: HORIZON YEAR (2040) WITHOUT PROJECT SUMMARY OF LOS .....	94
EXHIBIT 7-4: HORIZON YEAR (2040) WITH PROJECT SUMMARY OF LOS .....	95
EXHIBIT 8-1: ALTERNATIVE CONFIGURATIONS.....	102



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## LIST OF TABLES

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS .....	6
TABLE 2-1: SIGNALIZED INTERSECTION LOS DEFINITIONS .....	17
TABLE 2-2: UNSIGNALIZED INTERSECTION LOS DEFINITIONS .....	19
TABLE 2-3: ROADWAY SEGMENT CAPACITY LOS DEFINITIONS <sup>1</sup> .....	20
TABLE 2-4: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS.....	21
TABLE 2-5: DEFICIENCY CRITERIA.....	23
TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2019) CONDITIONS .....	46
TABLE 3-2: ROADWAY SEGMENT ANALYSIS FOR EXISTING (2019) CONDITIONS.....	47
TABLE 3-3: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR EXISTING (2019) CONDITIONS .....	49
TABLE 4-1: PROJECT TRIP GENERATION RATES .....	52
TABLE 4-2: PROJECT TRIP GENERATION SUMMARY .....	53
TABLE 4-3: CUMULATIVE DEVELOPMENT LAND USE SUMMARY .....	62
TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS .....	67
TABLE 5-2: DEFICIENT INTERSECTION SUMMARY FOR E+P CONDITIONS.....	68
TABLE 5-3: ROADWAY SEGMENT ANALYSIS FOR E+P CONDITIONS .....	71
TABLE 5-4: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR E+P CONDITIONS .....	72
TABLE 5-5: INTERSECTION ANALYSIS FOR E+P CONDITIONS WITH IMPROVEMENTS .....	74
TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS .....	78
TABLE 6-2: DEFICIENT INTERSECTION SUMMARY FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS .....	82
TABLE 6-3: ROADWAY SEGMENT ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS...	83
TABLE 6-4: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS .....	85
TABLE 6-5: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS WITH IMPROVEMENTS .....	86
TABLE 7-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS.....	92
TABLE 7-2: DEFICIENT INTERSECTION SUMMARY FOR HORIZON YEAR (2040) CONDITIONS .....	96
TABLE 7-3: ROADWAY SEGMENT ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS .....	97
TABLE 7-4: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR HORIZON YEAR (2040) CONDITIONS .....	98
TABLE 7-5: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS WITH IMPROVEMENTS .....	100
TABLE 8-1: INTERSECTION ANALYSIS FOR ALTERNATIVE CONFIGURATIONS .....	103
TABLE 8-2: QUEUING ANALYSIS FOR ALTERNATIVE CONFIGURATIONS .....	104



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## **LIST OF ABBREVIATED TERMS**

(1)	Reference
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
E+P	Existing Plus Project
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
March JPA	March Joint Powers Authority
MOE	Measures of Effectiveness
MUTCD	Manual on Uniform Traffic Control Devices
NP	No Project (or Without Project)
PCE	Passenger Car Equivalents
PHF	Peak Hour Factor
Project	Sycamore Hills Distribution Center
RCALUC	Riverside County Airport Land Use Commission
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Authority
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SHS	State Highway System
sf	Square Feet
SPA	Specific Plan Update
TA	Traffic Operations Analysis
TOD	Transit-Oriented Development
TSF	Thousand Square Feet
TUMF	Transportation Uniform Mitigation Fee
v/c	Volume-to-capacity
WP	With Project
WRCOG	Western Riverside Council of Governments



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# 1 INTRODUCTION

This report presents the results of the traffic operations analysis (TA) prepared for the proposed Sycamore Hills Distribution Center ("Project"), which is located north of Alessandro Boulevard and east of Barton Street, within the jurisdiction of the City of Riverside as shown on Exhibit 1-1.

The purpose of this traffic operations analysis is to evaluate the potential circulation system deficiencies that could result from the development of the proposed Project, and if necessary, to recommend mitigation to achieve acceptable circulation system performance. As directed by City of Riverside staff, this traffic study has been prepared in accordance with the City of Riverside *Traffic Impact Analysis Preparation Guide* (December 2017), the California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* (December 2002), and consultation with City of Riverside staff during the scoping process. (1) (2) The approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

## 1.1 PROJECT DESCRIPTION

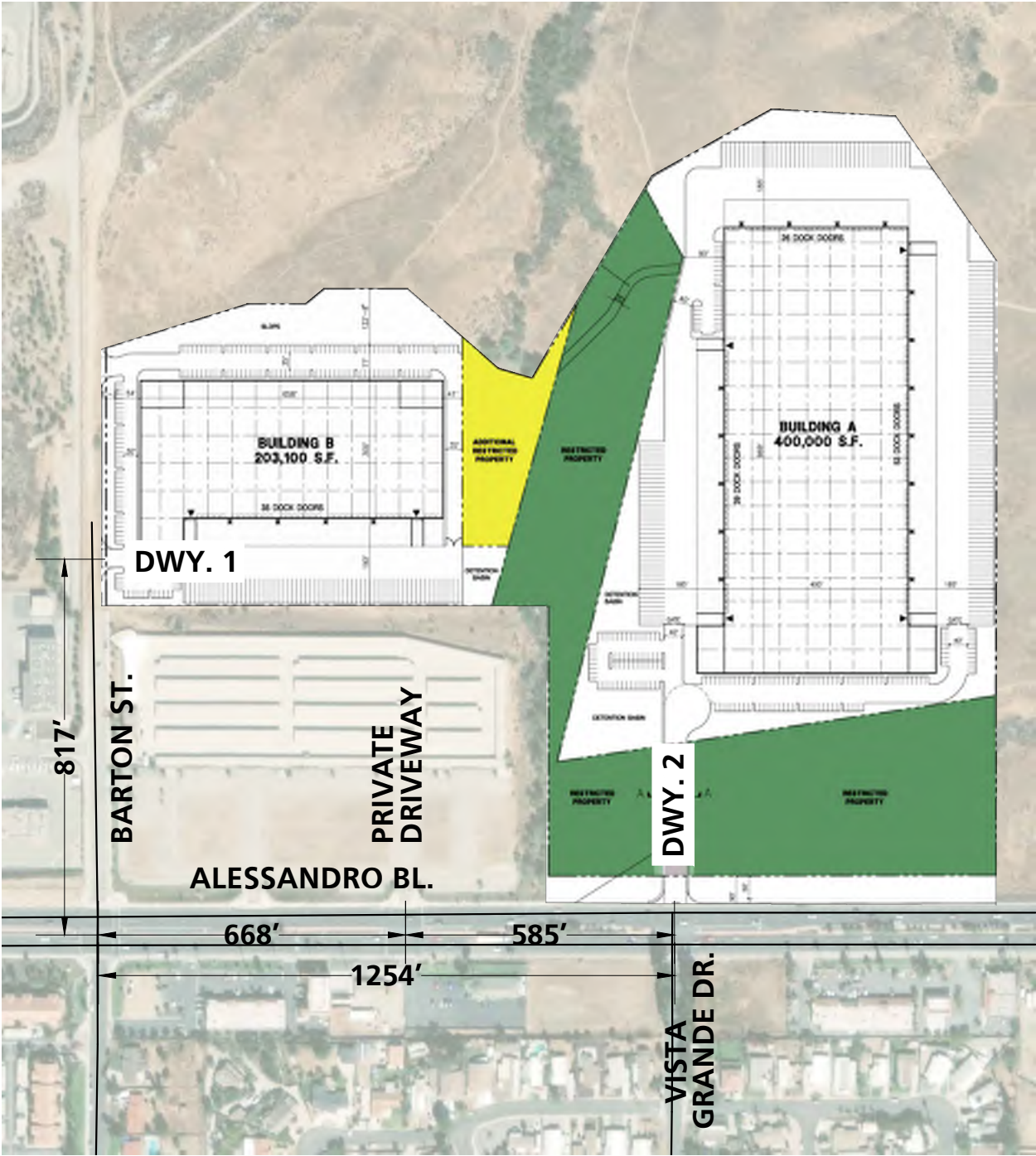
The project proposes subdividing the site into two parcels (Parcels 1 and 2), and three lettered parcels (Parcels A, B, and C). Each parcel is proposed to be developed with a high cube transload short-term warehouse building (Buildings A and B). Building A, a 400,000 square foot warehouse, will be constructed on Parcel 1. Building B, a 203,100 square foot warehouse, will be constructed on Parcel 2. Associated improvements include parking, fire lanes, fencing and walls (including retaining walls), landscaping, and water quality treatment areas.

Parcels A and Parcel B consist of existing Restricted Property of natural land, with a supporting jurisdictional feature, totaling approximately 11.6 acres. A 0.67-acre driveway will be constructed through the Restricted Property to provide street access from Alessandro Boulevard to Parcel 1, which would reduce the Restricted Property to 10.93 acres. However, 1.44 acres will be added to Parcel A to mitigate this loss, resulting in a total of 12.37 acres of Restricted Property (net gain of 0.77 acres). A Conservation Easement is proposed to be placed over the amended 12.37 acres of Restricted Property.

A trailhead parking lot is proposed on Parcel C, totaling 1.18 acres, for access to the Sycamore Canyon Wilderness Park. Improvements include a parking lot, sidewalk, shade structure, bike rack, drinking fountain, fencing, and a Fire Department and access gate. Parcel C will be dedicated to the City. Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10<sup>th</sup> Edition, 2017. (3) The proposed Project is anticipated to generate a total of 1,266 PCE trip-ends per day with 75 PCE AM peak hour trips and 87 PCE PM peak hour trips. For comparison, the proposed Project is anticipated to generate a total of 847 actual vehicle trip-ends per day with 51 actual vehicle AM peak hour trips and 64 actual vehicle PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in Section 4.1 *Project Trip Generation* of this report.



EXHIBIT 1-1: PRELIMINARY SITE PLAN





## **1.2 ANALYSIS SCENARIOS**

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

- Existing (2019)
- Existing plus Project (E+P)
- Opening Year Cumulative (2023) Without Project
- Opening Year Cumulative (2023) With Project
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

### **1.2.1 EXISTING (2019) CONDITIONS**

Information for Existing (2019) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

### **1.2.2 EXISTING PLUS PROJECT CONDITIONS**

Consistent with the City of Riverside traffic study guidelines, the Existing Plus Project (E+P) analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing conditions. The E+P analysis is intended to identify the project-specific traffic deficiencies associated solely with the development of the proposed Project based on a comparison of the E+P traffic conditions to Existing conditions. As such, E+P traffic conditions were evaluated for each phase of development to determine the project-specific traffic deficiencies associated with each phase.

### **1.2.3 OPENING YEAR CUMULATIVE CONDITIONS**

To account for growth in traffic between Existing Conditions (2019) and the Project Opening Year Cumulative (2023), a compounded annual traffic growth rate of 2.0 percent was assumed (8.24 percent aggregate growth in background traffic for the period from 2019 through 2023). The 2.0 percent annual growth rate is intended to capture non-specific ambient traffic growth. Conservatively, the TA estimates area-wide traffic growth, then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed annual 2.0 percent ambient growth in traffic noted above; and in some instances, these related projects would likely not be implemented and operational within the 2023 Opening Year Cumulative time frame assumed for the Project. The resulting traffic growth rate used in the TA (2.0 percent compounded annual ambient growth plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2023 traffic conditions.

### **1.2.4 HORIZON YEAR (2040) CONDITIONS**

The Horizon Year (2040) Without Project traffic conditions were derived from the Riverside County Transportation Analysis Model (RivTAM) using accepted procedures for model forecast



refinement and smoothing. The traffic forecasts reflect the area-wide growth anticipated between Existing conditions and Horizon Year conditions. The Horizon Year With Project traffic forecasts were determined by adding the Project traffic to the Horizon Year Without Project traffic forecasts from the RivTAM model. The Horizon Year traffic forecasts used in the traffic analysis were refined with existing peak hour traffic count data collected at intersection analysis locations. The initial estimate of the future peak hour turning movements have, therefore, been reviewed for reasonableness. The reasonableness checks performed include a review of traffic flow conservation in addition to a comparison with the Existing and Opening Year Cumulative traffic volumes. Where necessary, the Horizon Year volumes have been adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes.

The Horizon Year Without and With Project traffic conditions analyses will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the Transportation Uniform Mitigation Fee (TUMF) and Development Impact Fee (DIF) programs, or other approved funding mechanism can accommodate the long-range cumulative traffic at the Level of Service (LOS) standards identified in the City of Riverside General Plan. (4) If the “funded” improvements can meet the LOS standard, then the Project’s payment into TUMF and/or DIF will be considered as long-range cumulative improvements through the conditions of approval. Other improvements needed beyond the “funded” improvements (such as localized improvements to non-TUMF facilities) are identified as such. Post-processing worksheets for Horizon Year (2040) Without Project traffic conditions are provided in Appendix 4.1.

### **1.3 STUDY AREA**

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

#### **1.3.1 INTERSECTIONS**

The following 8 study area intersections listed in Table 1-1 and shown on Exhibit 1-2 were selected for this TA based on consultation with City of Riverside staff.

In general, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips.



EXHIBIT 1-2: LOCATION MAP



LEGEND:

- 0** = EXISTING INTERSECTION ANALYSIS LOCATION
- 0** = FUTURE INTERSECTION ANALYSIS LOCATION
- 0** = CMP INTERSECTION





**TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS**

ID	Intersection Location	Jurisdiction
1	Barton St. & Driveway 1	Riverside
2	Barton St. & Alessandro Bl.	Riverside/JPA
3	Private Driveway & Alessandro Bl.	Riverside/JPA
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.	Riverside/JPA
5	San Gorgonio Dr. & Alessandro Bl.	Riverside/JPA
6	Sycamore Canyon Bl. & Alessandro Bl.	Riverside/JPA
7	I-215 SB Ramps & Alessandro Bl.	Caltrans/Riverside/County
8	I-215 NB Ramps & Alessandro Bl.	Caltrans/Riverside/County

## 1.4 SUMMARY OF FINDINGS

This section provides a summary of the analysis results for Existing (2019), E+P, Opening Year Cumulative (2023), and Horizon Year (2040) traffic conditions.

### 1.4.1 EXISTING (2019) CONDITIONS

#### *Intersection Operations Analysis*

A summary of LOS results for Existing traffic conditions are presented in Exhibit 1-3. As shown, a total of 2 intersections within the study area are currently operating at a deficient LOS.

#### *Off-Ramp Queuing Analysis*

A queuing analysis was performed for the I-215 Freeway off-ramps at Alessandro Boulevard for Existing (2019) traffic conditions. The analysis indicates there are currently no queuing issues that may potentially “spill back” onto the I-215 Freeway mainline at the I-215 Alessandro Boulevard interchange.

### 1.4.2 E+P CONDITIONS

#### *Intersection Operations Analysis*














































The addition of Project traffic is not anticipated to result in any new LOS deficiencies under E+P traffic conditions (see Exhibit 1-3), consistent with Existing (2019) traffic conditions.

#### *Off-Ramp Queuing Analysis*






A queuing analysis was performed for the I-215 Freeway off-ramps at Alessandro Boulevard for E+P traffic conditions. The analysis indicates there are no additional queuing issues that may potentially “spill back” onto the I-215 Freeway mainline at the I-215 Alessandro Boulevard interchange under E+P traffic conditions.



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

#	Intersection	Existing (2019)	E+P	Opening Year Cumulative (2023) Without Project	Opening Year Cumulative (2023) With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project
1	Barton St. & Dwy. 1	NA		NA		NA	
2	Barton St. & Alessandro Bl.						
3	Private Driveway & Alessandro Bl.						
4	Dwy. 2 / Vista Grande Dr. & Alessandro Bl.						
5	San Gorgonio Dr. & Alessandro Bl.						
6	Sycamore Canyon Bl. & Alessandro Bl.						
7	I-215 SB Ramps & Alessandro Bl.						
8	I-215 NB Ramps & Alessandro Bl.						

**LEGEND:**

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



### *Deficiencies and Recommendations*

Based on the applicable jurisdiction's deficiency criteria, the following study area intersections were found to be deficient for E+P traffic conditions:

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)
- Sycamore Canyon Bl. & Alessandro Bl. (#6)

The following improvements are recommended to improve each deficient intersection's LOS back to pre-project conditions, or better:

#### ***Project Design Feature 1.1 – Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)***

- The intersection of Vista Grande Drive & Alessandro Boulevard is not warranted for a traffic signal (based on volume warrants). However, it is anticipated to continue to operate at a deficient LOS. The addition of a traffic signal would improve the LOS to acceptable levels. The addition of a traffic signal is not currently feasible as the intersection is in close proximity of an existing signalized intersection (Private Driveway at Alessandro Boulevard). The adjacent signalized intersection of Private Driveway at Alessandro Boulevard is not anticipated to warrant a traffic signal as the volumes on the north and south leg are nominal (significantly less than the south leg of Vista Grande Drive & Alessandro Boulevard). It would require the removal of the existing traffic signal at Private Driveway & Alessandro Boulevard for a traffic signal to be installed at Vista Grande Drive and Alessandro Boulevard. It is recommended that the existing signal at Private Driveway & Alessandro Boulevard is to be removed and that the Project will construct a new traffic signal at the intersection of Driveway 2/Vista Grande Drive & Alessandro Boulevard.

The intersection of Sycamore Canyon Boulevard & Alessandro Boulevard is currently built out to its General Plan ultimate cross-section and exceeds the General Plan target LOS. Until additional right-of-way beyond those designated in the General Plan is obtained, there are no anticipated feasible improvements. As such, the deficiency is considered unavoidable.

### **1.4.3 OPENING YEAR CUMULATIVE (2023) CONDITIONS**

#### *Intersection Operations*

As shown on Exhibit 1-3, there are 2 study area intersections that are anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2023) Without Project traffic conditions during one or both peak hours. With the addition of Project traffic, there are no additional study area intersections anticipated to operate at a deficient LOS.

#### *Off-Ramp Queuing Analysis*

A queuing analysis was performed for the I-215 Freeway off-ramps at Alessandro Boulevard for Opening Year Cumulative (2023) traffic conditions. The analysis indicates there are no queuing issues that may potentially "spill back" onto the I-215 Freeway mainline at the I-215 Alessandro Boulevard interchange under Opening Year Cumulative (2023) traffic conditions.



### *Deficiencies and Recommendations*

Cumulative traffic deficiencies are deficiencies that are not directly caused by the Project, but occur as a result of regional growth combined with that or other nearby cumulative development projects or if the project is anticipated to contribute traffic to a deficient intersection under pre-project conditions. The Project's contribution to a particular cumulative transportation deficiency is deemed cumulatively considerable if the Project adds significant traffic to the forecasted deficiency.

Based on the applicable jurisdiction's deficiency criteria, the following study area intersections were found to be deficient for Opening Year Cumulative (2023) With Project traffic conditions, consistent with E+P traffic conditions:

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)
- Sycamore Canyon Bl. & Alessandro Bl. (#6)

The following improvements are recommended to improve each deficient intersection's LOS back to pre-project conditions, or better:

#### ***Project Design Feature 1.1 – Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)***

- The intersection of Vista Grande Drive & Alessandro Boulevard is not warranted for a traffic signal (based on volume warrants). However, it is anticipated to continue to operate at a deficient LOS. The additional of a traffic signal would improve the LOS to acceptable levels. The addition of a traffic signal is not currently feasible as the intersection is in close proximity of an existing signalized intersection (Private Driveway at Alessandro Boulevard). The adjacent signalized intersection of Private Driveway at Alessandro Boulevard is not anticipated to warrant a traffic signal as the volumes on the north and south leg are nominal (significantly less than the south leg of Vista Grande Drive & Alessandro Boulevard). It would require the removal of the existing traffic signal at Private Driveway & Alessandro Boulevard for a traffic signal to be installed at Vista Grande Drive and Alessandro Boulevard. It is recommended that the existing signal at Private Driveway & Alessandro Boulevard is to be removed and that the Project will construct a new traffic signal at the intersection of Driveway 2/Vista Grande Drive & Alessandro Boulevard.

The intersection of Sycamore Canyon Boulevard & Alessandro Boulevard is currently built out to its General Plan ultimate cross-section and exceeds the General Plan target LOS. Until additional right-of-way beyond those designated in the General Plan is obtained, there are no anticipated feasible improvements. As such, the deficiency is considered unavoidable.

#### **1.4.4 HORIZON YEAR (2040) CONDITIONS**

##### *Intersection Operations*

As shown on Exhibit 1-3, there are 3 study area intersections that are anticipated to operate at an unacceptable LOS under Horizon Year (2040) traffic conditions during one or both peak hours.



With the addition of Project traffic, there are no additional study area intersections anticipated to operate at a deficient LOS.

#### *Off-Ramp Queuing Analysis*

A queuing analysis was performed for the I-215 Freeway off-ramps at Alessandro Boulevard for Horizon Year (2040) traffic conditions. The analysis indicates there are no queuing issues that may potentially “spill back” onto the I-215 Freeway mainline at the I-215 Alessandro Boulevard interchange under Horizon Year (2040) traffic conditions.

#### *Deficiencies and Recommendations*

Cumulative traffic deficiencies are deficiencies that are not directly caused by the Project, but occur as a result of regional growth combined with that or other nearby cumulative development projects or if the project is anticipated to contribute traffic to a deficient intersection under pre-project conditions. The Project’s contribution to a particular cumulative transportation deficiency is deemed cumulatively considerable if the Project adds significant traffic to the forecasted deficiency.

Based on the applicable jurisdiction’s deficiency criteria, the following study area intersections were found to be deficient for Horizon Year (2040) With Project traffic conditions, consistent with E+P and Opening Year Cumulative (2023) With Project traffic conditions:

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)
- Sycamore Canyon Bl. & Alessandro Bl. (#6)

The following improvements are recommended to improve each deficient intersection’s LOS back to pre-project conditions, or better:

#### ***Project Design Feature 1.1 – Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)***

- The intersection of Vista Grande Drive & Alessandro Boulevard is not warranted for a traffic signal (based on volume warrants). However, it is anticipated to continue to operate at a deficient LOS. The additional of a traffic signal would improve the LOS to acceptable levels. The addition of a traffic signal is not currently feasible as the intersection is in close proximity of an existing signalized intersection (Private Driveway at Alessandro Boulevard). The adjacent signalized intersection of Private Driveway at Alessandro Boulevard is not anticipated to warrant a traffic signal as the volumes on the north and south leg are nominal (significantly less than the south leg of Vista Grande Drive & Alessandro Boulevard). It would require the removal of the existing traffic signal at Private Driveway & Alessandro Boulevard for a traffic signal to be installed at Vista Grande Drive and Alessandro Boulevard. It is recommended that the existing signal at Private Driveway & Alessandro Boulevard is to be removed and that the Project will construct a new traffic signal at the intersection of Driveway 2/Vista Grande Drive & Alessandro Boulevard.



The intersection of Sycamore Canyon Boulevard & Alessandro Boulevard is currently built out to its General Plan ultimate cross-section and exceeds the General Plan target LOS. Until additional right-of-way beyond those designated in the General Plan is obtained, there are no anticipated feasible improvements. As such, the deficiency is considered unavoidable.

## 1.5 SITE ADJACENT ROADWAY AND SITE ACCESS IMPROVEMENTS

This section summarizes Project site access and on-site circulation recommendations. Vehicular and truck traffic access will be provided via the following driveways:

- Barton St. & Driveway 1 – Full access driveway (passenger cars only). Trucks will be restricted from heading westbound on Alessandro Boulevard.
- Driveway 2/Vista Grande Dr. & Alessandro Bl. – Full access driveway (passenger cars only). Trucks will be restricted from heading westbound on Alessandro Boulevard.

Regional access to the Project site is provided via the I-215 Freeway at Alessandro Boulevard interchange.

### 1.5.1 SITE ADJACENT ROADWAY IMPROVEMENTS

The recommended site access improvements for the Project are described below. Exhibit 1-4 illustrates the on-site and site adjacent recommended roadway lane improvements. Construction of on-site and site adjacent improvements are recommended to occur in conjunction with adjacent Project development activity or as needed for Project access purposes.

**Alessandro Boulevard:** The site adjacent roadway of Alessandro Boulevard is constructed to its ultimate General Plan designation. Curb-and-gutter and sidewalk improvements are in place, however, should be modified accordingly based on proposed driveway locations. Construct curb-and-gutter and sidewalk improvements along the Project's southern and western boundary.

**Barton Street:** Construct Barton Street between the Project's northern boundary and southern boundary at its ultimate full-section pavement width as a Local Street (66-foot right-of-way). Improvements along Barton Street would be those required by final conditions of approval for the proposed Project and applicable City of Riverside Standards.

**Barton Street & Alessandro Boulevard** – Construct the intersection with the following improvements:

- Construct an exclusive southbound left-turn lane and provide a minimum of 100-feet of storage.

**Private Driveway & Alessandro Boulevard** – Construct the intersection with the following improvements:

- Remove the existing traffic signal and restrict the driveway access on the north and south leg to right-in/right-out access only



### 1.5.2 SITE ACCESS IMPROVEMENTS

The recommended site access driveway improvements for the Project are described below. Exhibit 1-4 illustrates the on-site and site adjacent recommended roadway lane improvements. Construction of on-site and site adjacent improvements are recommended to occur in conjunction with adjacent Project development activity or as needed for Project access purposes.

**Barton Street & Driveway 1** – Construct the intersection with the following improvements:

- Construct a north leg to facilitate ingress and egress access to the proposed Project.
- Construct an east leg to facilitate ingress and egress access to the proposed Project.

**Driveway 2/Vista Grande Drive & Alessandro Boulevard** – Construct the intersection with the following improvements:

- Install a traffic signal.
- Construct a north leg to facilitate ingress and egress access to the proposed Project and provide a minimum of 100-feet of storage to the southbound left-turn lane.
- Construct an exclusive eastbound left-turn lane and provide a minimum of 100-feet of storage.

### 1.5.3 QUEUING ANALYSIS AT THE PROJECT DRIVEWAYS

A queuing analysis was conducted for the Project driveways for Horizon Year (2040) traffic conditions to determine the turn pocket lengths necessary to accommodate near-term and long-range 95<sup>th</sup> percentile queues.

The minimum storage length for turn pockets to accommodate the 95<sup>th</sup> percentile queues at the intersections of Barton Street & Driveway 1 and Driveway 2/Vista Grande Dr. & Alessandro Boulevard were previously shown on Exhibit 1-4. Queuing worksheets are included in Appendix 1.2.

## 1.6 TRUCK ACCESS AND CIRCULATION

A truck turning template has been overlaid on the site plan at Driveway 1 on Barton Street and Driveway 2 on Alessandro Boulevard, which are anticipated to be utilized by heavy trucks, in order to determine the appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers. For the purposes of this evaluation, the WB-67 class truck template has been utilized. WB-67 class trucks are approximately 73.5 feet in length.

Exhibit 1-5 illustrates the proposed truck access for the site and circulation for Driveway 1 and Driveway 2. The recommended curb radii as shown on Exhibit 1-5 are anticipated to accommodate the ingress and egress of trucks. Additional width would be required on Driveway 1 or Barton Street to accommodate simultaneous northbound right and southbound left turns for WB-67 class trucks.



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

BARTON STREET IS A NORTH-SOUTH ORIENTED ROADWAY LOCATED ALONG THE PROJECT'S WESTERN BOUNDARY. CONSTRUCT BARTON STREET BETWEEN THE PROJECT'S NORTHERN BOUNDARY AND THE PROJECT'S SOUTHERN BOUNDARY AT ITS ULTIMATE FULL-SECTION PAVEMENT WIDTH (WITH A SOFT SHOULDER) AS A LOCAL STREET (66-FOOT RIGHT-OF-WAY). IMPROVEMENTS ALONG BARTON STREET WOULD BE THOSE REQUIRED BY FINAL CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND APPLICABLE CITY OF RIVERSIDE STANDARDS.

ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

SIGHT DISTANCE AT EACH PROJECT ACCESS POINT SHOULD BE REVIEWED WITH RESPECT TO STANDARD CALTRANS AND CITY OF RIVERSIDE SIGHT DISTANCE STANDARDS AT THE TIME OF PREPARATION OF FINAL GRADING, LANDSCAPE AND STREET IMPROVEMENT PLANS.

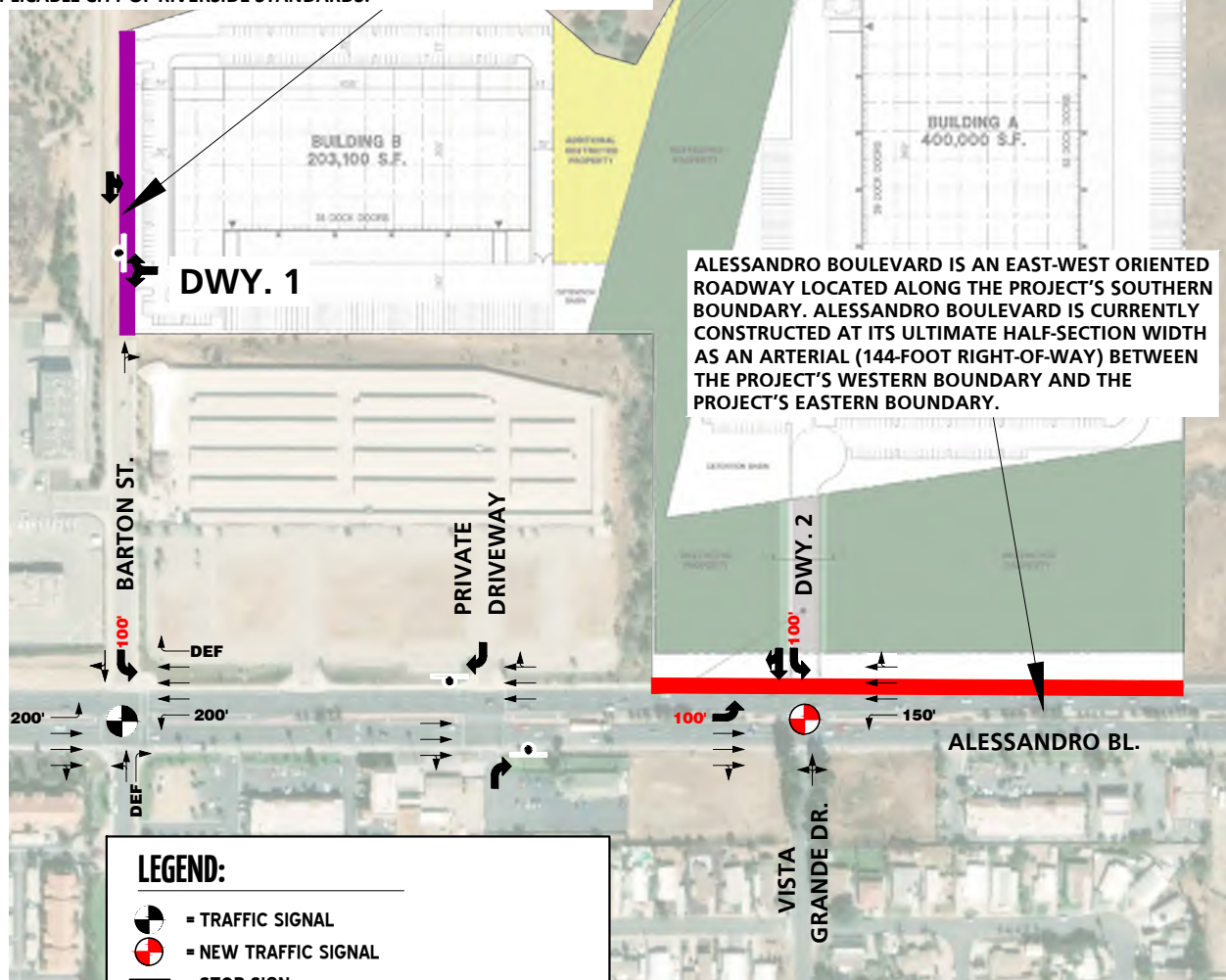
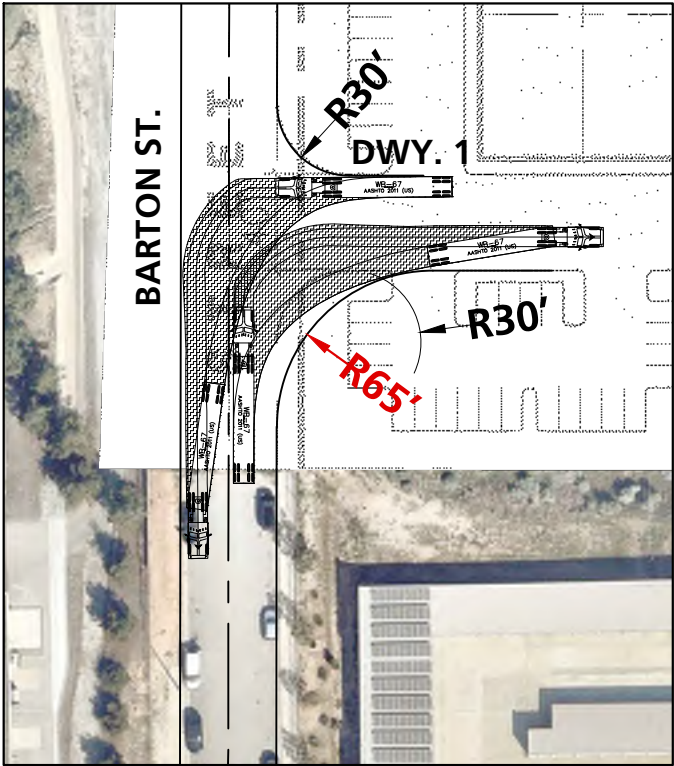
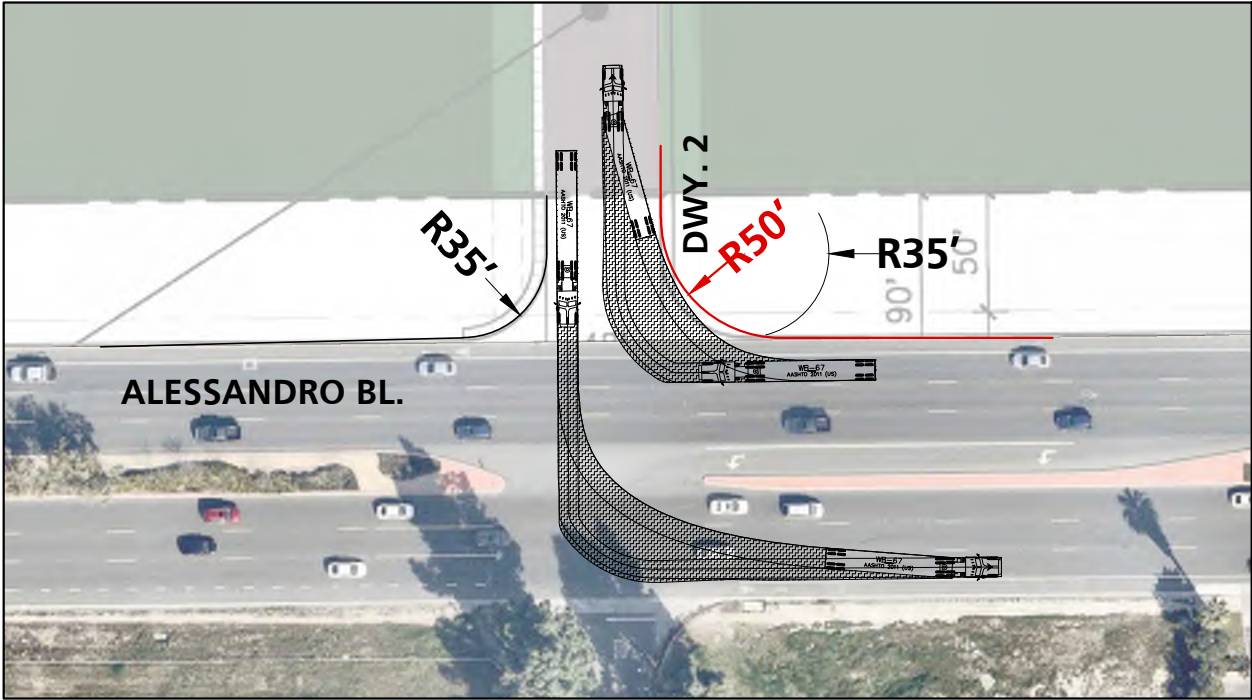
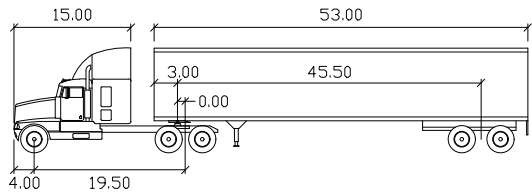




EXHIBIT 1-5: TRUCK ACCESS

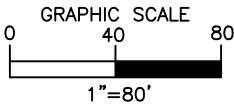


LEGEND:



WB-67

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		





As indicated in Exhibit 1-5, the egress of trucks is restricted to left turn out only. Driver education and physical improvements (i.e., signage, striping, truck barriers, etc.) would direct truck movements to head eastbound on Alessandro Boulevard to the I-215 Interchange. These measures would prevent trucks from exiting to westbound on Alessandro Boulevard. An example of an existing physical improvement to restrict outbound truck movement is located at the intersection of San Gorgonio Drive and Alessandro Boulevard.

## **1.7 SIGHT DISTANCE ANALYSIS**

The intersection sight distance has been evaluated for Private Driveway and Driveway 2 on Alessandro Boulevard. Sight distance is the continuous length of highway or roadway ahead visible to the driver.

At unsignalized intersections, intersection sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road (driveway) and the driver of an approaching vehicle. For the purposes of this analysis, a 9 second criterion has been applied to the outside travel lanes in either direction to provide the most conservative sight distance (consistent with the Caltrans Highway Design Manual, 2019). The 9 second criterion allows waiting vehicles to either cross all lanes of through traffic by turning left or cross the near lanes by turning right without requiring through traffic to radically alter their speed.

### **1.7.1 SIGHT DISTANCE STANDARDS**

**Alessandro Boulevard** – Alessandro Boulevard is an existing roadway and the sight distance at Private Driveway and Driveway 2 along Alessandro Boulevard have been assessed assuming the “object” in the road is another vehicle. Alessandro Boulevard has been evaluated as a major roadway with a posted speed limit of 55 miles per hour.

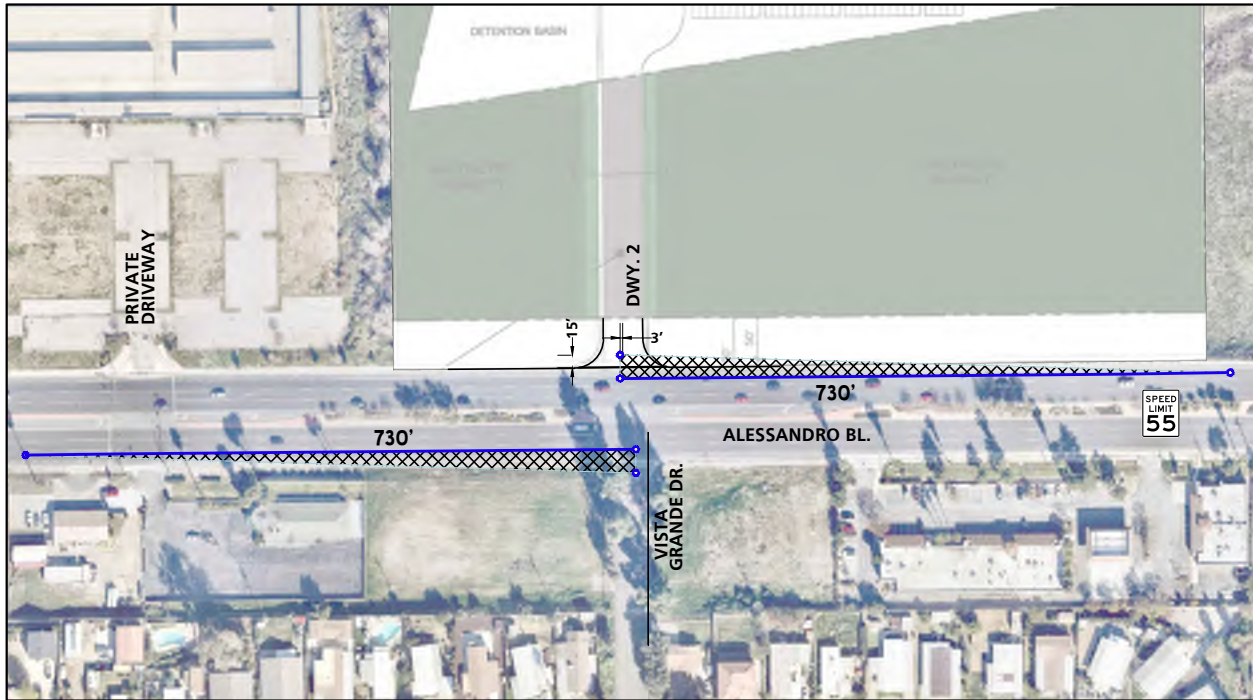
Adequate visibility for vehicular and pedestrian traffic can be provided at each Project driveway by limiting sight obstructions within the limited use area. Any landscaping/hardscape within the limited use area should not exceed 30-inches (2.5-feet) in height and sloped areas should not exceed 3-feet. The limited use area should be kept clear of any landscaping or any other obstructions that may impede the visibility of the driver, including on-street parking. Minimum horizontal intersection sight distance for the aforementioned driveways is illustrated on Exhibit 1-6.

### **1.7.2 SIGHT DISTANCE ALONG ALESSANDRO BOULEVARD**

The minimum intersection stopping sight distance on a roadway with a speed limit of 55 miles per hour and a 9 second time gap is 730-feet.



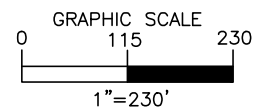
## EXHIBIT 1-6: SIGHT DISTANCE



### LEGEND:

— = MINIMUM SIGHT DISTANCE LINES

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





## 2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Riverside traffic study guidelines.

### 2.1 LEVEL OF SERVICE

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

### 2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The *Highway Capacity Manual* (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (5) The HCM uses different procedures depending on the type of intersection control. Study area intersections located within the City of Riverside, County of Riverside, March Joint Powers Authority, and City of Moreno Valley have been analyzed using the software package Synchro (Version 10).

#### 2.2.1 SIGNALIZED INTERSECTIONS

##### ***City of Riverside, March Joint Powers Authority, City of Moreno Valley, County of Riverside***

The City of Riverside, March Joint Powers Authority, City of Moreno Valley, and County of Riverside require signalized intersection operations analysis based on the methodology described in the HCM. (5) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

**TABLE 2-1: SIGNALIZED INTERSECTION LOS DEFINITIONS**

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F



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

Source: HCM

Study area intersections located within the City of Riverside, March JPA, and City of Moreno Valley have been analyzed using the software package Synchro (Version 10).

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15 minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g.  $PHF = [\text{Hourly Volume}] / [4 \times \text{Peak 15-minute Flow Rate}]$ ). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. It is unlikely that the PHF would decrease from their current values and would more likely increase. However, in an effort to conduct a conservative analysis and overstate as opposed to understate potential traffic deficiencies, existing PHFs have been used for all analysis scenarios.

### ***California Department of Transportation (Caltrans)***

Per the Caltrans *Guide for the Preparation of Traffic Impact Studies*, the traffic modeling and signal timing optimization software package Synchro (Version 10) has also been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e. I-215 Freeway ramps at Alessandro Boulevard). (2) Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network. Signal timing for the freeway arterial-to-ramp intersections have been obtained from Caltrans District 8 and were utilized for the purposes of this analysis.



### 2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Riverside, March JPA, City of Moreno Valley, and County of Riverside require the operations of unsignalized intersections be evaluated using the methodology described the HCM. (5) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

**TABLE 2-2: UNSIGNALIZED INTERSECTION LOS DEFINITIONS**

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

Source: HCM

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

### 2.3 ROADWAY SEGMENT CAPACITY ANALYSIS

Roadway segment operations have been evaluated using the City of Riverside Roadway Capacity provided in the City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D). (1) The City of Riverside requires LOS D capacities to be maintained on City roadways. The daily roadway segment capacities for each type of roadway are summarized in Table 2-3. These roadway capacities are “rule of thumb” estimates for planning purposes and are affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic), and pedestrian bicycle traffic. As such, where the average daily traffic (ADT) based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis and progression analysis is undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity. Therefore, roadway segment widening is typically only recommended if the peak hour intersection analysis indicates the need for additional through lanes.



**TABLE 2-3: ROADWAY SEGMENT CAPACITY LOS DEFINITIONS<sup>1</sup>**

Facility Type	Level of Service Capacity <sup>1</sup>		
	C	D	E
Local	2,500-2,799	2,800-3,099	3,100+
Collector (66' or 80')	9,900-11,199	11,200-12,499	12,500+
Arterial	14,400-16,199	16,200-17,999	18,000+
Arterial (88')	16,800-19,399	19,400-21,199	22,000+
Arterial (100')	26,200-29,599	29,600-32,999	33,000+
Arterial (120')	38,700-44,099	44,10-49,499	49,500+
Arterial (144')	50,600-57,799	57,800-64,999	65,000+

<sup>1</sup> Source: Exhibit D of the City of Riverside Traffic Impact Analysis Preparation Guide

All capacity exhibits are based on optimum conditions and are intended as guidelines for planning purposes only.

## 2.4 FREEWAY OFF-RAMP QUEUING ANALYSIS

The study area for this TA includes the freeway-to-arterial interchange of the I-215 Freeway at Alessandro Boulevard off-ramps. Consistent with Caltrans requirements, the 95<sup>th</sup> percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections on Alessandro Boulevard. Specifically, the queuing analysis is utilized to identify any potential queuing and “spill back” onto the I-215 Freeway mainline from the off-ramps.

## 2.5 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by the California Department of Transportation (Caltrans) and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD) for all unsignalized study area intersections. (6)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (6) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with urban characteristics (e.g. located in communities with populations of more than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

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



As shown on Table 2-4, traffic signal warrant analyses were performed for the following unsignalized study area intersections operating at LOS E or F during the peak weekday conditions wherein the Project is anticipated to contribute the highest trips:

**TABLE 2-4: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS**

ID	Intersection Location	Jurisdiction
1	Barton St. & Driveway 1	Riverside
3	Private Driveway & Alessandro Boulevard ( <i>currently signalized</i> )	Riverside
4	Driveway 2/Vista Grande Dr. & Alessandro Boulevard	Riverside

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Analysis*, Section 6 *Opening Year Cumulative (2023) Traffic Analysis*, and Section 7 *Horizon Year (2040) Traffic Analysis* of this report.

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

## 2.6 MINIMUM LEVEL OF SERVICE (LOS)

The definition of an intersection deficiency has been obtained from each of the applicable surrounding jurisdictions.

### 2.6.1 CITY OF RIVERSIDE

The City of Riverside General Plan states the City will strive to maintain LOS D or better on arterial streets wherever possible. At some key locations, such as City arterial roadways, which are used as freeway bypass by regional through traffic and at heavily traveled freeway intersections, LOS E may be acceptable as determined on a case-by-case basis. Locations that may warrant the LOS E standard include portions of Arlington Avenue/Alessandro Boulevard, Van Buren Boulevard throughout the City, portions of La Sierra Avenue, and selected freeway interchanges. A higher standard, such as LOS C or better, may be adopted for Local and Collector streets in residential areas. The City recognizes that along key free-way feeder segments during peak commute hours, LOS F may be expected due to regional travel patterns. A minimum LOS utilized for the purposes of this analysis is LOS D.

### 2.6.2 MARCH JOINT POWERS AUTHORITY

As identified in the City of Riverside Traffic Impact Study Preparation Guide (August 3, 2011) all intersections within the City of Riverside Planning Area shall operate at LOS D or better with limiting circumstances of LOS E to occur. LOS E may also be allowed to the extent that would



support transit-oriented development (TOD) and walkable communities. (7) LOS E is also acceptable during peak hours at interchange ramp intersections where ramp metering occurs. The Project is not proposed to be a TOD and neither the Alessandro Boulevard on-ramps are currently metered; as such, the minimum LOS utilized for the purposes of this analysis is LOS D.

### **2.6.3 CITY OF MORENO VALLEY**

The Minimum LOS for the City of Moreno Valley is LOS D for intersections that are adjacent to freeway on/off ramps, and/or adjacent to employment generating land uses. LOS C is applicable to all other intersections. Boundary intersections are assumed to be LOS D.

### **2.6.4 COUNTY OF RIVERSIDE**

County of Riverside General Plan Policy C 2.1 states that the following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County:

- LOS C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non- Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Meniffee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans. LOS E may be allowed by the Board of Supervisors within designated areas where transit-oriented development and walkable communities are proposed.

Notwithstanding the forgoing minimum LOS targets, the Board of Supervisors may, on occasion by virtue of their discretionary powers, approve a project that fails to meet these LOS targets in order to balance congestion management considerations in relation to benefits, environmental deficiencies and costs, provided an Environmental Impact Report, or equivalent, has been completed to fully evaluate the impacts of such approval. Any such approval must incorporate all feasible improvements, make specific findings to support the decision, and adopt a statement of overriding considerations.

### **2.6.5 CALTRANS**

Based on recent guidance from Caltrans District 8, the LOS for operating State highway facilities is based on Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS< the existing MOE should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways,



roadways segments, and intersections is D. For undeveloped or not densely developed locations, the goal may be to achieve LOS C.

## 2.7 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies.

### 2.7.1 INTERSECTIONS

Direct deficiencies are those deficiencies for which the addition of project-only trips result in an identifiable degradation in LOS to unacceptable LOS on intersections from the Existing condition thereby triggering the need for specific project-related improvement strategies through a comparison of Existing and E+P traffic conditions.

For the study area intersections that lie within the City of Riverside, to determine whether the addition of Project traffic (as defined through the comparison of Existing traffic conditions to E+P traffic conditions) at a study intersection would result in a direct project-specific traffic deficiency, the following will be utilized:

- When the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and project-generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D (i.e., unacceptable LOS) or increases to the peak hour delay as defined in Table 2-5, a deficiency is deemed to occur.

**TABLE 2-5: DEFICIENCY CRITERIA**

Pre-Project LOS	Project-Related Delay Increase	Improvement
A/B	10.0 Seconds or More	Achieve Pre-project delay or better
C	8.0 Seconds or More	Achieve Pre-project delay or better
D	5.0 Seconds or More	Achieve Pre-project delay or better
E	2.0 Seconds or More	Achieve Pre-project delay or better
F	1.0 Second or More	Achieve Pre-project delay or better

For the study area intersections that lie within March JPA, to determine whether the addition of project traffic (as defined through the comparison of Existing to E+P traffic conditions) at a study intersection would result in a direct project-specific traffic deficiency, both of the following conditions must occur:

- Peak hour project traffic plus existing traffic causes an intersection to operate at LOS E or F; and
- Peak hour project traffic comprises 2% or more of the total peak hour traffic on the intersection for LOS E and 2% or more for LOS F.

For the study area intersections that lie within the County of Riverside, to determine whether the addition of project traffic (as defined through the comparison of Existing traffic conditions to E+P



traffic conditions) at a study intersection would result in a direct project-specific traffic deficiency, the following will be utilized:

- When the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and project-generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

The City of Moreno Valley does not have its own deficiency criteria, therefore, study intersections that lie within the City of Moreno Valley are evaluated according to either March JPA or County of Riverside deficiency criteria.

However, when the pre-Project condition is already below LOS D (i.e., unacceptable LOS), the Project will be responsible for improving its deficiency to a level of service equal to or better than it was without the Project for intersections that receive 50 or more peak hour project-related trips. This is a standard protocol in many urban jurisdictions because to require a Project to improve to LOS D or better would in effect force the Project to improve beyond its Project deficiencies, which is prohibited under California law. Thus, for intersections currently operating at unacceptable LOS during either the AM and/or PM peak hour under Existing traffic conditions, improvements have been identified to improve the deficiencies of the Project to an intersection LOS that is equal to or better than pre-Project conditions.

Cumulative traffic deficiencies are created as a result of a combination of the proposed Project together with other future developments contributing to the overall traffic deficiencies requiring additional improvements to maintain acceptable level of service operations with or without the Project. A Project's contribution to a cumulative deficiency can be improved if the Project is required to implement or fund its fair share of improvements designed to alleviate its cumulatively considerable contribution to the deficiency.

### **2.7.2 CALTRANS FACILITIES**

To determine that the addition of project traffic to the SHS freeway segments would result in a deficiency, both of the following must be found:

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

## **2.8 SB 743 REQUIREMENTS**

In the fall of 2013, Senate Bill 743 (SB 743) was passed by the legislature and signed into law by the governor. This legislation will eventually change the way that transportation studies are conducted for environmental documents. In the areas where SB 743 is implemented, delay-based metrics such as roadway capacity and level of service will no longer be the performance measures used for the determination of the transportation deficiencies of projects in studies conducted under California Environmental Quality Act (CEQA). Instead, new performance



measures such as vehicle miles travelled (VMT) will be used. The VMT analysis will be provided under a separate cover.



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### **3 AREA CONDITIONS**

This section provides a summary of the existing circulation network, the City of Riverside General Plan Circulation Network, and a review of existing peak hour intersection operations, roadway segment capacities, and traffic signal warrant analyses.

#### **3.1 EXISTING CIRCULATION NETWORK**

Pursuant to the agreement with City of Riverside staff (Appendix 1.1), the study area includes a total of 8 existing and future intersections as shown previously on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

#### **3.2 GENERAL PLAN CIRCULATION ELEMENT**

As noted previously, the Project site is located within the City of Riverside. However, the study area includes intersections that share borders with the neighboring jurisdictions of the County of Riverside, the March JPA, the City of Moreno Valley, and Caltrans.

##### **3.2.1 CITY OF RIVERSIDE**

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Riverside General Plan Circulation Element, are shown on Exhibit 3-2. Exhibit 3-3 illustrates the City of Riverside General Plan roadway cross-sections.

##### **3.2.2 COUNTY OF RIVERSIDE**

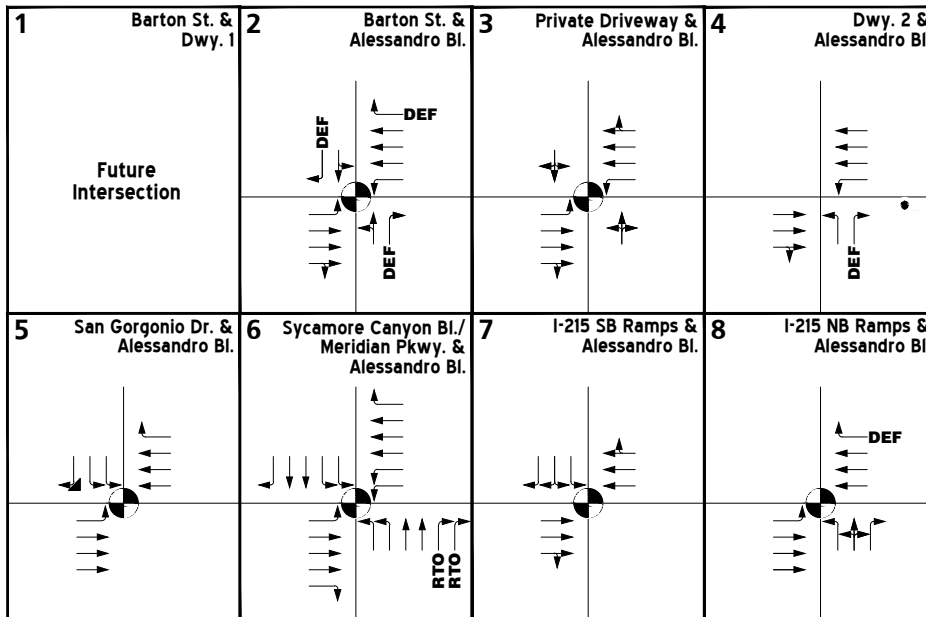
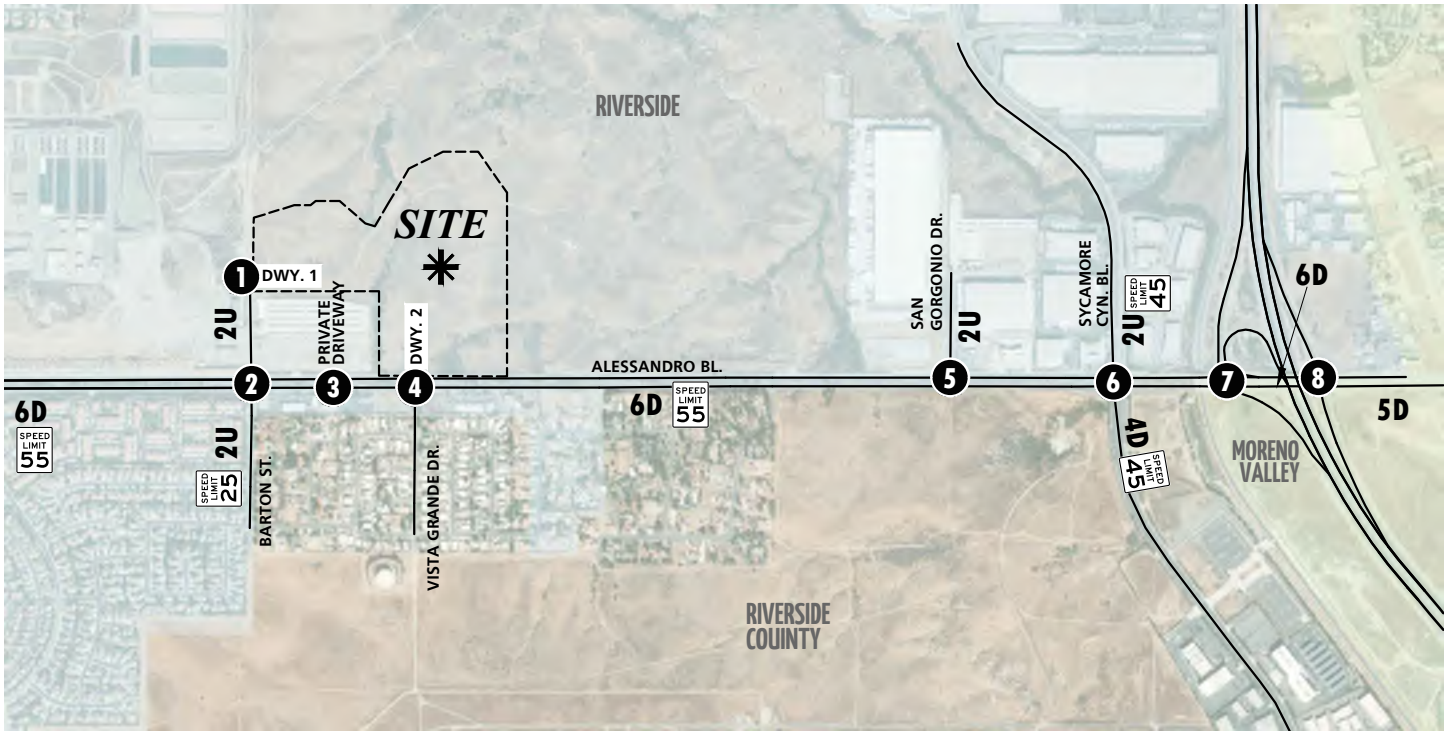
The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the County of Riverside General Plan Circulation Element, are shown on Exhibit 3-4. Exhibit 3-5 illustrates the County of Riverside General Plan roadway cross-sections.

##### **3.2.3 MARCH JPA**

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Riverside General Plan Circulation Element, are described subsequently. Exhibit 3-6 shows the City of Riverside General Plan Circulation Element, and Exhibit 3-7 illustrates the City of Riverside General Plan roadway cross-sections. It is our understanding that the City of Riverside is currently undergoing a General Plan Update, however, the work effort associated with the General Plan Update had not been completed at the time this TA was prepared. JPA Resolution 16-05 had minor amendments to General Plan Transportation Element. The roadway system and cross-sections from Meridian General Plan Amendment (JPA#16-05) are shown on Exhibit 3-7.A.



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



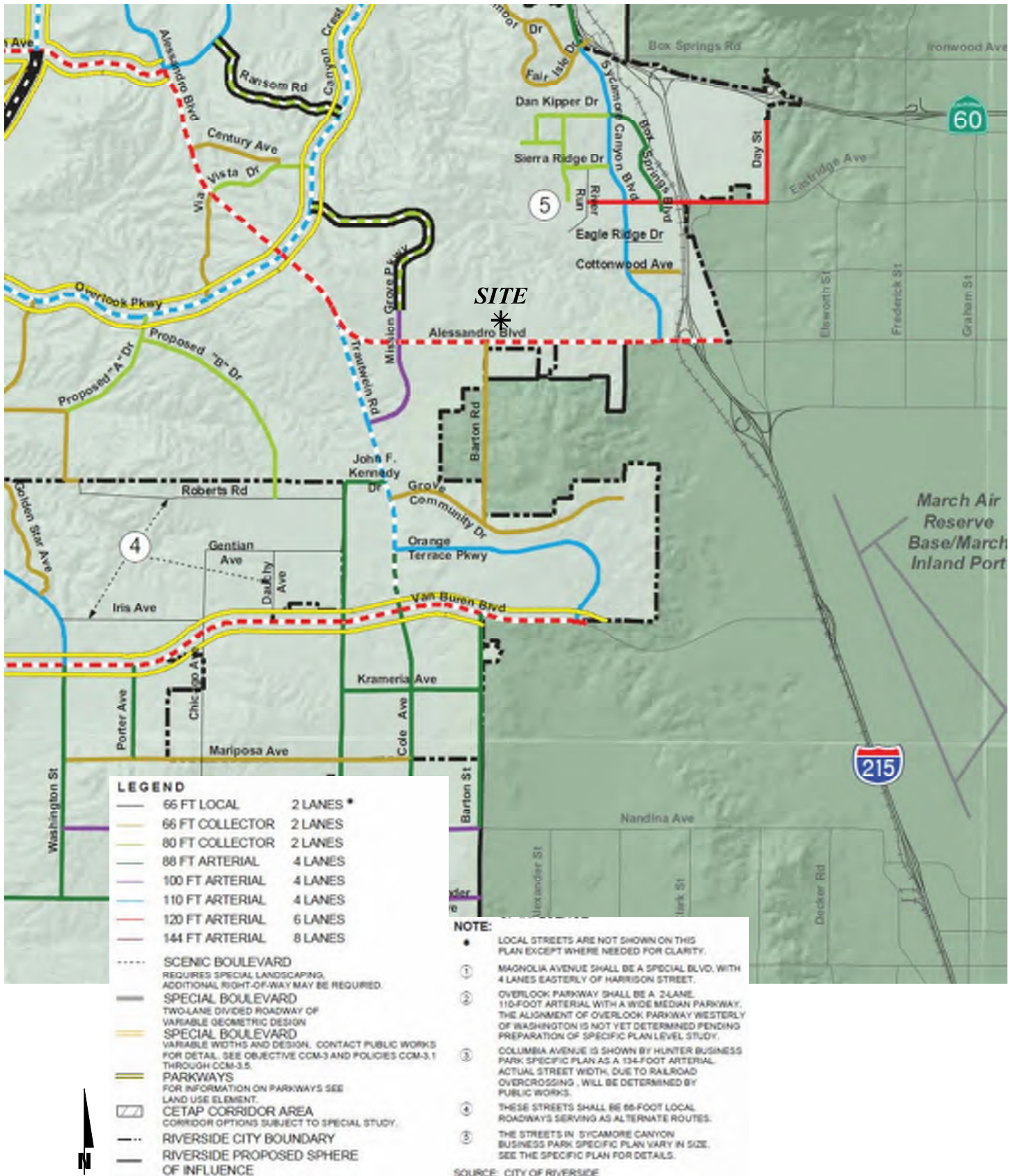
#### LEGEND:

- = TRAFFIC SIGNAL
- = STOP SIGN
- 4** = NUMBER OF LANES
- D** = DIVIDED
- U** = UNDIVIDED
- RTO** = RIGHT TURN OVERLAP
- DEF** = DEFACTO RIGHT TURN
- = SPEED LIMIT (MPH)



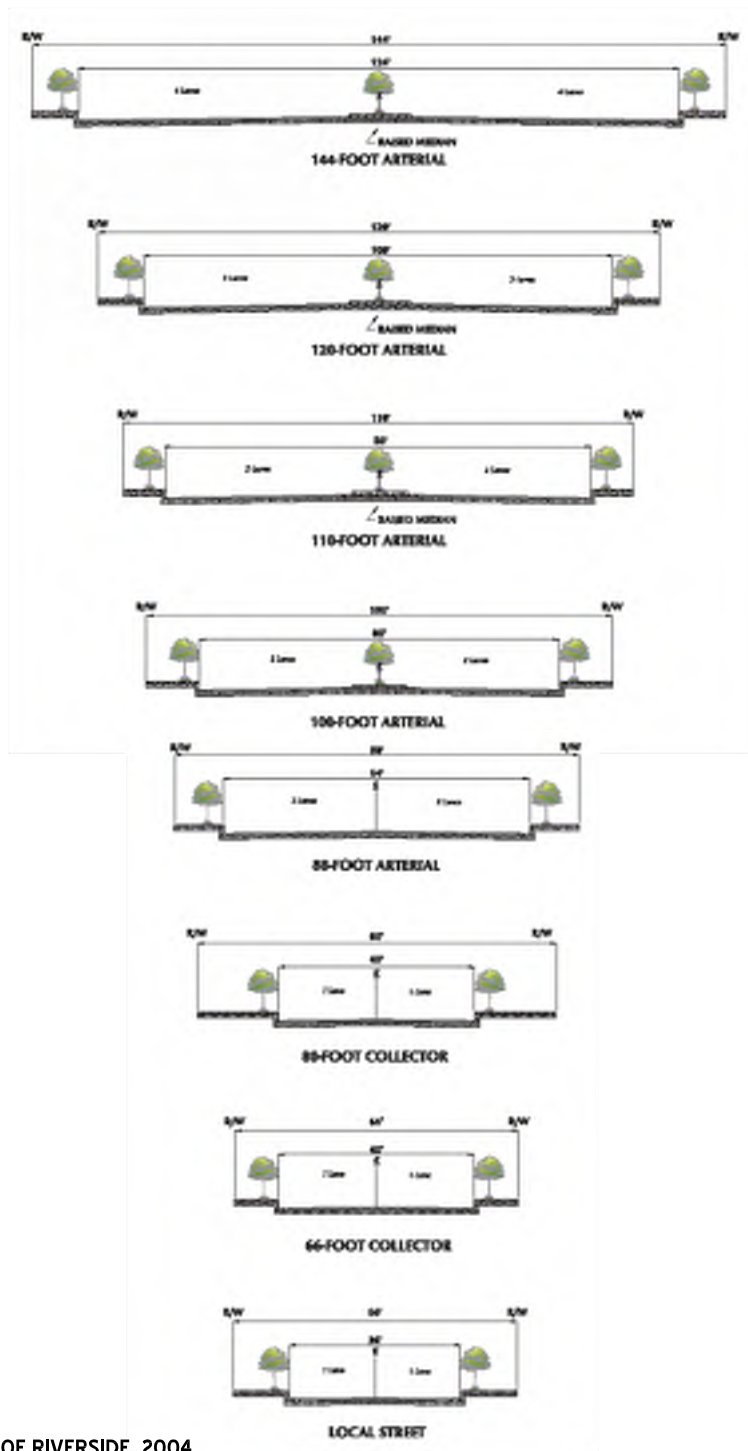


## EXHIBIT 3-2: CITY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT





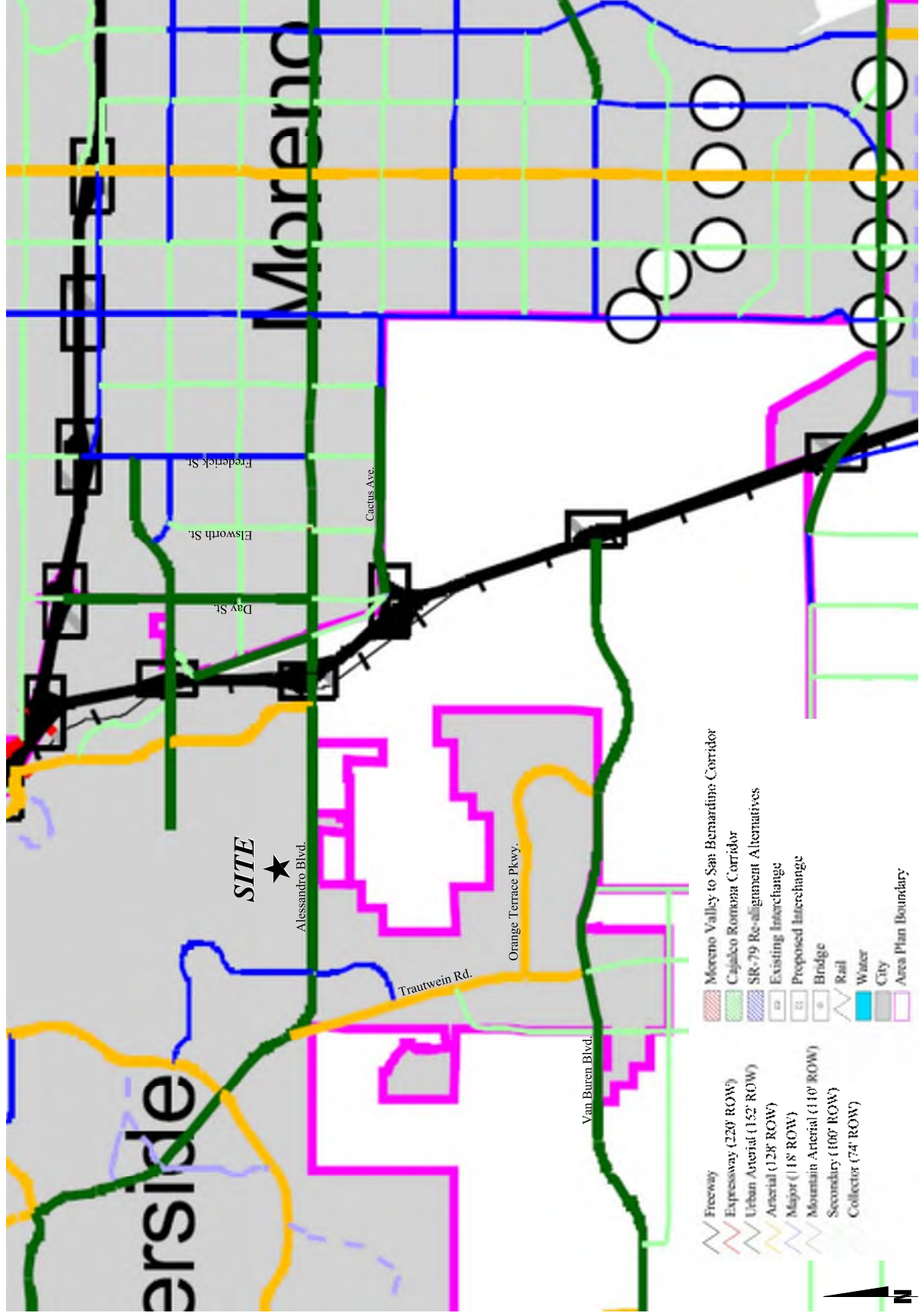
### EXHIBIT 3-3: CITY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS



SOURCE: CITY OF RIVERSIDE, 2004

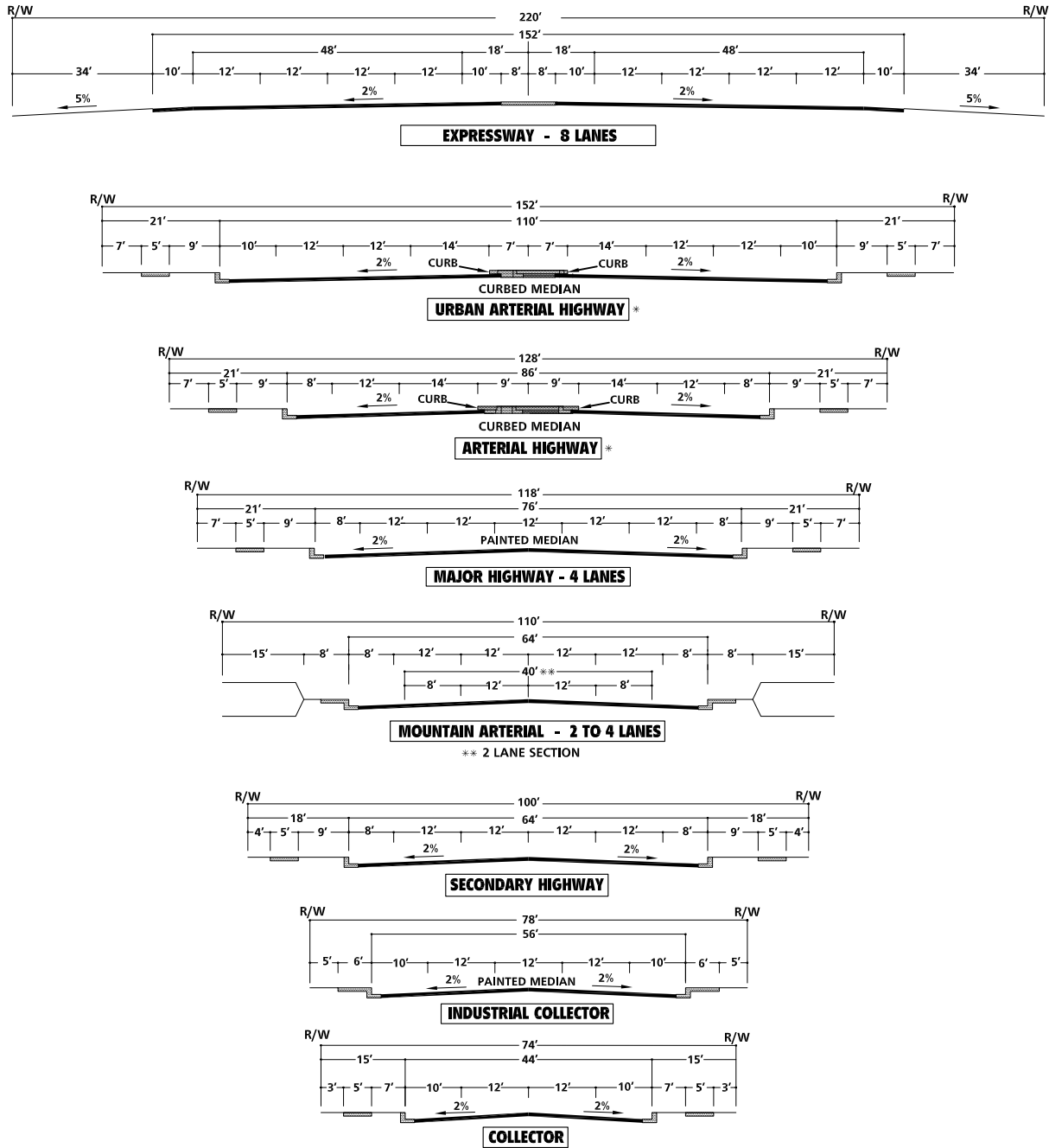


EXHIBIT 3-4: COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT





# EXHIBIT 3-5: COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS



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










NOT TO SCALE

SOURCE: COUNTY OF RIVERSIDE





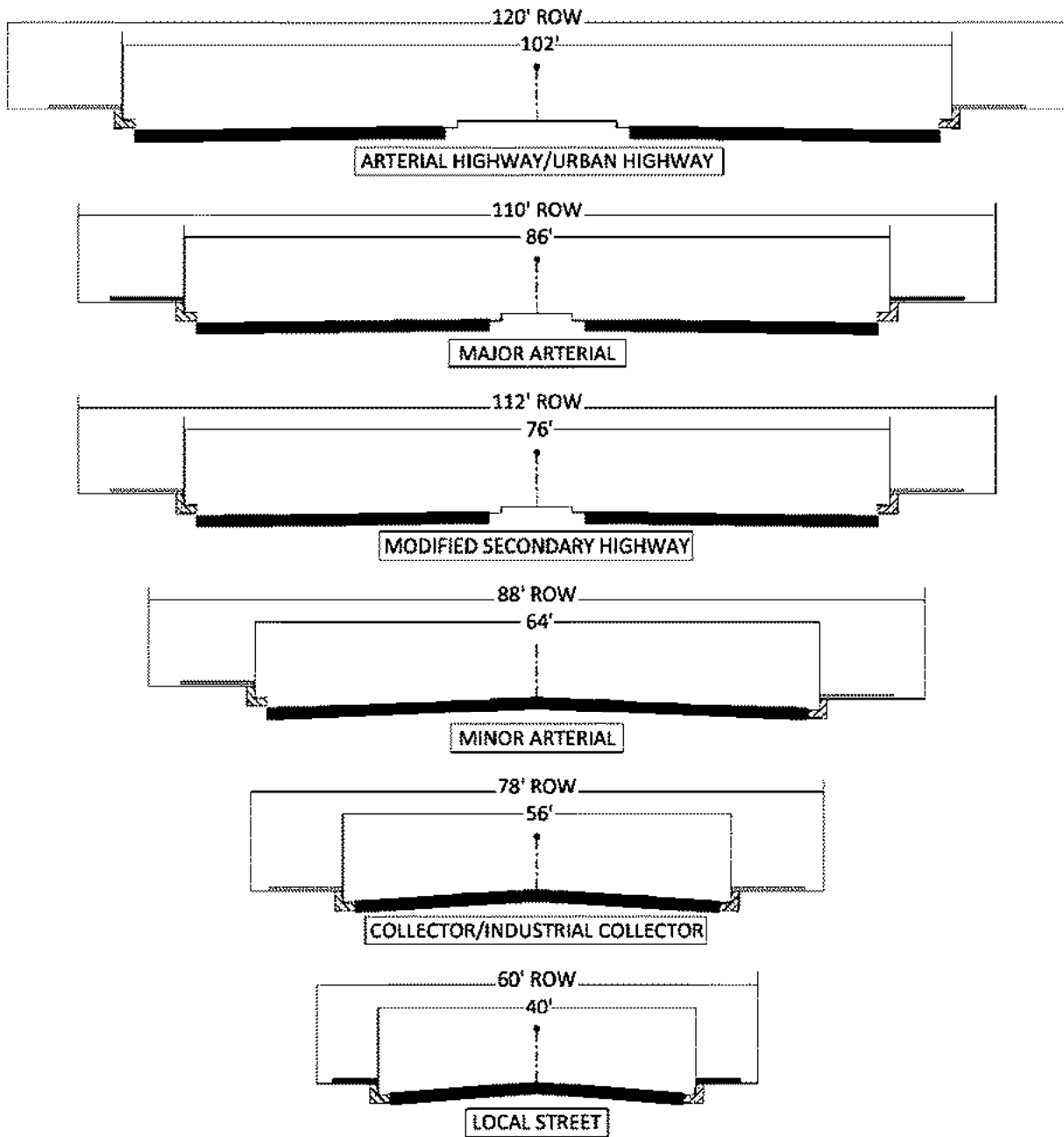
Legend

-  Arterial Highway       Roundabout  
 Arterial/Urban Arterial Highway       Enhanced Intersection  
 Emergency Access       Freeway Interchange  
 Industrial Collector  
 Secondary Highway  
 March JPA Planning Area



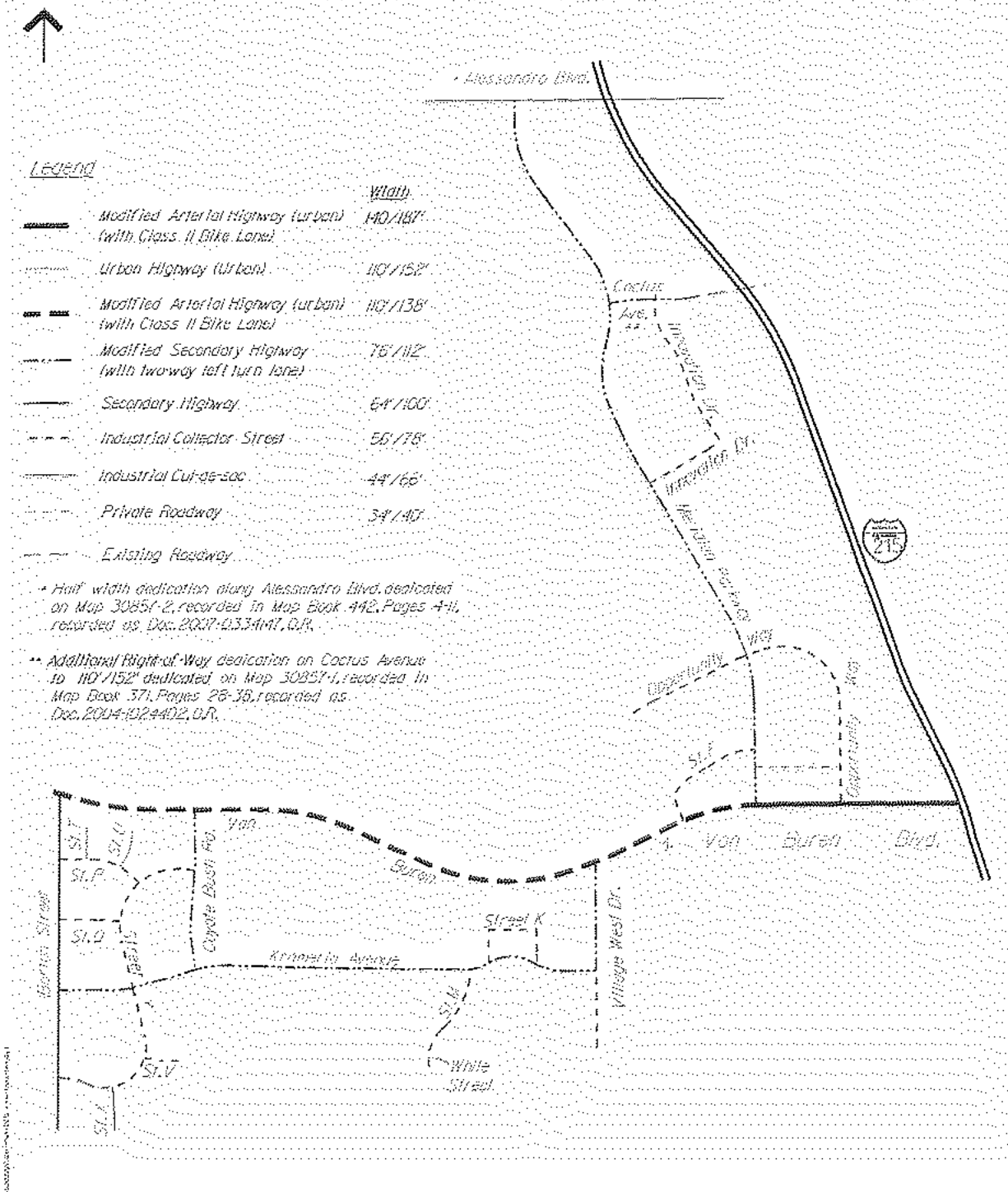


**EXHIBIT 3-7: MARCH JOINT POWERS AUTHORITY GENERAL PLAN ROADWAY CROSS-SECTIONS**





## EXHIBIT 3-7.A: MERIDIAN GENERAL PLAN AMENDMENT ROADWAY SYSTEM





### **3.2.4 CITY OF MORENO VALLEY**

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Moreno Valley General Plan Circulation Element, are shown on Exhibit 3-8. Exhibit 3-9 illustrates the City of Moreno Valley General Plan roadway cross-sections.

### **3.3 TRUCK ROUTES**

While the City of Riverside's General Plan recognizes the trucking industry and the importance of the region's role in the movement of goods, there are no truck routes defined within the City. The March JPA designated truck route map is shown on Exhibit 3-10. The I-215 Freeway, Alessandro Boulevard (west of the I-215 Freeway) is identified as designated truck routes.

### **3.4 TRANSIT SERVICE**

The study area within the City of Riverside and the surrounding County of Riverside and City of Moreno Valley are currently served by the Riverside Transit Authority (RTA), a public transit agency serving various jurisdictions within Riverside County. The existing bus routes provided within the area by RTA are shown on Exhibit 3-11. RTA Routes 20 and 26 could potentially serve the Project as it currently operates along Alessandro Boulevard to the south of the Project site. Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

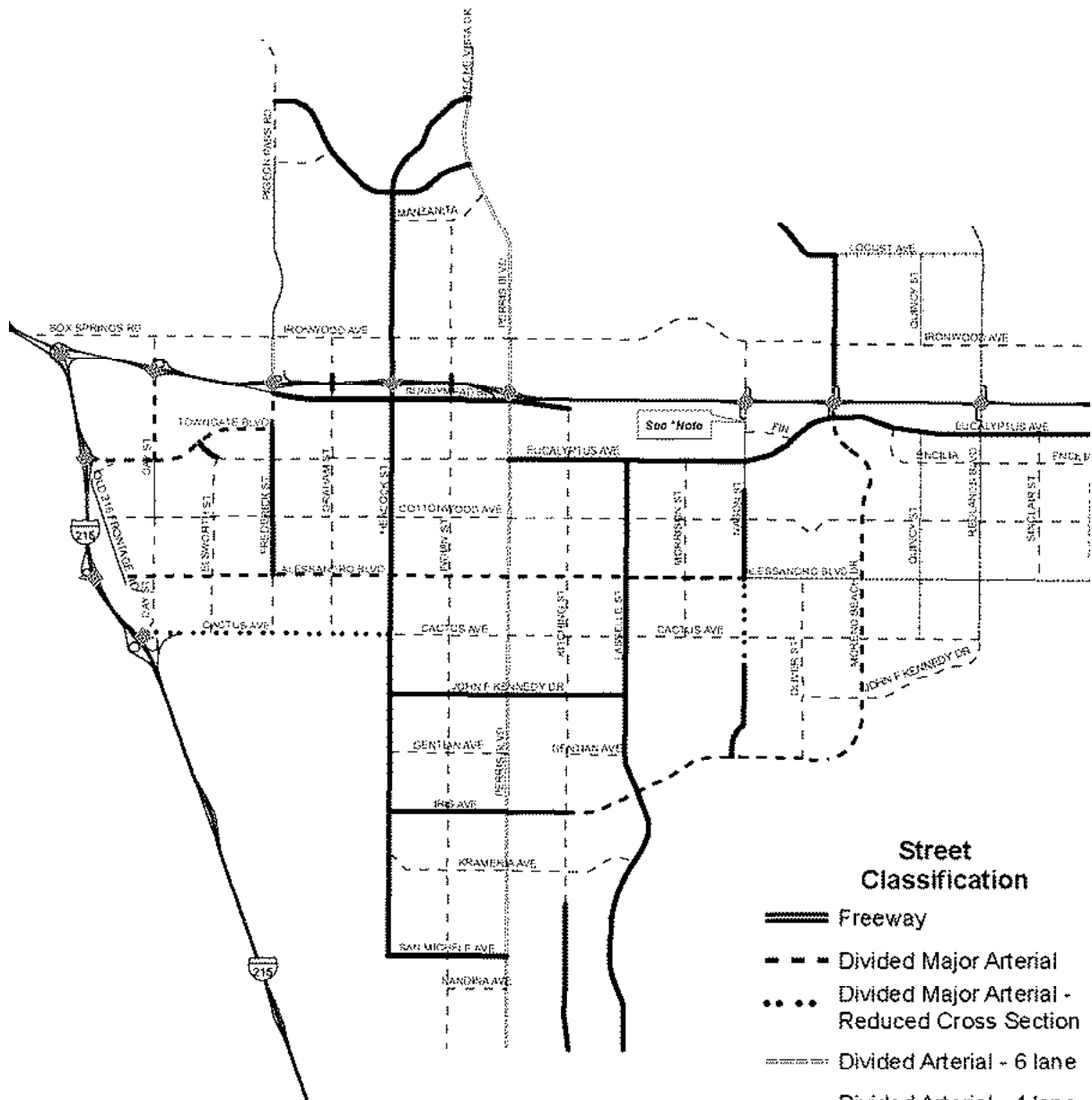
It should also be noted that the Moreno Valley/March Field Metrolink Station is located on Meridian Parkway.

### **3.5 BICYCLE & PEDESTRIAN FACILITIES**

Field observations conducted in October 2018 indicate nominal pedestrian and bicycle activity within the study area. Existing pedestrian facilities within the study area are shown on Exhibit 3-12. There are currently Class II bike lanes along Alessandro Boulevard and Meridian Parkway within the study area. Class II bikeways are bike lanes which are established adjacent to traffic lanes and shared the same roadway. Existing sidewalks are currently in place along the Alessandro Boulevard on the north and south side of the street.



# EXHIBIT 3-8: CITY OF MORENO VALLEY GENERAL PLAN CIRCULATION ELEMENT



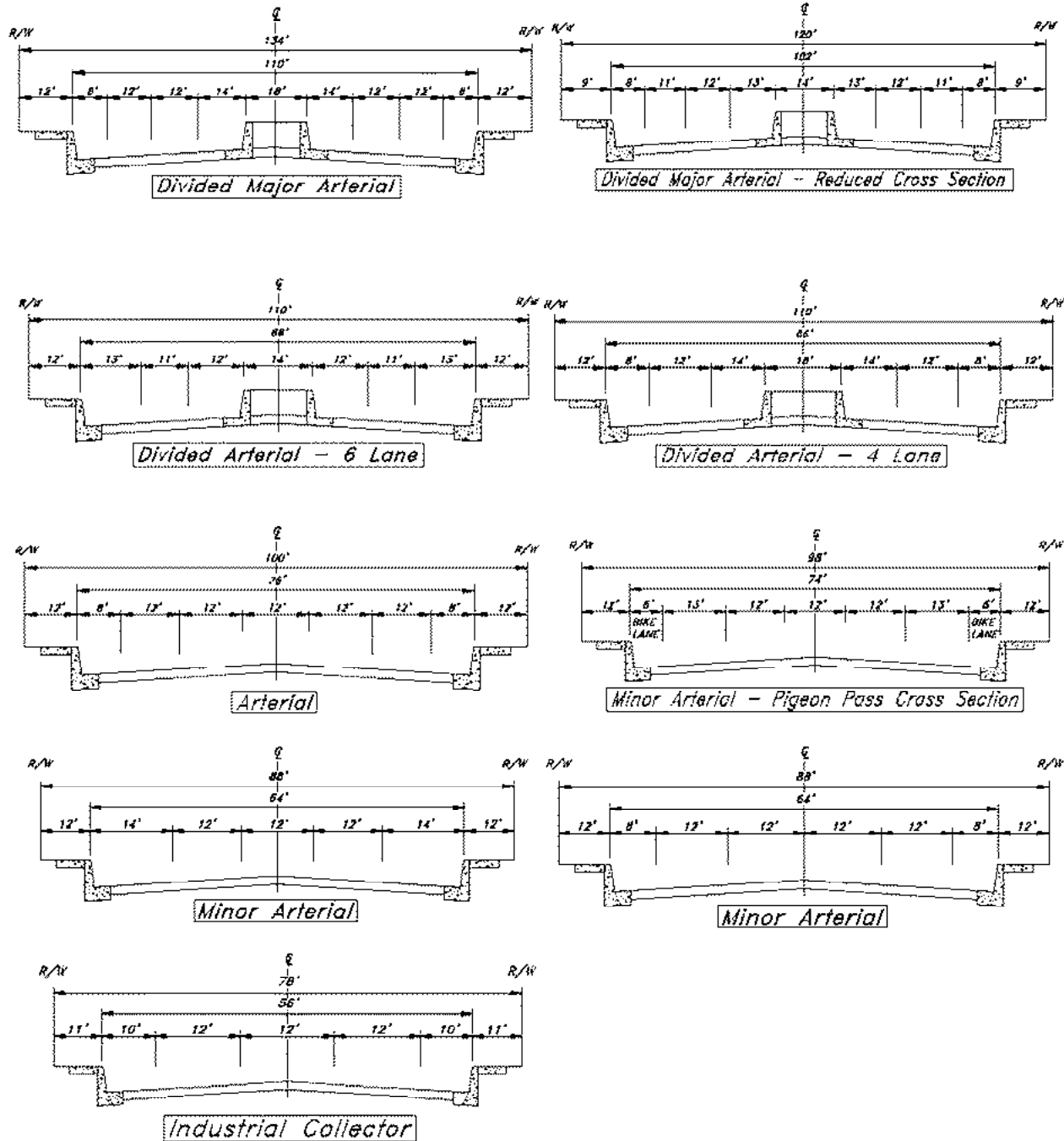
## Street Classification

- Freeway
- Divided Major Arterial
- Divided Major Arterial - Reduced Cross Section
- Divided Arterial - 6 lane
- Divided Arterial - 4 lane
- Arterial
- Minor Arterial
- Minor Arterial - Pigeon Pass Cross Section
- Collector
- Freeway Overpass
- Freeway Interchange



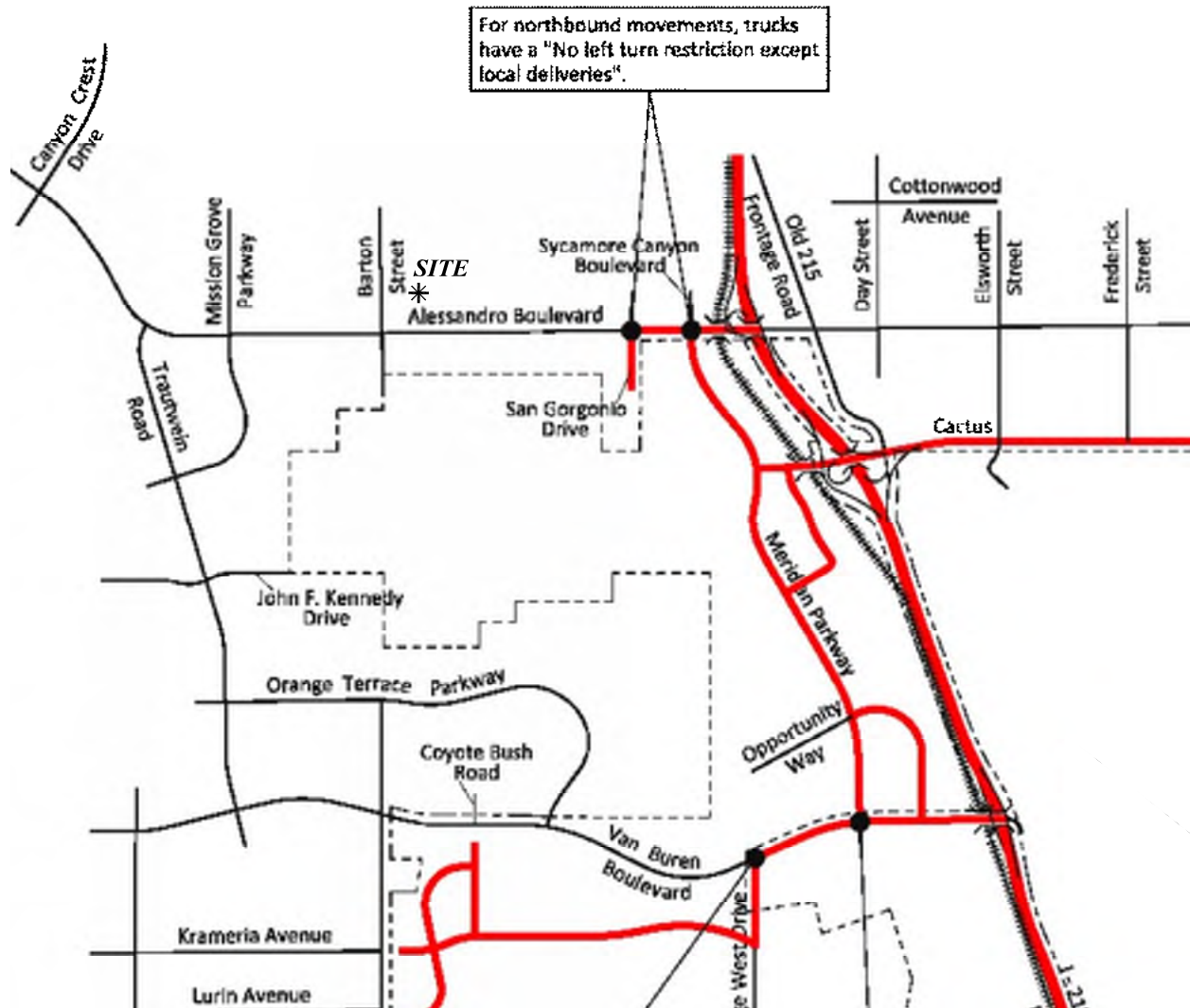


EXHIBIT 3-9: CITY OF MORENO VALLEY GENERAL PLAN ROADWAY CROSS-SECTIONS





### EXHIBIT 3-10: MARCH JOINT POWERS AUTHORITY TRUCK ROUTES



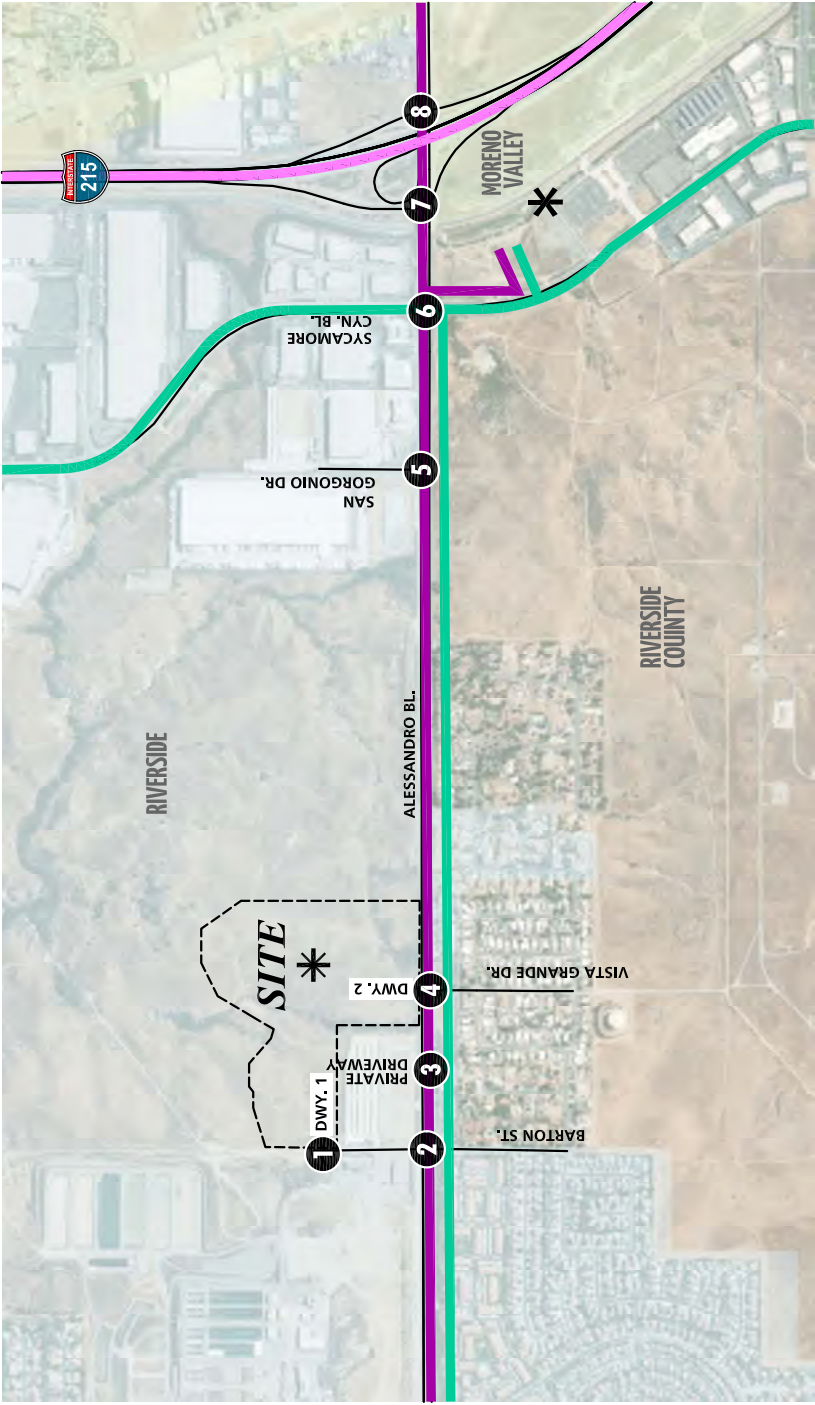
### Legend

— = Truck Routes





EXHIBIT 3-11: EXISTING TRANSIT ROUTES



**LEGEND:**

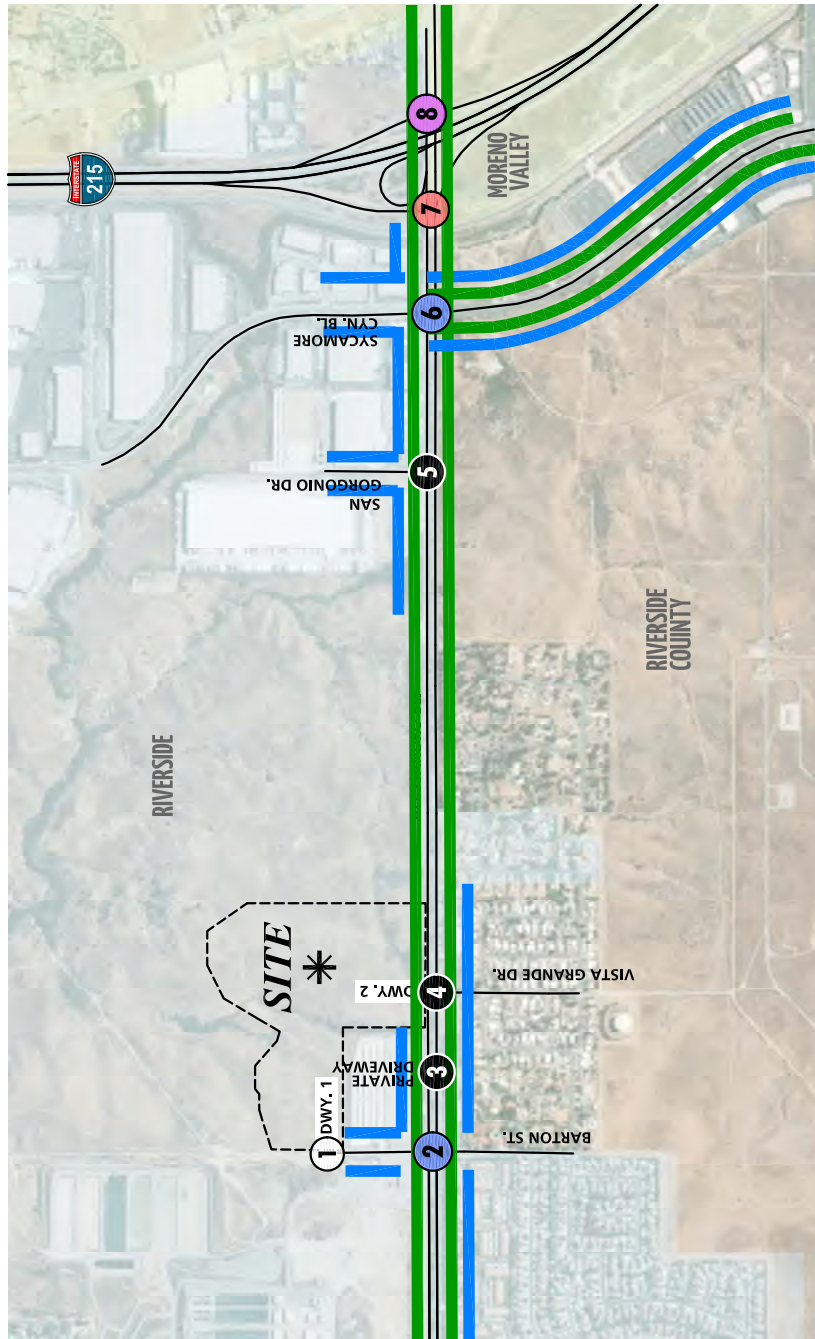
- = RTA ROUTE 22
- = RTA ROUTE 208/212
- = RTA ROUTE 20
- = RTA ROUTE 26

\* MORENO VALLEY/MARCH FIELD  
METROLINK STATION.





EXHIBIT 3-12: EXISTING PEDESTRIAN FACILITIES





### 3.6 EXISTING (2018) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in October 2018 plus an ambient growth rate of 2% to account for area growth. Consistent with standard traffic engineering practice, these traffic counts were conducted either on Tuesday, Wednesday, or Thursday due to potential fluctuations in traffic that typically occur on Mondays, Fridays, Holidays, or weekends. The following peak hours were selected for analysis:

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

The weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes, and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic (e.g., between ramp-to-arterial intersections, etc.). The traffic counts collected in October 2018 include the vehicle classifications as shown below:

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

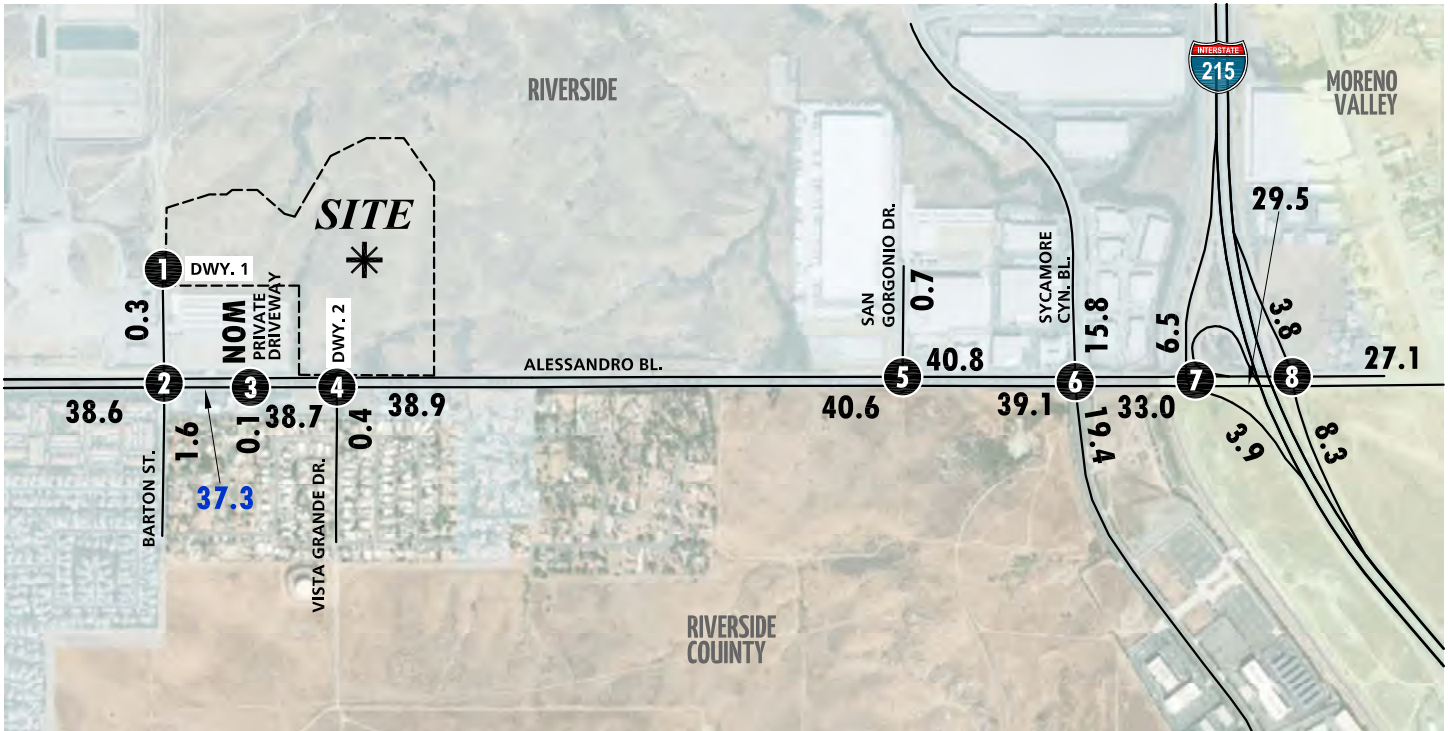
To represent the impact large trucks, buses, and recreational vehicles have on traffic flow, all trucks were converted into PCEs. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow down is also much longer than for passenger cars, and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the San Bernardino County CMP and are in excess of the factor recommended for use in the County of Riverside traffic study guidelines. (8)

Existing weekday average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-13. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 9.17 = \text{Leg Volume}$$



EXHIBIT 3-13: EXISTING (2019) TRAFFIC VOLUMES (IN PCE)



<div><div>1</div><div>Barton St. &amp; Dwy. 1</div><div><div><div>Future Intersection</div></div></div></div>	<div><div>2</div><div>Barton St. &amp; Alessandro Bl.</div><div><div><div><div><div><div>↙3(12)</div><div>↘3(0)</div></div><div>↖1(6)</div><div>↗1(1)</div><div>↘2476(1814)</div><div>↙42(46)</div></div></div><div><div>↗9(6)</div><div>↘1203(2287)</div><div>↙23(41)</div></div><div><div>↖62(55)</div><div>↗0(0)</div><div>↘36(28)</div></div></div></div></div>	<div><div>3</div><div>Private Driveway &amp; Alessandro Bl.</div><div><div><div><div><div>↙0(0)</div><div>↘0(0)</div></div><div>↖0(0)</div><div>↗2488(1926)</div><div>↘2(3)</div></div></div><div><div>↗5(3)</div><div>↘1217(2294)</div><div>↙5(1)</div></div><div><div>↖3(5)</div><div>↗0(0)</div><div>↘3(2)</div></div></div></div>	<div><div>4</div><div>Dwy. 2 &amp; Alessandro Bl.</div><div><div><div><div>↙2488(1922)</div><div>↘12(23)</div></div></div><div><div>↗1213(2286)</div><div>↘7(12)</div></div><div><div>↖3(2)</div><div>↗14(9)</div></div></div></div>	<div><div>5</div><div>San Gorgonio Dr. &amp; Alessandro Bl.</div><div><div><div><div>↙14(16)</div><div>↘20(27)</div></div><div>↖35(20)</div><div>↗2642(1983)</div></div></div><div><div>↗11(14)</div><div>↘1239(2421)</div></div></div>
<div><div>6</div><div>Sycamore Canyon Bl./ Meridian Pkwy. &amp; Alessandro Bl.</div><div><div><div><div>↙115(310)</div><div>↘83(654)</div></div><div>↖122(189)</div><div>↗522(146)</div><div>↘1997(1334)</div><div>↙110(156)</div></div></div><div><div>↗142(148)</div><div>↘902(1612)</div><div>↙208(516)</div></div><div><div>↖522(349)</div><div>↗678(279)</div><div>↘67(158)</div></div></div>	<div><div>7</div><div>I-215 SB Ramps &amp; Alessandro Bl.</div><div><div><div><div>↙311(357)</div><div>↘210(216)</div></div><div>↖200(131)</div><div>↗2412(1332)</div></div></div><div><div>↗710(1536)</div><div>↘324(424)</div></div></div>	<div><div>8</div><div>I-215 NB Ramps &amp; Alessandro Bl.</div><div><div><div><div>↙140(206)</div><div>↘1582(945)</div></div></div><div><div>↗63(195)</div><div>↘891(1501)</div></div><div><div>↖934(598)</div><div>↗0(8)</div><div>↘218(303)</div></div></div></div>	<div><div>LEGEND:</div><div><div>10(10)</div><div>= AM(PM) PEAK HOUR INTERSECTION</div></div><div><div>10.0</div><div>= VEHICLES PER DAY (1000'S)</div></div><div><div>10.0</div><div>= ACTUAL (COUNT-BASED) VEHICLES PER DAY</div></div><div><div>NOM</div><div>= NOMINAL, LESS THAN 50 VEHICLES PER DAY</div></div></div>	

**LEGEND:**

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





A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 10.91 percent. As such, the above equation utilizing a factor of 9.17 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 10.91 percent (i.e.,  $1/0.01091 = 9.17$ ) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes are shown on Exhibit 3-13.

### **3.7 INTERSECTION OPERATIONS ANALYSIS**

Existing (2019) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1 which indicates that the Existing study area intersections are all currently operating at acceptable LOS during the peak hours, with the exception of the following locations:

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4) – LOS F AM and PM peak hours
- Sycamore Canyon Bl. & Alessandro Bl. (#6) – LOS F AM and PM peak hours

Consistent with Table 3-1, a summary of the peak hour intersection LOS for Existing conditions are shown on Exhibit 3-14. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

### **3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS**

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. No study area intersections currently warrant a traffic signal for Existing traffic conditions. The traffic signal warrant analysis worksheets are included in Appendix 3.3 of this TA.

### **3.9 ROADWAY SEGMENT CAPACITY ANALYSIS**

As noted previously, the City of Riverside stated roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future traffic demand.

Table 3-2 provides a summary of the E+P conditions roadway segment capacity analysis based on the City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) identified previously on Table 2-3. As shown on Table 3-2, all roadway segments that are anticipated to operate at an acceptable LOS under Existing (2019) traffic conditions (e.g., LOS D or better).



EXHIBIT 3-14: EXISTING (2019) SUMMARY OF LOS

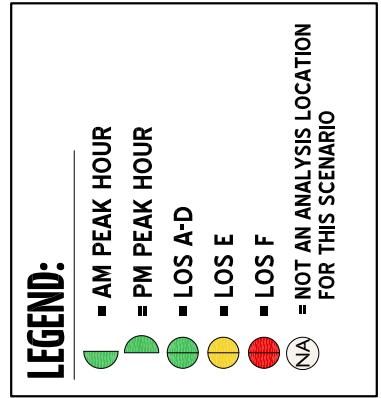




Table 3-1

## Intersection Analysis for Existing (2019) Conditions

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>										Delay <sup>2</sup> (secs.)		Level of Service		Jurisdiction		
			Northbound			Southbound			Eastbound			Westbound			AM	PM		AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R					
1	Barton St. & Driveway 1	TS	0	1	d	0	1	d	1	3	0	1	3	d	40.8	36.8	D	D	Riverside
2	Barton St. & Alessandro Bl.		TS	0	1	0	0	1	0	1	3	0	1	3	0	2.4	3.8	A	A
3	Private Driveway & Alessandro Bl.	CSS	0	1	d	0	0	0	0	3	0	1	3	0	77.3	>100.0	F	F	Riverside
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.		TS	0	0	0	2	0	1>>	1	3	0	0	3	1	8.1	8.3	A	A
5	San Gorgonio Dr. & Alessandro Bl.	TS	2	2	2>	2	2	1	1	3	1	2	3	1	72.3	48.5	E	D	Riverside/JPA
6	Sycamore Canyon Bl. & Alessandro Bl.	TS	0	0	0	1	1	1	1	0	3	0	3	0	6.2	9.4	A	A	Caltrans/Riverside/County
7	I-215 SB Ramps & Alessandro Bl.	TS	1	1	1	0	0	0	1	3	0	0	3	d	20.2	20.4	C	C	Caltrans/Riverside/County
8	I-215 NB Ramps & Alessandro Bl.																		

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

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

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

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

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal



Table 3-2

## Roadway Segment Analysis for Existing (2019) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity <sup>1</sup>	Existing (2019)	V/C <sup>2</sup>	LOS <sup>3</sup>	Acceptable LOS
1	Alessandro Bl.	Barton St. to Private Driveway	6D	49,500	37,331	0.75	C	D
2		Private Driveway to Vista Grande Dr.	6D	49,500	38,724	0.78	C	D
3		Vista Grande Dr. to San Gorgonio Dr.	6D	49,500	40,640	0.82	D	D
4		San Gorgonio Dr. to Sycamore Canyon Bl.	6D	49,500	40,796	0.82	D	D
5		Sycamore Canyon Bl. to I-215 SB Ramps	6D	49,500	32,950	0.67	B	D
6		I-215 SB Ramps to I-215 NB Ramps	6D	49,500	29,467	0.60	A	D

<sup>1</sup> These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

<sup>2</sup> V/C = Volume to Capacity ratio

<sup>3</sup> LOS = Level of Service



### **3.10 OFF-RAMP QUEUING ANALYSIS**

A queuing analysis was performed for the off-ramps at the I-215 Freeway at Alessandro Boulevard interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 Freeway mainline. Queuing analysis findings are presented in Table 3-3. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 3-3, there are no existing queuing issues. Worksheets for Existing traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.



**Table 3-3**

**Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2019) Conditions**

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Alessandro Bl.	SBL	525	166	167	Yes	Yes
	SBL/R	1,540	147	146	Yes	Yes
	SBR	525	137	138	Yes	Yes
I-215 NB Ramps / Alessandro Bl.	NBL	450	400 <sup>2</sup>	267	Yes	Yes
	NBL/T/R	1,345	327	283	Yes	Yes
	NBR	450	88	183	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.

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

<sup>3</sup> Maximum queue length for the approach reported.



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## 4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The proposed Project is to consist of 603,100 square feet of High-Cube Transload Short-Term Warehouse use between two buildings.

The Project site plan proposes access along Barton Street via Driveway 1 and Alessandro Boulevard via Driveway 2. Both driveways are assumed to allow full-access turning movements. Regional access to the project site is provided via the I-215 Freeway at Alessandro Boulevard interchange.

### 4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Trip generation rates (actual vehicles) for the Project are shown in Table 4-1 and trip generation rates (PCE) for the Project are shown in Table 4-2 illustrating daily and peak hour trip generation estimates based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition, 2017, for High-Cube Transload and Short-Term Storage Warehouse (ITE Land Use Code 154). (3)

Data regarding the truck percentage and vehicle mix has been obtained from High Cube Warehouse Vehicle Trip Generation Analysis (October 2016). (9) The High Cube Warehouse Vehicle Trip Generation Analysis provides vehicle mix for Short-Term Storage, Transload & Non-Cold Storage, which consists of 32.2% trucks for daily trips, 30.8% trucks for AM peak hour trips and 21.7% trucks for PM peak hour trips. The South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type for high-cube warehouses has been utilized for the 2-axle, 3-axle, and 4+-axle trucks.

The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their *Trip Generation* manual, 10th Edition, 2017. For purposes of this analysis, ITE land use code 154 (High-Cube Warehouse/Distribution Center) have been used to derive site specific trip generation estimates. As noted on Tables 4-1 and 4-2, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips by vehicle mix. Total vehicle mix percentages were also obtained from the ITE *Trip Generation* manual in conjunction with the South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type. Finally, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axes, 3-axes, 4+-axes). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix "B" of the San Bernardino County Congestion Management Program (CMP), 2016 Update. Trip generation rates with PCE factors are also shown on Table 4-2.



Table 4-1

## Project Trip Generation Summary (Actual Vehicles)

Project Trip Generation Rates									
Land Use <sup>1</sup>	ITE LU Code	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage <sup>3,4,5</sup>	154	TSF	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (69.2% AM, 78.3% PM, 67.8% Daily)			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks (5.14% AM, 3.62% PM, 5.38% Daily)			0.003	0.001	0.004	0.001	0.003	0.004	0.076
3-Axle Trucks (6.38% AM, 4.49% PM, 6.66% Daily)			0.004	0.001	0.005	0.001	0.003	0.004	0.093
4-Axle+ Trucks (19.28% AM, 13.59% PM, 20.16% Daily)			0.012	0.003	0.015	0.004	0.010	0.014	0.282

Project Trip Generation									
Project	Quantity	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage	603.100	TSF							
Passenger Cars:			26	8	34	14	34	48	573
Truck Trips:									
2-axle:			2	1	3	1	2	3	46
3-axle:			3	1	4	1	2	3	57
4+-axle:			8	2	10	3	7	10	171
- Total Truck Trips (Actual Vehicles)			13	4	17	5	11	16	274
<b>TOTAL TRIPS (Actual Vehicles)<sup>6</sup></b>			<b>39</b>	<b>12</b>	<b>51</b>	<b>19</b>	<b>45</b>	<b>64</b>	<b>847</b>

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Handbook, Third Edition (September 2017).

<sup>4</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), High-Cube Warehouse Vehicle Trip Generation Analysis (October 2016).

<sup>5</sup> Truck Mix Source: SCAQMD Warehouse Truck Trip Study Data Results and Usage (2014).

Normalized % - Without Cold Storage:

16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks

<sup>6</sup> TOTAL TRIPS (Actual Vehicles) = Passenger Cars + Truck Trips (Actual Trucks).



Table 4-2

## Project Trip Generation Summary (PCE)

Project Trip Generation Rates									
Land Use <sup>1</sup>	ITE LU Code	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage <sup>3,4,5</sup>	154	TSF	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (69.2% AM, 78.3% PM, 67.8% Daily)			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks (5.14% AM, 3.62% PM, 5.38% Daily)			0.005	0.002	0.007	0.002	0.005	0.007	0.114
3-Axle Trucks (6.38% AM, 4.49% PM, 6.66% Daily)			0.008	0.002	0.010	0.002	0.006	0.008	0.186
4-Axle+ Trucks (19.28% AM, 13.59% PM, 20.16% Daily)			0.036	0.009	0.045	0.012	0.030	0.042	0.846

Project Trip Generation									
Project	Quantity	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage	603.100	TSF							
Passenger Cars:			26	8	34	14	34	48	573
Truck Trips <sup>6</sup> :									
2-axle (PCE=1.5):			4	2	6	2	4	6	69
3-axle (PCE=2.0):			5	2	7	2	4	6	113
4+-axle (PCE=3.0):			22	6	28	8	19	27	511
- Total Truck Trips (PCE)			31	10	41	13	28	39	693
<b>TOTAL TRIPS (PCE)<sup>7</sup></b>			<b>57</b>	<b>18</b>	<b>75</b>	<b>27</b>	<b>62</b>	<b>87</b>	<b>1,266</b>

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

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), [Trip Generation Handbook](#), Third Edition (September 2017).

<sup>4</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), [High-Cube Warehouse Vehicle Trip Generation Analysis](#) (October 2016).

<sup>5</sup> Truck Mix Source: SCAQMD [Warehouse Truck Trip Study Data Results and Usage](#) (2014).

Normalized % - Without Cold Storage:

16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks

<sup>6</sup> PCE rates are per San Bernardino County Transportation Authority (SBCTA).

<sup>7</sup> TOTAL TRIPS (PCE) = Passenger Cars + Truck Trips (PCE).



As shown on Table 4-2, the proposed Project is anticipated to generate a total of 1,266 PCE trip-ends per day with 75 PCE AM peak hour trips and 87 PCE PM peak hour trips. For comparison, the proposed Project is anticipated to generate a total of 847 actual vehicle trip-ends per day with 51 actual vehicle AM peak hour trips and 64 actual vehicle PM peak hour trips (as shown on Table 4-1).

## **4.2 PROJECT TRIP DISTRIBUTION**

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding land uses, and the proximity to the regional freeway system. The trip distribution pattern for truck traffic is also influenced by the local truck routes approved by the City of Riverside, March JPA, City of Moreno Valley, and Caltrans. Given these differences, separate trip distributions were generated for both passenger cars and truck trips. Exhibit 4-1 illustrates the trip distribution patterns for passenger cars. Exhibits 4-2 illustrates the truck trip distribution patterns.

## **4.3 MODAL SPLIT**

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

## **4.4 PROJECT TRIP ASSIGNMENT**

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



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



LEGEND:

10 = PERCENT TO/FROM PROJECT





EXHIBIT 4-2: PROJECT (TRUCK) TRIP DISTRIBUTION



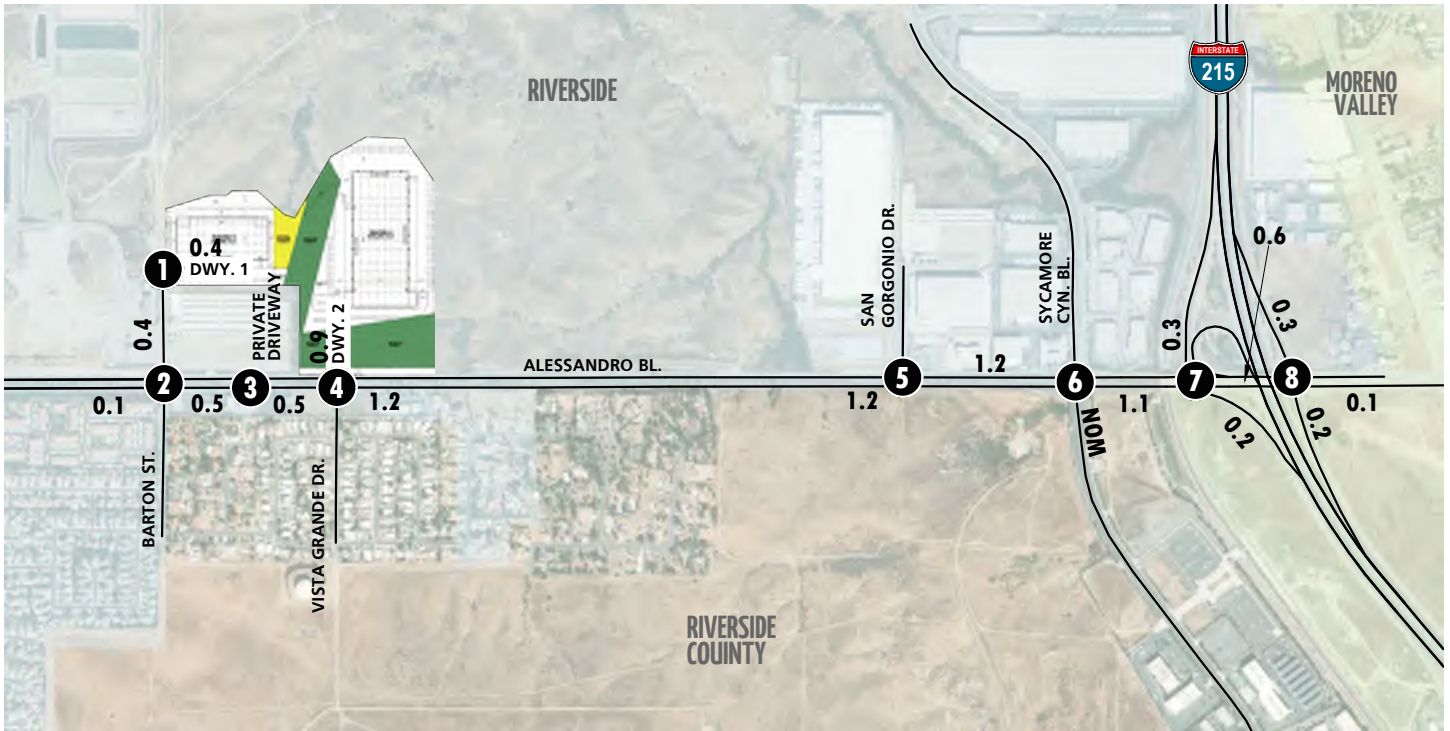
LEGEND:

10 = PERCENT TO/FROM PROJECT





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



<b>1</b> Barton St. & Dwy. 1 	<b>2</b> Barton St. & Alessandro Bl. 	<b>3</b> Private Driveway & Alessandro Bl. 	<b>4</b> Dwy. 2 & Alessandro Bl. 	<b>5</b> San Gorgonio Dr. & Alessandro Bl. 
<b>6</b> Sycamore Canyon Bl./ Meridian Pkwy. & Alessandro Bl. 	<b>7</b> I-215 SB Ramps & Alessandro Bl. 	<b>8</b> I-215 NB Ramps & Alessandro Bl. 		

**LEGEND:**

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





## 4.5 BACKGROUND TRAFFIC

To account for growth in traffic between Existing conditions (2019) and the Project Opening Year Cumulative (2023), a compounded annual traffic growth rate of 2.0 percent was assumed (8.24 percent aggregate growth in background traffic for the period between 2019 and 2023). The 2.0 percent annual growth rate is intended to capture non-specific ambient traffic growth.

In context, the TA's assumed 2.0 percent compounded annual growth rate is considered a reasonable approximation of future traffic growth when compared to demographic projections reflected in other local and regional growth modeling efforts. More specifically, the Southern California Association of Governments (SCAG) 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) growth forecasts for the unincorporated County of Riverside assume the County population to increase from 359,000 in 2012 to 499,200 by the year 2040, or an approximate 1.18 percent growth rate compounded annually. The RTP/SCS assumed growth in households over the same 28-year period reflects an increase from 112,300 households to 162,900 households; a rate of 1.34 percent compounded annually. At the upper end of assumed RTP/SCS growth rates, employment over the same 28-year period is projected to increase from 70,500 jobs to 156,600 jobs; a rate of approximately 2.89 percent compounded annually. (10) The 2.0 percent compounded annual traffic growth rate used in the TA reflects the fact that not all persons comprising population growth, household growth, or employment growth would translate on a one-to-one basis as a new vehicle trip in the region; and establishes a judicious midrange estimate lying between the RTP/SCS assumed regional population growth rate (1.18 percent) and the RTP/SCS assumed regional employment growth rate (2.89 percent).

Conservatively, the TA estimates of area traffic growth then add traffic generated by other known or probable related projects defined in Section 4.6 *Cumulative Development Traffic*. These related projects are at least in part already accounted for in the assumed annual 2.0 percent ambient growth in traffic noted above; and in some instances, these related projects would likely not be implemented and functional within the 2023 Opening Year Cumulative time frame assumed for the Project. The resulting traffic growth rate used in the TA (2.0 percent annual ambient growth plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2023 conditions.

## 4.6 CUMULATIVE DEVELOPMENT TRAFFIC

California Environmental Quality Act (CEQA) guidelines require that other reasonably foreseeable development projects which are either approved or being processed concurrently in the study area also be included as part of a cumulative analysis scenario. A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Riverside. The cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to the study area intersections.

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e. 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate Opening Year Cumulative forecasts. In other words, this list of cumulative



development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-4, listed on Table 4-3, and have been considered for inclusion. Based on the cumulative development traffic generation and trip distribution patterns, cumulative development ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-5.

Although it is unlikely that all of these cumulative projects would be fully built and occupied by Year 2023, they have been included in an effort to conduct a conservative analysis and overstate as opposed to understate potential traffic deficiencies.

Any other cumulative projects that are not expected to contribute measurable traffic to study area intersections have not been included since the traffic would dissipate due to the distance from the Project site and study area intersections. Any additional traffic generated by other projects not on the cumulative projects list is accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.5 *Background Traffic*.

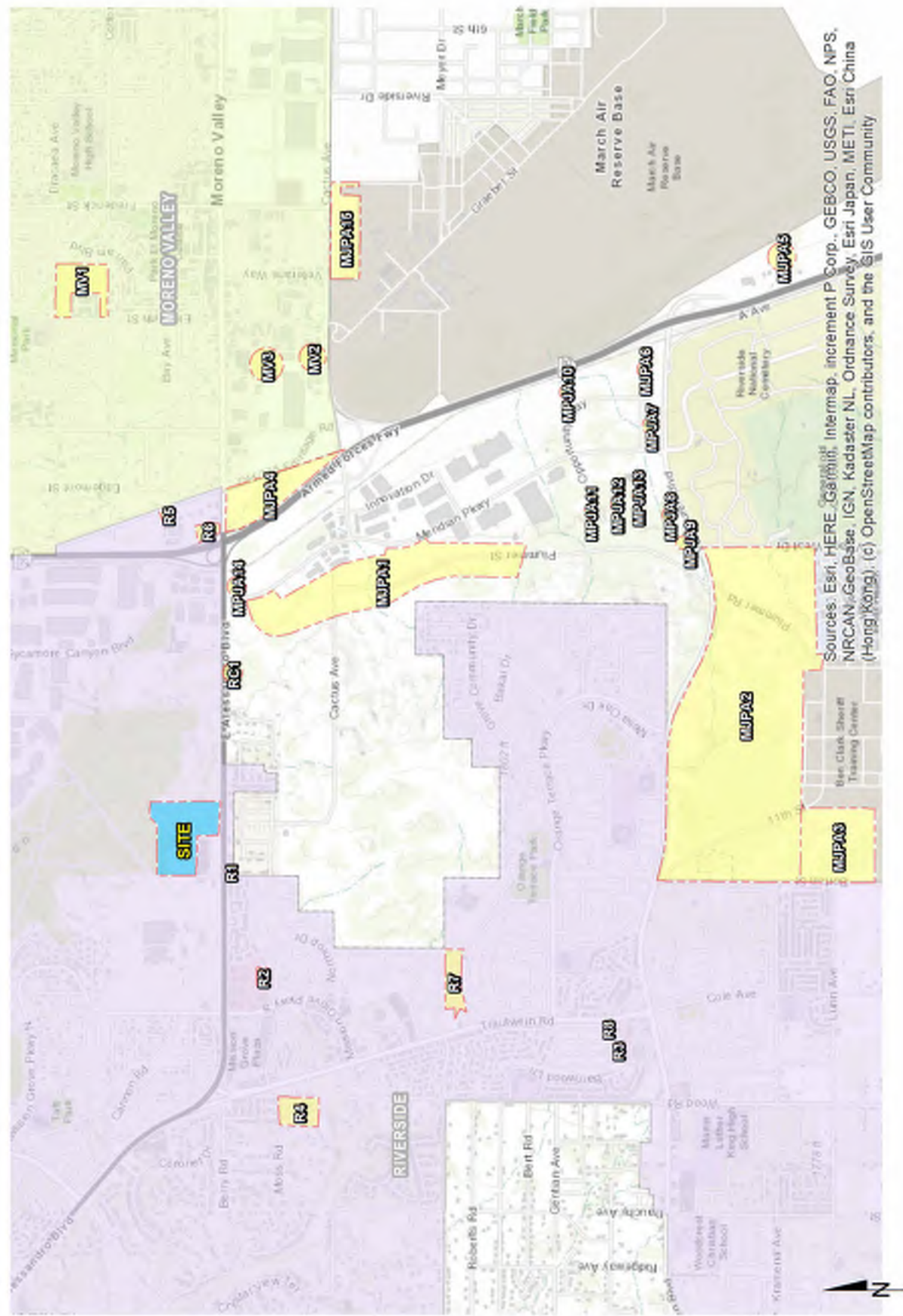
#### **4.7 NEAR-TERM TRAFFIC FORECASTS**

To provide a comprehensive assessment of potential transportation network deficiencies, a “buildup” analysis was performed in support of this work effort. The “buildup” method was used to approximate the Opening Year Cumulative traffic forecasts, and is intended to identify the cumulative deficiencies on both the existing and planned near-term circulation system. The Opening Year Cumulative traffic forecasts include background traffic, traffic generated by other cumulative development projects within the study area, and the traffic generated by the proposed Project.

The “buildup” approach combines existing traffic counts with a background ambient growth factor to forecast the near-term 2023 traffic conditions. An ambient growth factor of 8.24% (2023) accounts for background (area-wide) traffic increases that occur over time, up to the year 2023 from the year 2019 (compounded two percent per year growth over a 4-year period). Traffic volumes generated by the Project are then added to assess the Opening Year Cumulative traffic conditions. The 2023 roadway network is similar to the existing conditions roadway network with the exception of future roadways and intersections proposed to be developed by the Project.

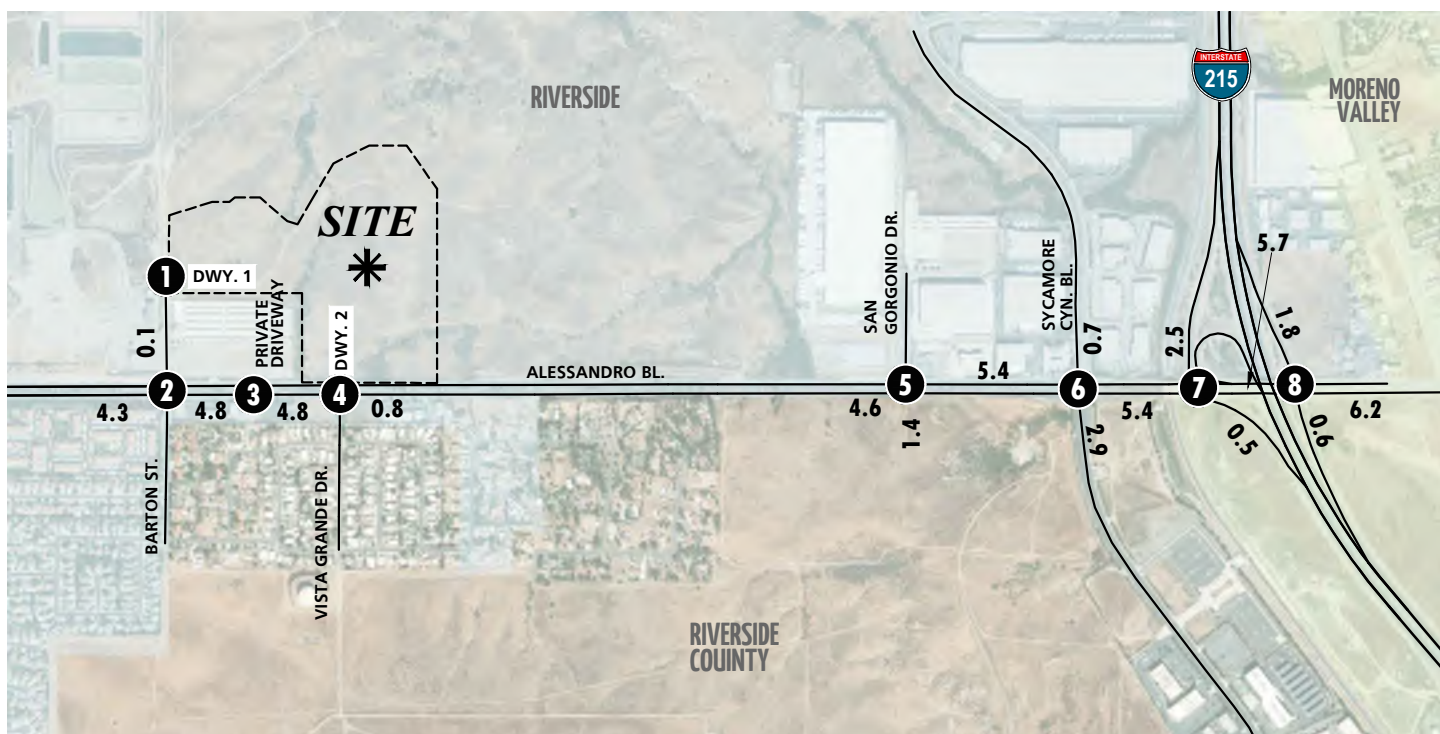


EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP





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



1	Barton St. & Dwy. 1	2	Barton St. & Alessandro Bl.	3	Private Driveway & Alessandro Bl.	4	Dwy. 2 & Alessandro Bl.	5	San Geronimo Dr. & Alessandro Bl.
Future Intersection									
6	Sycamore Canyon Bl./ Meridian Pkwy. & Alessandro Bl.	7	I-215 SB Ramps & Alessandro Bl.	8	I-215 NB Ramps & Alessandro Bl.	<b>LEGEND:</b> 10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES 10.0 = VEHICLES PER DAY (1000'S)			

**LEGEND:**

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





Table 4-3

## Cumulative Development Land Use Summary

ID	Project Name	Land Use <sup>1</sup>	Quantity	Units <sup>2</sup>
<b>City of Riverside</b>				
R1	P17-0419/20/21	Fast Food w/ Drive Thru	1.857	TSF
R2	P16-0578	Warehouse	82.200	TSF
R3	P19-0151/P19-0152/P19-0153	Health and Fitness Club	21.706	TSF
R4	P13-0665	SFDR	8	DU
R5	P15-1035/P16-0556/P16-0567	Warehouse	176.149	TSF
R6	P14-0841 to P14-0848/P16-0472/P16-0474	Warehouse	73.200	TSF
		Commercial Retail	15.000	TSF
R7	P14-0472/P14-0473/P15-0321/P15-0322	SFDR	85	DU
R8	P19-0022/P19-0024/P19-0026/P19-0027/P19-0028	Fast Food w/ Drive Thru	4.319	TSF
<b>County of Riverside</b>				
RC1	PP 25422	Warehouse	814.000	TSF
<b>March Joint Powers Authority</b>				
MJPA1	Meridian Business Park (West Campus)	Industrial Park	2,278.852	TSF
MJPA2	Meridian South Campus	Warehouse	500.000	TSF
		General Office	338.800	TSF
		Commercial Retail	7.905	TSF
		Fast Food w/ Drive Thru	3.300	TSF
		Gas Station w/ Conv. Market	12	VFP
MJPA3	Meridian South Parcel Delivery	Warehouse	1,699	Employees
MJPA4	Freeway Business Center	Warehouse	709	TSF
MJPA5	Veteran's Industrial Plaza/VIP 215	Warehouse	2,000.000	TSF
MJPA6	Veteran's Plaza	Commercial Retail	198.000	TSF
MJPA7	MS Van Buren I	Warehouse	176.396	TSF
MJPA8	MS Van Buren II	Warehouse	162.041	TSF
MJPA9	MS Prime Six	General Office	74.922	TSF
MJPA10	Meridian Distribution Center II	Warehouse	510.000	TSF
MJPA11	Meridian Distribution Center III	Warehouse	262.269	TSF
MJPA12	Meridian Distribution Center IV	Warehouse	90.000	TSF
MJPA13	Economic Business Center	Warehouse	124.523	TSF
MJPA14	MS Alessandro	Industrial Park	157.513	TSF
MJPA15	K4 Parcel	Warehouse	718.000	TSF
<b>City of Moreno Valley</b>				
MV1	Scottish Village	Multifamily	194	DU
MV2	Moreno Valley Cactus Center (PEN16-0131)	Warehouse	36.950	TSF
		Fast Food w/ Drive Thru	7.900	TSF
		Gas Station w/ Car Wash	28	VFP
MV3	PA 08-0047-0052 (Komar Cactus Plaza)	Hotel	110	Rooms
		Fast Food w/ Drive Thru	8.000	TSF
		Commercial	42.400	TSF

<sup>1</sup> SFDR = Single Family Detached Residential<sup>2</sup> DU = Dwelling Units; TSF = Thousand Square Feet; SP = Spaces; VFP = Vehicle Fueling Positions



As noted previously, an analysis of the proposed Project at various development tiers has been assessed for the purposes of this traffic study. The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Opening Year Cumulative (2023) Without Project
  - Existing (2019) traffic
  - Ambient growth (8.24%)
  - Cumulative Development traffic
- Opening Year Cumulative (2023) With Project
  - Existing (2019) traffic
  - Ambient growth (8.24%)
  - Cumulative Development traffic
  - Project traffic

#### **4.8 HORIZON YEAR (2040) VOLUME DEVELOPMENT**

The Horizon Year (2040) Without Project traffic conditions were derived from the RivTAM modified to represent Horizon Year conditions using accepted procedures for model forecast refinement and smoothing. The traffic forecasts reflect the area-wide growth anticipated between Existing conditions and Horizon Year conditions.

In most instances the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year Without Project peak hour forecasts were refined using the model derived long-range forecasts, along with existing peak hour traffic count data collected at each analysis location in October 2018. Future estimated peak hour traffic data was used for new intersections and intersections with an anticipated change in travel patterns to further refine the Horizon Year Without Project peak hour forecasts.

The refined future peak hour approach and departure volumes obtained from the model output data are then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program (NCHRP Report 255), along with initial estimates of turning movement proportions. A linear programming algorithm is used to calculate individual turning movements which match the known directional roadway segment forecast volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

Typically, the model growth is prorated and is subsequently added to the existing (base validation) traffic volumes to represent Long Range traffic conditions. However, review of the resulting model growth indicates negative growth for several study area intersections. In an effort to conduct a conservative analysis, reductions to traffic forecasts from either Existing or Opening Year Cumulative traffic conditions were not assumed as part of this analysis. Additional growth has also been applied on a movement-by-movement basis, where applicable, to estimate reasonable Horizon Year forecasts. Horizon Year turning volumes were compared to Opening Year Cumulative volumes in



order to ensure a minimum growth as a part of the refinement process. The minimum growth includes any additional growth between Opening Year Cumulative and Horizon Year traffic conditions that is not accounted for by the traffic generated by cumulative development projects and ambient growth rates assumed between Existing (2019) and Horizon Year traffic conditions. Future estimated peak hour traffic data was used for new intersections and intersections with an anticipated change in travel patterns to further refine the Horizon Year peak hour forecasts.

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

The truck component of RivTAM has data that is unusually low. As such, in an effort to conduct a conservative analysis, the presence of trucks has been accounted for based on the manual volume adjustments made to demonstrate growth above Opening Year Cumulative (2023) traffic forecasts, which are presented and evaluated in PCE (see Section 3.7 *Existing (2019) Traffic Counts* for discussion on PCE). As such, the Horizon Year (2040) forecasts are also assumed to be in PCE for the purposes of this analysis. Post-processing worksheets for Horizon Year (2040) without Project traffic conditions are provided in Appendix 4.1.



## 5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P (Project Buildout) conditions and the resulting intersection operations, roadway segment capacities, and traffic signal warrant analyses.

### 5.1 ROADWAY IMPROVEMENTS

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

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

### 5.2 TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project Buildout traffic. Exhibit 5-1 shows the ADT and peak hour volumes which can be expected for E+P traffic conditions.

### 5.3 INTERSECTION OPERATIONS ANALYSIS

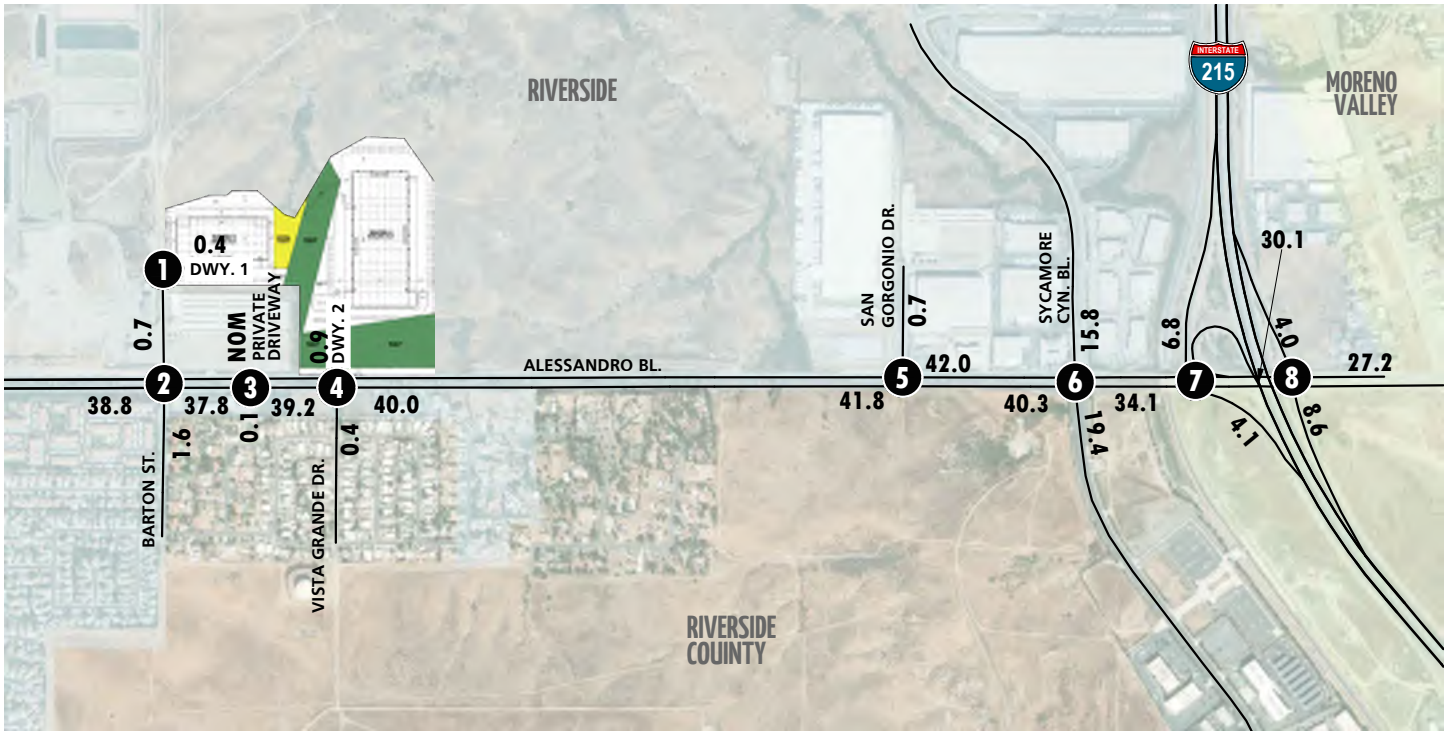
E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1, which indicates that two study area intersections are anticipated to operate at the same unacceptable LOS for E+P traffic conditions, as previously identified under Existing (2019) conditions (see Section 3.7). The deficiencies are summarized in Table 5-2, which indicates that two study area intersections are anticipated to be deficient.

***Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)*** – Although this intersection was found to operate at an unacceptable LOS (LOS F) during the AM and PM peak hours under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels during the peak hours with the addition of Project traffic. The increase in peak hour delay is anticipated to be greater than one second. Therefore, there is a deficiency based on the City of Riverside's peak hour delay criteria for intersections operating at LOS F.

***Sycamore Canyon Boulevard & Alessandro Boulevard (#6)*** – Although this intersection was found to operate at an unacceptable LOS (LOS E) during the AM peak hour under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels (LOS E) during the peak hours with the addition of Project traffic. The increase in peak hour delay is anticipated to be less than two seconds and the project traffic is less than 2% of the total traffic for E+P conditions. However, the intersection of Sycamore Canyon Boulevard & Alessandro Boulevard is currently built out to its General Plan ultimate cross-section and exceeds the General Plan target LOS. As such, the deficiency is considered unavoidable.



# EXHIBIT 5-1: E+P TRAFFIC VOLUMES (IN PCE)



<b>1</b> Barton St. & Dwy. 1 	<b>2</b> Barton St. & Alessandro Bl. 	<b>3</b> Private Driveway & Alessandro Bl. 	<b>4</b> Dwy. 2 & Alessandro Bl. 	<b>5</b> San Gorgonio Dr. & Alessandro Bl. 
<b>6</b> Sycamore Canyon Bl./ Meridian Pkwy. & Alessandro Bl. 	<b>7</b> I-215 SB Ramps & Alessandro Bl. 	<b>8</b> I-215 NB Ramps & Alessandro Bl. 	<b>LEGEND:</b> 10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES 10.0 = VEHICLES PER DAY (1000'S) NOM = NOMINAL, LESS THAN 50 VEHICLES PER DAY	





Table 5-1

## Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control <sup>2</sup>	Existing (2019)				E+P				Jurisdiction	Deficiency? <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service			
			AM	PM	AM	PM	AM	PM	AM	PM		
1	Barton St. & Driveway 1	CSS	Future Intersection				8.6	8.6	A	A	Riverside	No
2	Barton St. & Alessandro Bl.	TS	40.8	36.8	D	D	40.9	39.4	D	D	Riverside	No
3	Private Driveway & Alessandro Bl.	TS	2.4	3.8	A	A	2.4	3.9	A	A	Riverside	No
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.	CSS	77.3	>100.0	F	F	>100.0	>100.0	F	F	Riverside	Yes
5	San Gorgonio Dr. & Alessandro Bl.	TS	8.1	8.3	A	A	10.0	8.5	A	A	Riverside/JPA	No
6	Sycamore Canyon Bl. & Alessandro Bl.	TS	72.3	48.5	E	D	72.8	49.3	E	D	Riverside/JPA	Yes
7	I-215 SB Ramps & Alessandro Bl.	TS	6.2	9.4	A	A	6.5	9.7	A	A	Caltrans/Riverside/County	No
8	I-215 NB Ramps & Alessandro Bl.	TS	20.2	20.4	C	C	20.6	21.1	C	C	Caltrans/Riverside/County	No

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

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

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; **CSS** = Improvement

<sup>3</sup> See Table 5-2 for a detailed summary of deficiencies.



Table 5-2

## Deficient Intersection Summary for E+P Conditions

#	Intersection	Jurisdiction	Project % of Total Traffic		Change in Delay (secs.)		Project Trip Contribution		Deficiency? 1,2,3
			AM	PM	AM	PM	AM	PM	
1	Barton St. & Driveway 1	Riverside	N/A	N/A	--	--	N/A	N/A	No
2	Barton St. & Alessandro Bl.	Riverside	N/A	N/A	0.1	2.6	N/A	N/A	No
3	Private Driveway & Alessandro Bl.	Riverside	N/A	N/A	0.0	0.1	N/A	N/A	No
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.	Riverside	N/A	N/A	<b>&gt;1.0</b>	<b>&gt;1.0</b>	N/A	N/A	<b>Yes</b>
5	San Gorgonio Dr. & Alessandro Bl.	Riverside/JPA	N/A	N/A	1.9	0.2	N/A	N/A	No
6	Sycamore Canyon Bl. & Alessandro Bl.	Riverside/JPA	1.2%	1.3%	0.5	0.8	68	80	<b>Yes<sup>4</sup></b>
7	I-215 SB Ramps & Alessandro Bl.	Caltrans/Riverside/County	N/A	N/A	0.3	0.3	N/A	N/A	No
8	I-215 NB Ramps & Alessandro Bl.	Caltrans/Riverside/County	N/A	N/A	0.4	0.7	N/A	N/A	No

\* **BOLD** = Deficient Intersection

N/A = Not Applicable

<sup>1</sup> For intersections within the jurisdiction of the City of Riverside, a deficiency occurs at a study area intersection when the addition of project related trips causes either peak hour LOS to degrade from acceptable (LOS A through D) to unacceptable levels (LOS E/F) or the peak hour delay to increase as follows:

- LOS A/B = By 10.0 seconds
- LOS C = By 8.0 seconds
- LOS D = By 5.0 seconds
- LOS E = By 2.0 seconds
- LOS F = By 1.0 seconds

<sup>2</sup> For intersections within the jurisdiction of March JPA, if the pre-project condition is at or better than LOS D (or acceptable LOS) and the project-generated traffic causes deterioration below acceptable levels, a deficiency is deemed to occur. However, if the pre-project condition is already below LOS D (or acceptable LOS), deficiency occurs if the Project contributes more than 2% of the total traffic.

<sup>3</sup> For intersections within the jurisdiction of Caltrans, the County of Riverside, or City of Moreno Valley, if the pre-project condition is at or better than LOS D (or acceptable LOS) and the project-generated traffic causes deterioration below acceptable levels, a deficiency is deemed to occur. A deficiency also occurs if the Project contributes 50 or more peak hour trips to an already deficient intersection.

<sup>4</sup> The intersection currently built out to the General Plan ultimate cross-section and exceeds the General Plan target LOS. As such, the deficiency is unavoidable.



A summary of the peak hour intersection LOS for E+P conditions are shown on Exhibit 5-2. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of this TA.

#### **5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS**

There are no intersections anticipated to meet traffic signal warrants for E+P traffic conditions (see Appendix 5.2).

#### **5.5 ROADWAY SEGMENT CAPACITY ANALYSIS**

As noted previously, the City of Riverside stated roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future traffic demand.

Table 5-3 provides a summary of the E+P conditions roadway segment capacity analysis based on the City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) identified previously on Table 2-3. As shown on Table 5-3 and consistent with Existing traffic conditions, all roadway segments are anticipated to operate at an acceptable LOS under E+P traffic conditions (e.g., LOS D or better).

#### **5.6 OFF-RAMP QUEUING ANALYSIS**

A queuing analysis was performed for the off-ramps at the I-215 Freeway at Alessandro Boulevard interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 Freeway mainline. Queuing analysis findings are presented in Table 5-4 for E+P traffic conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 5-4 and consistent with Existing traffic conditions, the anticipated vehicle queues would be accommodated by the turning lane’s available storage length. Worksheets for E+P traffic conditions off-ramp queuing analysis are provided in Appendix 5.3.



EXHIBIT 5-2: E+P SUMMARY OF LOS





Table 5-3

## Roadway Segment Analysis for E+P Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity <sup>1</sup>	Existing (2019)	V/C <sup>2</sup>	LOS <sup>3</sup>	E+P	V/C <sup>2</sup>	LOS <sup>3</sup>	Acceptable LOS <sup>3</sup>
1	Alessandro Bl.	Barton St. to Private Driveway	6D	49,500	37,331	0.75	C	37,795	0.76	C	D
2		Private Driveway to Vista Grande Dr.	6D	49,500	38,724	0.78	C	39,188	0.79	C	D
3		Vista Grande Dr. to San Gorgonio Dr.	6D	49,500	40,640	0.82	D	41,792	0.84	D	D
4		San Gorgonio Dr. to Sycamore Canyon Bl.	6D	49,500	40,796	0.82	D	41,948	0.85	D	D
5		Sycamore Canyon Bl. to I-215 SB Ramps	6D	49,500	32,950	0.67	B	34,073	0.69	B	D
6		I-215 SB Ramps to I-215 NB Ramps	6D	49,500	29,467	0.60	A	30,072	0.61	B	D

<sup>1</sup> These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

<sup>2</sup> V/C = Volume to Capacity ratio

<sup>3</sup> LOS = Level of Service



Table 5-4

## Peak Hour Freeway Off-Ramp Queuing Summary for E+P Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2019)				E+P			
			95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Alessandro Bl.	SBL	525	166	167	Yes	Yes	170	167	Yes	Yes
	SBL/R	1,540	147	146	Yes	Yes	156	151	Yes	Yes
	SBR	525	137	138	Yes	Yes	147	144	Yes	Yes
I-215 NB Ramps / Alessandro Bl.	NBL	450	400 <sup>2</sup>	267	Yes	Yes	412 <sup>2</sup>	272	Yes	Yes
	NBL/T/R	1,345	327	283	Yes	Yes	339 <sup>2</sup>	287	Yes	Yes
	NBR	450	88	183	Yes	Yes	88	183	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.

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

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



## 5.7 RECOMMENDED IMPROVEMENTS

### 5.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed recommended improvements is presented in Table 5-5 for E+P traffic conditions. As shown on Table 5-5, the recommended improvements for each of the deficient intersections are the same for Existing and E+P traffic conditions. Based on each jurisdiction's deficiency criteria (see Table 5-2), the Project is anticipated to result in a deficiencies at the intersections of Driveway 2/Vista Grande Drive & Alessandro Boulevard and Sycamore Canyon Boulevard & Alessandro Boulevard.

#### ***Project Design Feature 1.1 – Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)***

- The intersection of Vista Grande Drive & Alessandro Boulevard is not warranted for a traffic signal (based on volume warrants). However, it is anticipated to continue to operate at a deficient LOS. The additional of a traffic signal would improve the LOS to acceptable levels. The addition of a traffic signal is not currently feasible as the intersection is in close proximity of an existing signalized intersection (Private Driveway at Alessandro Boulevard). The adjacent signalized intersection of Private Driveway at Alessandro Boulevard is not anticipated to warrant a traffic signal as the volumes on the north and south leg are nominal (significantly less than the south leg of Vista Grande Drive & Alessandro Boulevard). It would require the removal of the existing traffic signal at Private Driveway & Alessandro Boulevard for a traffic signal to be installed at Vista Grande Drive and Alessandro Boulevard. It is recommended that the existing signal at Private Driveway & Alessandro Boulevard is to be removed and that the Project will construct a new traffic signal at the intersection of Driveway 2/Vista Grande Drive & Alessandro Boulevard.

The intersection of Sycamore Canyon Boulevard & Alessandro Boulevard is currently built out to its General Plan ultimate cross-section and exceeds the General Plan target LOS. Until additional right-of-way beyond those designated in the General Plan is obtained, there are no anticipated feasible improvements. As such, the deficiency is considered unavoidable.

The intersection operations analysis worksheets for E+P, with improvements, are included in Appendix 5.4.

### 5.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON ROADWAY SEGMENTS

As shown previously on Table 5-3 and consistent with Existing traffic conditions, all study area roadway segments are anticipated to operate at acceptable LOS (LOS D or better) for E+P traffic conditions. As such, no roadway widening has been recommended.

### 5.7.3 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES

As shown previously on Table 5-4 and consistent with Existing traffic conditions, there are no peak hour queuing issues anticipated at the I-215 Freeway at Alessandro Boulevard interchange for E+P traffic conditions. As such, no improvements have been recommended.



Table 5-5

## Intersection Analysis for E+P Conditions With Improvements

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
3	Private Driveway & Alessandro Bl.																	
	- Without Improvements	TS	0	1	0	0	1	0	1	3	0	1	3	0	2.4	3.9	A	A
	- With Improvements	<u>CSS</u> <sup>4</sup>	0	<u>0</u>	<u>1</u>	0	<u>0</u>	<u>1</u>	<u>0</u>	3	0	<u>0</u>	3	0	10.7	14.7	B	B
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.																	
	- Without Improvements	CSS	0	1	d	0	0	0	0	3	0	1	3	0	>100.0	>100.0	F	F
	- With Improvements	<u>TS</u>	0	1	d	<u>1</u>	<u>1</u>	0	<u>1</u>	3	0	1	3	0	7.2	5.5	A	A

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

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

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

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal; TS = Improvement

<sup>4</sup> Recommended improvement includes the elimination of the existing traffic and restricting the driveway access to right-in/right-out access only.



## 6 OPENING YEAR CUMULATIVE (2023) TRAFFIC CONDITIONS

This section discusses the methods used to develop Opening Year Cumulative (2023) Without and With Project traffic forecasts, and the resulting intersection operations, roadway segment capacities, and traffic signal warrant analyses.

### 6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2023) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by the cumulative development projects to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the cumulative development's frontage and driveways). Other connections assumed include the extension of San Gorgonio Avenue, south of Alessandro Boulevard.

### 6.2 OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2023) Without Project traffic conditions are shown on Exhibit 6-1.

### 6.3 OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUME FORECASTS

The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2023) With Project traffic conditions are shown on Exhibits 6-2.

### 6.4 INTERSECTION OPERATIONS ANALYSIS

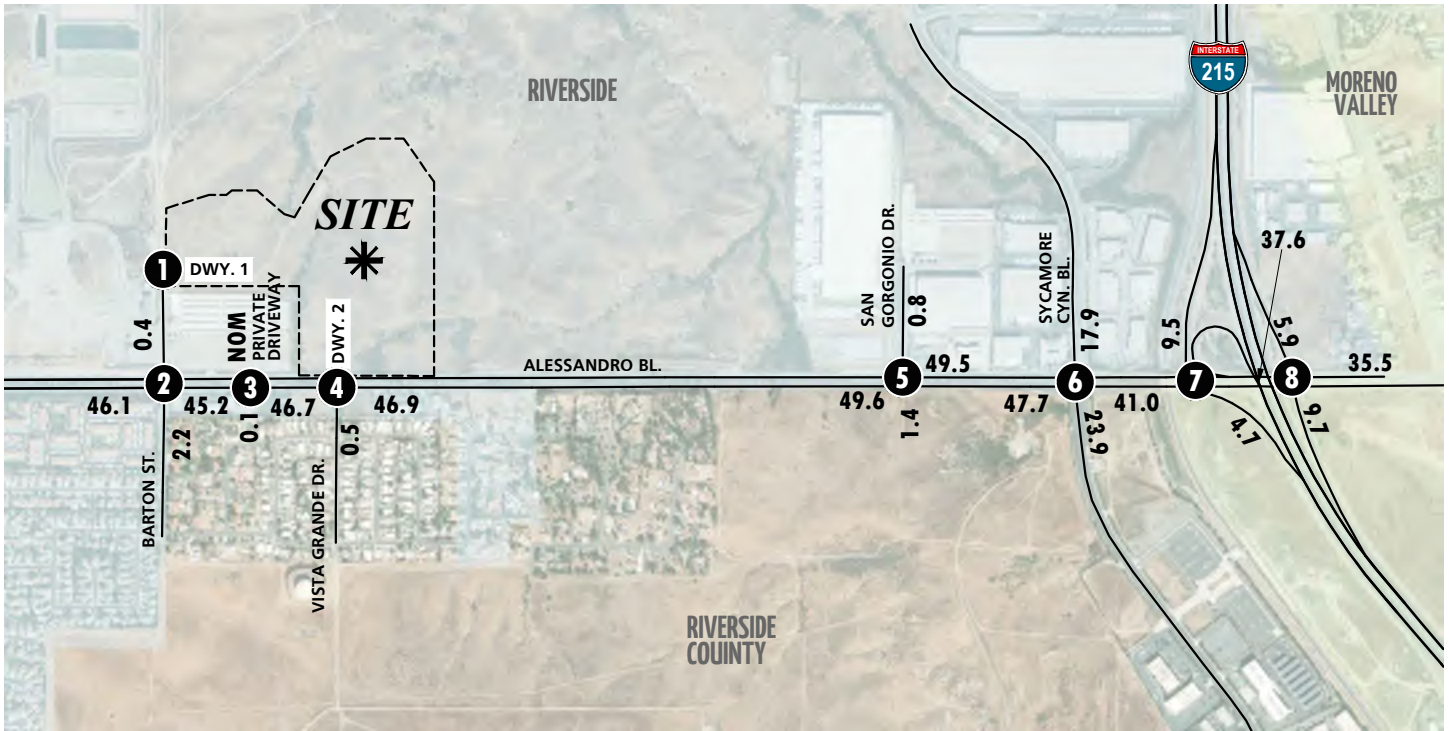
#### 6.4.1 OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations have been conducted for the study intersections to evaluate their operations under Opening Year Cumulative (2023) Without Project conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown in Table 6-1, the following intersections were found to operate at a deficient LOS:

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4) – LOS F AM and PM peak hours
- Sycamore Canyon Bl. & Alessandro Bl. (#6) – LOS F AM and PM peak hours



**EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE)**



1	Barton St. & Dwy. 1	2	Barton St. & Alessandro Bl.	3	Private Driveway & Alessandro Bl.	4	Dwy. 2 & Alessandro Bl.	5	San Gorgonio Dr. & Alessandro Bl.
Future Intersection		<div><div><div>3(13)</div><div>8(5)</div><div>7(14)</div></div><div><div>3(15)</div><div>2804(2251)</div><div>60(67)</div></div></div> <div><div>10(6)</div><div>1557(2639)</div><div>28(46)</div></div> <div><div>68(64)</div><div>5(5)</div><div>55(47)</div></div>		<div><div><div>0(0)</div><div>0(0)</div><div>0(0)</div></div><div><div>0(0)</div><div>2834(2403)</div><div>2(3)</div></div></div> <div><div>5(3)</div><div>1594(2668)</div><div>5(1)</div></div> <div><div>3(5)</div><div>0(0)</div><div>3(2)</div></div>		<div><div><div>2834(2398)</div><div>13(25)</div></div><div><div>1590(2659)</div><div>8(13)</div></div><div><div>3(2)</div><div>15(10)</div></div></div> <div><div>12(15)</div><div>1575(2779)</div><div>32(18)</div></div> <div><div>12(33)</div><div>0(0)</div><div>45(123)</div></div>		<div><div><div>15(17)</div><div>0(0)</div><div>22(29)</div></div><div><div>38(22)</div><div>2981(2422)</div><div>116(66)</div></div></div> <div><div>12(15)</div><div>1575(2779)</div><div>32(18)</div></div> <div><div>12(33)</div><div>0(0)</div><div>45(123)</div></div>	
6	Sycamore Canyon Bl./ Meridian Pkwy. & Alessandro Bl.	7	I-215 SB Ramps & Alessandro Bl.	8	I-215 NB Ramps & Alessandro Bl.	LEGEND: 10(10) = AM(PM) PEAK HOUR INTERSECTION 10.0 = VEHICLES PER DAY (1000'S) NOM = NOMINAL, LESS THAN 50 VEHICLES PER DAY			
<div><div><div>124(336)</div><div>176(758)</div><div>132(205)</div></div><div><div>565(158)</div><div>2375(1690)</div><div>243(212)</div></div></div> <div><div>154(160)</div><div>1159(1996)</div><div>321(589)</div></div> <div><div>589(474)</div><div>771(398)</div><div>93(240)</div></div>		<div><div><div>471(450)</div><div>284(281)</div></div><div><div>220(153)</div><div>2816(1668)</div></div></div> <div><div>931(1894)</div><div>392(549)</div></div>		<div><div><div>191(283)</div><div>1840(1209)</div></div><div><div>102(288)</div><div>1149(1825)</div></div><div><div>1092(699)</div><div>4(12)</div><div>245(332)</div></div></div>					

5(3)

1594(2668)

5(1)

3(5)

0(0)

3(2)

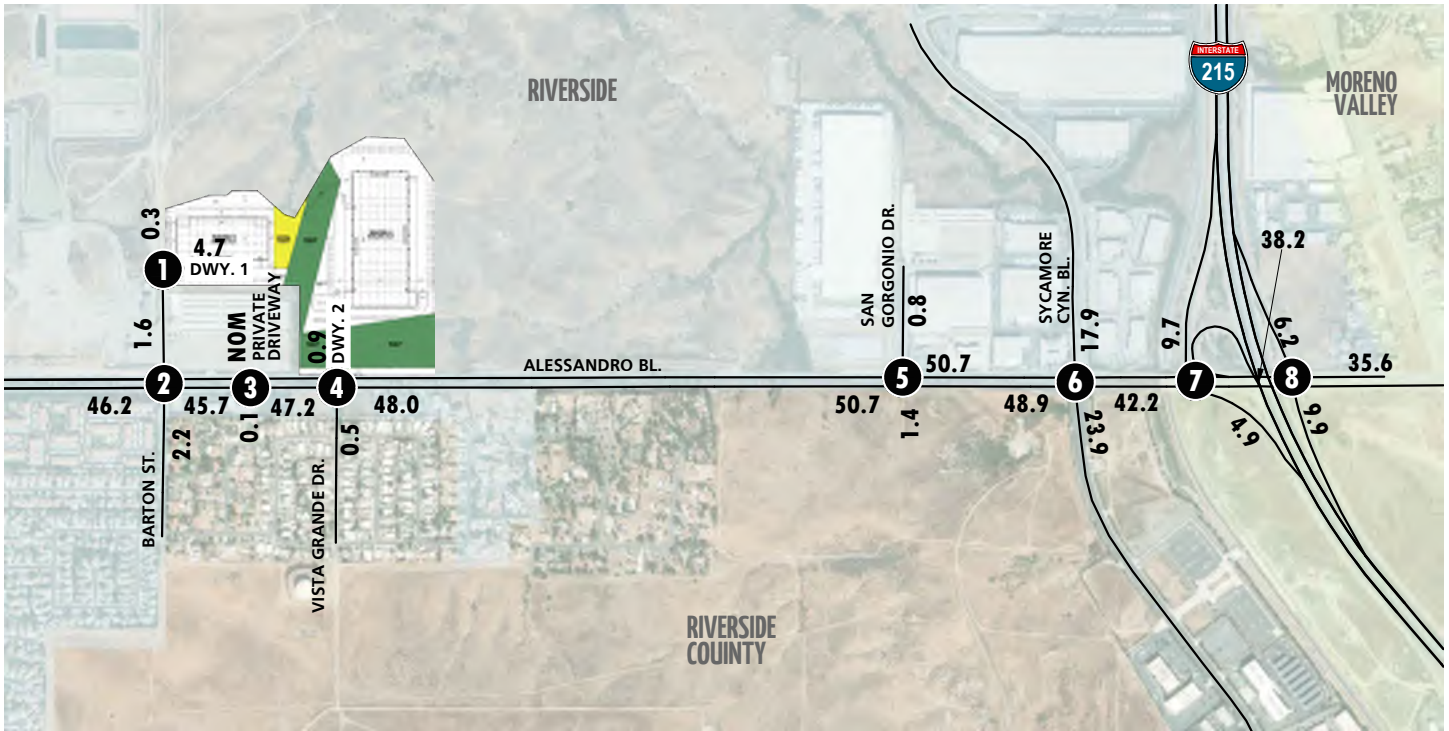
**LEGEND:**

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





**EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUMES (IN PCE)**



<b>1</b> Barton St. & Dwy. 1 	<b>2</b> Barton St. & Alessandro Bl. 	<b>3</b> Private Driveway & Alessandro Bl. 	<b>4</b> Dwy. 2 & Alessandro Bl. 	<b>5</b> San Gorgonio Dr. & Alessandro Bl. 
<b>6</b> Sycamore Canyon Bl./ Meridian Pkwy. & Alessandro Bl. 	<b>7</b> I-215 SB Ramps & Alessandro Bl. 	<b>8</b> I-215 NB Ramps & Alessandro Bl. 		

**LEGEND:**

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





Table 6-1

## Intersection Analysis for Opening Year Cumulative (2023) Conditions

#	Intersection	Traffic Control <sup>2</sup>	2023 Without Project				2023 With Project				Jurisdiction	Deficiency? <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service			
			AM	PM	AM	PM	AM	PM	AM	PM		
1	Barton St. & Driveway 1	<u>CSS</u>	Future Intersection				8.6	8.7	A	A	Riverside	No
2	Barton St. & Alessandro Bl.	TS	28.7	39.7	C	C	28.7	40.1	C	D	Riverside	No
3	Private Driveway & Alessandro Bl.	TS	2.8	4.6	A	A	2.8	4.7	A	A	Riverside	No
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Riverside	Yes
5	San Gorgonio Dr. & Alessandro Bl.	TS	15.0	21.5	B	C	15.3	22.3	B	C	Riverside/JPA	No
6	Sycamore Canyon Bl. & Alessandro Bl.	TS	120.2	87.6	F	F	120.9	88.2	F	F	Riverside/JPA	Yes
7	I-215 SB Ramps & Alessandro Bl.	TS	8.9	12.5	A	B	9.4	13.0	A	B	Caltrans/Riverside/County	No
8	I-215 NB Ramps & Alessandro Bl.	TS	23.7	24.2	C	C	24.1	25.1	C	D	Caltrans/Riverside/County	No

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

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

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; **CSS** = Improvement

<sup>3</sup> See Table 6-2 for a detailed summary of deficiencies.



A summary of the peak hour intersection LOS for Opening Year Cumulative (2023) Without Project conditions are shown on Exhibit 6-3. The intersection operations analysis worksheets for Opening Year Cumulative (2023) Without Project traffic conditions are included in Appendix 6.1 of this TA.

#### **6.4.2 OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC CONDITIONS**

As shown on Table 6-1 and illustrated on Exhibit 6-4, there are no additional study area intersections anticipated to operate at an unacceptable LOS with the addition of Project traffic during one or more peak hours, in addition to those previously identified under Opening Year Cumulative (2023) Without Project traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2023) With Project traffic conditions are included in Appendix 6.2 of this TA. The deficiencies are summarized in Table 6-2. Measures to address near-term deficiencies for Opening Year Cumulative traffic conditions are discussed in Section 6.10 *Opening Year Cumulative (2023) Deficiencies and Recommended Improvements*.

### **6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS**

No study area intersections are anticipated to meet traffic signal warrants for Opening Year Cumulative (2021) Without and With Project traffic conditions (see Appendices 6.3 and 6.4).

### **6.6 ROADWAY SEGMENT CAPACITY ANALYSIS**

As noted previously, the City of Riverside stated roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future traffic demand.

Table 6-3 provides a summary of the Opening Year Cumulative (2023) Without Project conditions roadway segment capacity analysis based on the City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) identified previously on Table 2-3. As shown on Table 6-3, the following roadway segments that are anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2023) Without Project traffic conditions:

- Alessandro Bl., from Barton St. to Private Driveway – LOS E
- Alessandro Bl., from Private Driveway to Vista Grande Dr. – LOS E
- Alessandro Bl., from Vista Grande Dr. to San Gorgonio Dr. – LOS F
- Alessandro Bl., from San Gorgonio Dr. to Sycamore Canyon Bl. – LOS F

As shown on Table 6-3, there are no additional study area roadway segments anticipated to operate at an unacceptable LOS (LOS E or worse) with the addition of Project traffic, other than those previously identified under Opening Year Cumulative (2023) Without Project conditions.



EXHIBIT 6-3: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT SUMMARY OF LOS

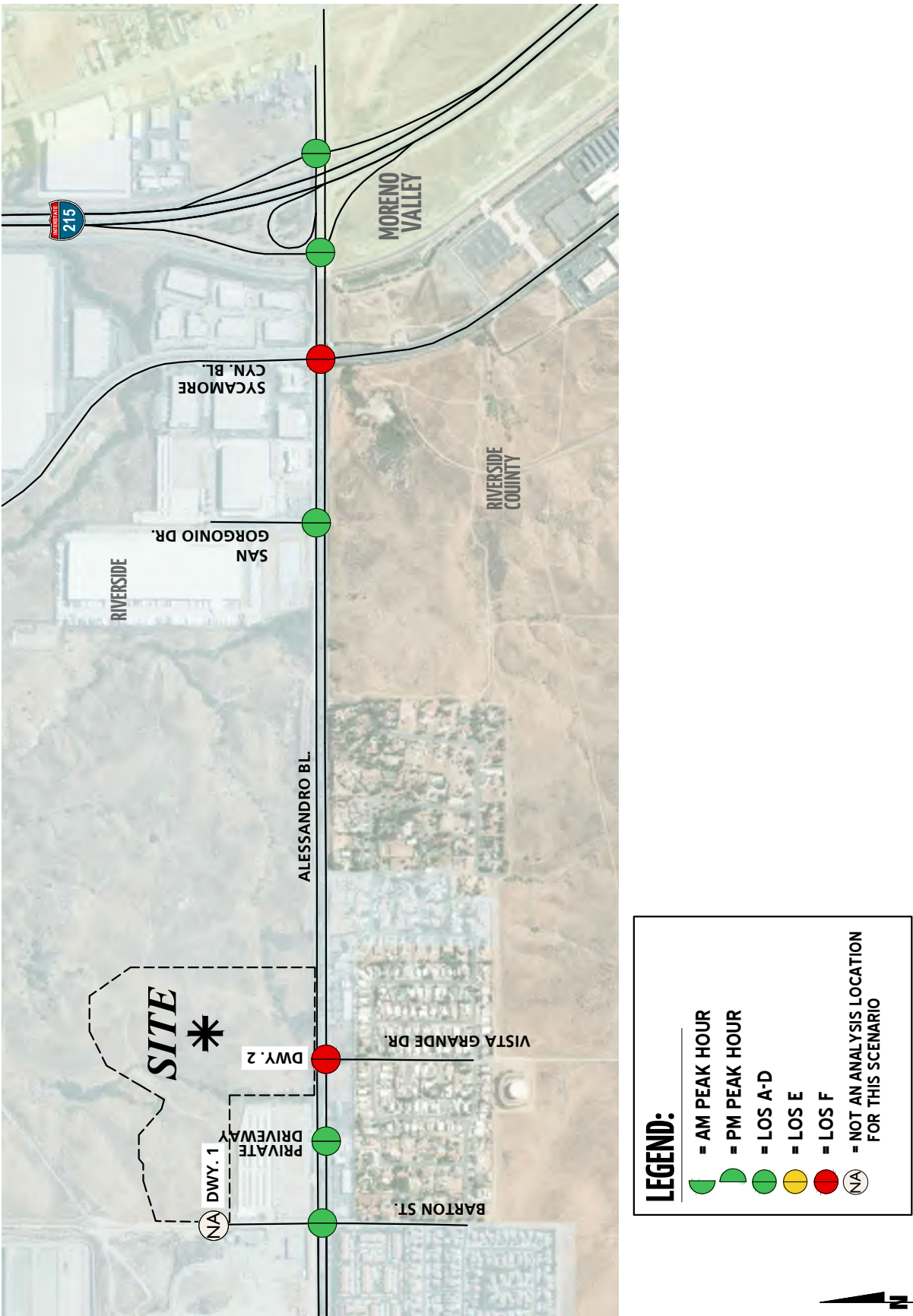




EXHIBIT 6-4: OPENING YEAR CUMULATIVE (2023) WITH PROJECT SUMMARY OF LOS



**LEGEND:**






-  = AM PEAK HOUR
-  = PM PEAK HOUR
-  = LOS A-D
-  = LOS E
-  = LOS F





Table 6-2

## Deficient Intersection Summary for Opening Year Cumulative (2023) Conditions

#	Intersection	Jurisdiction	Project % of Total Traffic		Change in Delay (secs.)		Project Trip Contribution		Deficiency? 1,2,3
			AM	PM	AM	PM	AM	PM	
1	Barton St. & Driveway 1	Riverside	N/A	N/A	--	--	N/A	N/A	No
2	Barton St. & Alessandro Bl.	Riverside	N/A	N/A	0.0	0.4	N/A	N/A	No
3	Private Driveway & Alessandro Bl.	Riverside	N/A	N/A	0.0	0.1	N/A	N/A	No
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.	Riverside	N/A	N/A	<b>&gt;1.0</b>	<b>&gt;1.0</b>	N/A	N/A	<b>Yes</b>
5	San Gorgonio Dr. & Alessandro Bl.	Riverside/JPA	N/A	N/A	0.3	0.8	N/A	N/A	No
6	Sycamore Canyon Bl. & Alessandro Bl.	Riverside/JPA	1.0%	1.1%	0.7	0.6	68	80	<b>Yes<sup>4</sup></b>
7	I-215 SB Ramps & Alessandro Bl.	Caltrans/Riverside/County	N/A	N/A	0.5	0.5	N/A	N/A	No
8	I-215 NB Ramps & Alessandro Bl.	Caltrans/Riverside/County	N/A	N/A	0.4	0.9	N/A	N/A	No

\* **BOLD** = Deficient Intersection

N/A = Not Applicable

<sup>1</sup> For intersections within the jurisdiction of the City of Riverside, a deficiency occurs at a study area intersection when the addition of project related trips causes either peak hour LOS to degrade from acceptable (LOS A through D) to unacceptable levels (LOS E/F) or the peak hour delay to increase as follows:

- LOS A/B = By 10.0 seconds
- LOS C = By 8.0 seconds
- LOS D = By 5.0 seconds
- LOS E = By 2.0 seconds
- LOS F = By 1.0 seconds

<sup>2</sup> For intersections within the jurisdiction of March JPA, if the pre-project condition is at or better than LOS D (or acceptable LOS) and the project-generated traffic causes deterioration below acceptable levels, a deficiency is deemed to occur. However, if the pre-project condition is already below LOS D (or acceptable LOS), deficiency occurs if the Project contributes more than 2% of the total traffic.

<sup>3</sup> For intersections within the jurisdiction of Caltrans, the County of Riverside, or City of Moreno Valley, if the pre-project condition is at or better than LOS D (or acceptable LOS) and the project-generated traffic causes deterioration below acceptable levels, a deficiency is deemed to occur. A deficiency also occurs if the Project contributes 50 or more peak hour trips to an already deficient intersection.

<sup>4</sup> The intersection currently built out to the General Plan ultimate cross-section and exceeds the General Plan target LOS. As such, the deficiency is unavoidable.



Table 6-3

## Roadway Segment Analysis for Opening Year Cumulative (2023) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity <sup>1</sup>	2023 NP	V/C <sup>2</sup>	LOS <sup>3</sup>	2023 WP	V/C <sup>2</sup>	LOS <sup>3</sup>	Acceptable LOS <sup>3</sup>
1	Alessandro Bl.	Barton St. to Private Driveway	6D	49,500	45,205	0.91	E	45,669	0.92	E	D
2		Private Driveway to Vista Grande Dr.	6D	49,500	46,713	0.94	E	47,177	0.95	E	D
3		Vista Grande Dr. to San Gorgonio Dr.	6D	49,500	49,558	1.00	F	50,710	1.02	F	D
4		San Gorgonio Dr. to Sycamore Canyon Bl.	6D	49,500	49,529	1.00	F	50,681	1.02	F	D
5		Sycamore Canyon Bl. to I-215 SB Ramps	6D	49,500	41,035	0.83	D	42,158	0.85	D	D
6		I-215 SB Ramps to I-215 NB Ramps	6D	49,500	37,546	0.76	C	38,151	0.77	C	D

<sup>1</sup> These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

<sup>2</sup> V/C = Volume to Capacity ratio

<sup>3</sup> LOS = Level of Service



## 6.7 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway at Alessandro Boulevard interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 Freeway mainline. Queuing analysis findings are presented in Table 6-4 for Opening Year Cumulative (2023) Without and With Project traffic conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 6-4, there are no queuing issues anticipated for Opening Year Cumulative (2023) Without and With Project traffic conditions.

Worksheets for Opening Year Cumulative (2023) Without Project conditions off-ramp queuing analysis are provided in Appendix 6.5. Worksheets for Opening Year Cumulative (2023) With Project conditions off-ramp queuing analysis are provided in Appendix 6.6.

## 6.8 OPENING YEAR CUMULATIVE (2023) DEFICIENCIES AND RECOMMENDATIONS

### 6.8.1 RECOMMENDATIONS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed improvements for deficient intersections (see Table 6-2) is presented in Table 6-5 for Opening Year Cumulative (2023) traffic conditions. Based on each jurisdiction’s deficiency criteria, the Project is anticipated to result in deficiencies at the following intersections, as the Project would contribute to the total Opening Year Cumulative (2023) With Project traffic forecasts:

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)
- Sycamore Canyon Bl. & Alessandro Bl. (#6)

The deficiencies and recommendations for Opening Year Cumulative (2023) conditions are consistent with E+P conditions.

#### ***Project Design Feature 1.1 – Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)***

- The intersection of Vista Grande Drive & Alessandro Boulevard is not warranted for a traffic signal (based on volume warrants). However, it is anticipated to continue to operate at a deficient LOS. The additional of a traffic signal would improve the LOS to acceptable levels. The addition of a traffic signal is not currently feasible as the intersection is in close proximity of an existing signalized intersection (Private Driveway at Alessandro Boulevard). The adjacent signalized intersection of Private Driveway at Alessandro Boulevard is not anticipated to warrant a traffic signal as the volumes on the north and south leg are nominal (significantly less than the south leg of Vista Grande Drive & Alessandro Boulevard). It would require the removal of the existing traffic signal at Private Driveway & Alessandro Boulevard for a traffic signal to be installed at Vista Grande Drive and Alessandro Boulevard. It is recommended that the existing signal at Private Driveway & Alessandro Boulevard is to be removed and that the Project will construct a new traffic signal at the intersection of Driveway 2/Vista Grande Drive & Alessandro Boulevard.



Table 6-4

## Peak Hour Freeway Off-Ramp Queuing Summary for Opening Year Cumulative (2023) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2023 Without Project				2023 With Project			
			95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Alessandro Bl.	SBL	525	264 <sup>2</sup>	217	Yes	Yes	264 <sup>2</sup>	217	Yes	Yes
	SBL/R	1,540	264 <sup>2</sup>	204	Yes	Yes	283 <sup>2</sup>	210	Yes	Yes
	SBR	525	249 <sup>2</sup>	193	Yes	Yes	268 <sup>2</sup>	198	Yes	Yes
I-215 NB Ramps / Alessandro Bl.	NBL	450	507 <sup>2</sup>	325 <sup>2</sup>	Yes <sup>3</sup>	Yes	522 <sup>2</sup>	333 <sup>2</sup>	Yes <sup>3</sup>	Yes
	NBL/T/R	1,345	558 <sup>2</sup>	372 <sup>2</sup>	Yes	Yes	572 <sup>2</sup>	380 <sup>2</sup>	Yes	Yes
	NBR	450	105	207	Yes	Yes	105	207	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.

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

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



Table 6-5

## Intersection Analysis for Opening Year Cumulative (2023) Conditions With Improvements

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
3	Private Driveway & Alessandro Bl.																	
	- Without Improvements	TS	0	1	0	0	1	0	1	3	0	1	3	0	2.8	4.7	A	A
	- With Improvements	<u>CSS</u> <sup>4</sup>	0	<u>0</u>	<u>1</u>	0	<u>0</u>	<u>1</u>	<u>0</u>	3	0	<u>0</u>	3	0	11.6	17.6	B	C
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.																	
	- Without Improvements	CSS	0	1	d	0	0	0	0	3	0	1	3	0	>100.0	>100.0	F	F
	- With Improvements	<u>TS</u>	0	1	d	<u>1</u>	<u>1</u>	0	<u>1</u>	3	0	1	3	0	7.8	9.5	A	A

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

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

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

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal; TS = Improvement

<sup>4</sup> Recommended improvement includes the elimination of the existing traffic and restricting the driveway access to right-in/right-out access only.



The intersection of Sycamore Canyon Boulevard & Alessandro Boulevard is currently built out to its General Plan ultimate cross-section and exceeds the General Plan target LOS. Until additional right-of-way beyond those designated in the General Plan is obtained, there are no anticipated feasible improvements. As such, the deficiency is considered unavoidable.

The intersection operations analysis worksheets for Opening Year Cumulative (2023) With Project traffic conditions, with improvements, are included in Appendix 6.7.

#### **6.8.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES**

As shown previously on Table 6-4, there are no peak hour queuing issues anticipated at the I-215 Freeway at Alessandro Boulevard interchange for Opening Year Cumulative (2023) traffic conditions.



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## **7 HORIZON YEAR (2040) TRAFFIC CONDITIONS**

This section discusses the methods used to develop Horizon Year (2040) Without and With Project traffic forecasts, and the resulting intersection operations, roadway segment capacities, and traffic signal warrant analyses.

### **7.1 ROADWAY IMPROVEMENTS**

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

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by the cumulative development projects to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the cumulative development's frontage and driveways). Other connections assumed include the extension of San Gorgonio Avenue, south of Alessandro Boulevard.

### **7.2 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS**

The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) Without Project traffic conditions are shown on Exhibit 7-1.

### **7.3 HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUME FORECASTS**

The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) With Project traffic conditions are shown on Exhibit 7-2.

### **7.4 INTERSECTION OPERATIONS ANALYSIS**

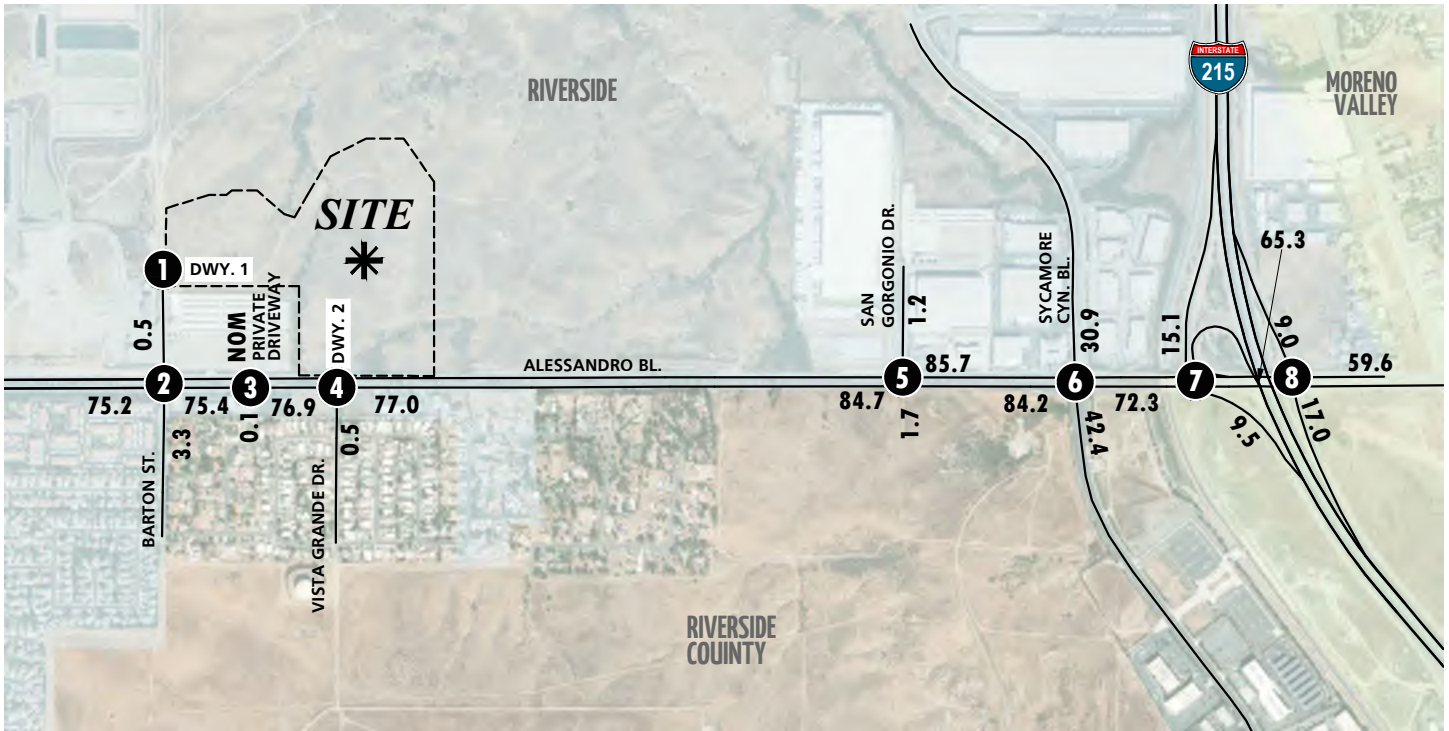
#### **7.4.1 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC CONDITIONS**

LOS calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2040) Without Project conditions with intersection geometrics consistent with Section 7.1 *Roadway Improvements*. As shown in Table 7-1, the following study area intersections are anticipated to operate at an unacceptable level of service (e.g., LOS E or worse):

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4) – LOS F AM and PM peak hours
- Sycamore Canyon Bl. & Alessandro Bl. (#6) – LOS F AM and PM peak hours
- I-215 NB Ramps & Alessandro Bl. (#8) – LOS E AM and PM peak hours



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



<div><div>1</div><div>Barton St. &amp; Dwy. 1</div><div>Future Intersection</div></div>	<div><div>2</div><div>Barton St. &amp; Alessandro Bl.</div><div><div><div><div>4(9)</div><div>0(0)</div><div>7(10)</div></div><div><div>6(19)</div><div>3377(2775)</div><div>47(72)</div></div></div><div><div><div>4(12)</div><div>1809(3282)</div><div>18(41)</div></div><div><div>76(59)</div><div>69(58)</div></div></div></div></div>	<div><div>3</div><div>Private Driveway &amp; Alessandro Bl.</div><div><div><div><div>0(0)</div><div>0(0)</div><div>0(0)</div></div><div><div>0(0)</div><div>3430(2866)</div><div>2(4)</div></div></div><div><div><div>6(4)</div><div>1873(3345)</div><div>6(1)</div></div><div><div>4(6)</div><div>0(0)</div><div>4(2)</div></div></div></div></div>	<div><div>4</div><div>Dwy. 2 &amp; Alessandro Bl.</div><div><div><div><div>3432(2870)</div><div>14(27)</div></div><div><div>1877(3347)</div><div>8(14)</div></div><div><div>4(2)</div><div>17(11)</div></div></div></div></div>	<div><div>5</div><div>San Gorgonio Dr. &amp; Alessandro Bl.</div><div><div><div><div>16(21)</div><div>0(0)</div><div>25(34)</div></div><div><div>46(25)</div><div>3760(2859)</div><div>175(101)</div></div></div><div><div><div>13(18)</div><div>1869(3683)</div><div>35(20)</div></div><div><div>13(36)</div><div>0(0)</div><div>68(186)</div></div></div></div></div>
<div><div>6</div><div>Sycamore Canyon Bl./ Meridian Pkwy. &amp; Alessandro Bl.</div><div><div><div><div>258(494)</div><div>175(855)</div><div>174(245)</div></div><div><div>607(232)</div><div>2984(2352)</div><div>315(273)</div></div></div><div><div><div>256(332)</div><div>1709(2688)</div><div>367(716)</div></div><div><div>672(536)</div><div>859(416)</div><div>111(295)</div></div></div></div></div>	<div><div>7</div><div>I-215 SB Ramps &amp; Alessandro Bl.</div><div><div><div><div>587(537)</div><div>350(333)</div></div><div><div>270(183)</div><div>3319(2318)</div></div></div><div><div><div>1513(2582)</div><div>481(647)</div></div></div></div></div>	<div><div>8</div><div>I-215 NB Ramps &amp; Alessandro Bl.</div><div><div><div><div>211(300)</div><div>2487(1765)</div></div><div><div>91(252)</div><div>1736(2613)</div></div></div><div><div><div>1165(751)</div><div>35(68)</div><div>274(382)</div></div></div></div></div>	<div><div>LEGEND:</div><div><div>10(10)</div><div>= AM(PM) PEAK HOUR INTERSECTION VOLUMES</div></div><div><div>10.0</div><div>= VEHICLES PER DAY (1000'S)</div></div><div><div>NOM</div><div>= NOMINAL, LESS THAN 50 VEHICLES PER DAY</div></div></div>	

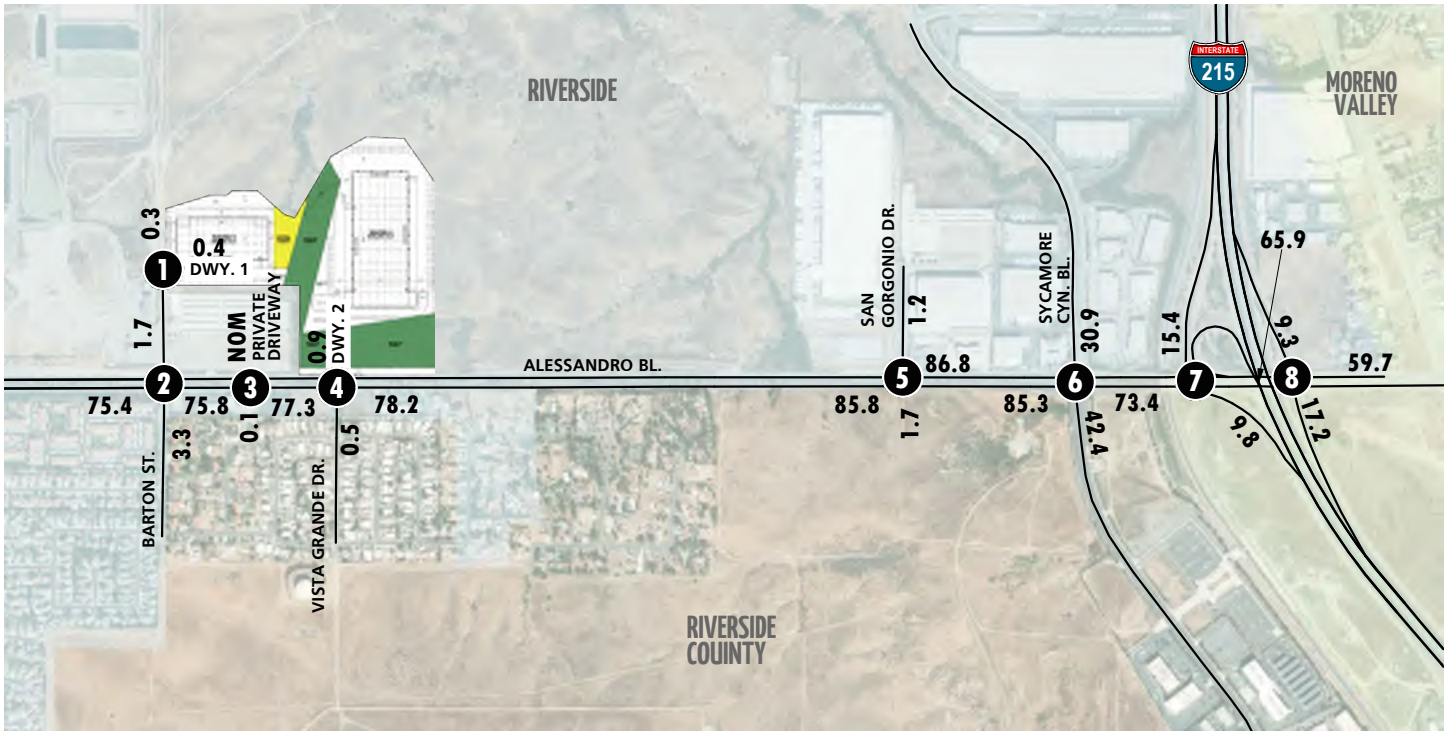
**LEGEND:**

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





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



<b>1</b> Barton St. & Dwy. 1 	<b>2</b> Barton St. & Alessandro Bl. 	<b>3</b> Private Driveway & Alessandro Bl. 	<b>4</b> Dwy. 2 & Alessandro Bl. 	<b>5</b> San Gorgonio Dr. & Alessandro Bl. 
<b>6</b> Sycamore Canyon Bl./ Meridian Pkwy. & Alessandro Bl. 	<b>7</b> I-215 SB Ramps & Alessandro Bl. 	<b>8</b> I-215 NB Ramps & Alessandro Bl. 	<b>LEGEND:</b> 10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES 10.0 = VEHICLES PER DAY (1000'S) NOM = NOMINAL, LESS THAN 50 VEHICLES PER DAY	





Table 7-1

## Intersection Analysis for Horizon Year (2040) Conditions

		Traffic	2040 Without Project				2040 With Project					
#	Intersection	Control <sup>2</sup>	Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		Jurisdiction	Deficiency? <sup>3</sup>
			AM	PM	AM	PM	AM	PM	AM	PM		
			Future Intersection									
1	Barton St. & Driveway 1	CSS					8.6	8.7	A	A	Riverside	No
2	Barton St. & Alessandro Bl.	TS	49.8	48.5	D	D	51.2	48.6	D	D	Riverside	No
3	Private Driveway & Alessandro Bl.	TS	4.9	13.2	A	B	5.0	13.4	A	B	Riverside	No
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Riverside	Yes
5	San Gorgonio Dr. & Alessandro Bl.	TS	48.4	51.4	D	D	49.2	53.4	D	D	Riverside/JPA	No
6	Sycamore Canyon Bl. & Alessandro Bl.	TS	213.6	148.5	F	F	213.9	149.0	F	F	Riverside/JPA	Yes
7	I-215 SB Ramps & Alessandro Bl.	TS	23.9	27.3	C	C	27.2	30.6	C	C	Caltrans/Riverside/County	No
8	I-215 NB Ramps & Alessandro Bl.	TS	68.7	58.5	E	E	69.5	59.8	E	E	Caltrans/Riverside/County	No

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

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

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; **CSS** = Improvement

<sup>3</sup> See Table 7-2 for a detailed summary of deficiencies.



A summary of the peak hour intersection LOS for Horizon Year Without Project conditions are shown on Exhibit 7-3. The intersection operations analysis worksheets for Horizon Year Without Project traffic conditions are included in Appendix 7.1 of this TA.

#### **7.4.2 HORIZON YEAR (2040) WITH PROJECT TRAFFIC CONDITIONS**

As shown on Table 7-1 and illustrated on Exhibit 7-4, there are no additional study area intersections anticipated to operate at an unacceptable LOS (LOS E or worse) with the addition of Project traffic, other than those previously identified under Horizon Year Without Project conditions. The intersection operations analysis worksheets for Horizon Year With Project traffic conditions are included in Appendix 7.2 of this TA. The deficiencies are summarized in Table 7-2. Measures to address long range deficiencies for Horizon Year traffic conditions are discussed in Section 7.10 *Horizon Year Deficiencies and Recommended Improvements*.

### **7.5 TRAFFIC SIGNAL WARRANTS ANALYSIS**

No study area intersections are anticipated to meet traffic signal warrants for Horizon Year (2040) Without and With Project traffic conditions (see Appendices 7.3 and 7.4).

### **7.6 ROADWAY SEGMENT CAPACITY ANALYSIS**

As noted previously, the City of Riverside stated roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future traffic demand.

Table 7-3 provides a summary of the Horizon Year (2040) Without Project conditions roadway segment capacity analysis based on the City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) identified previously on Table 2-3. As shown on Table 7-3, all roadway segments are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without and With Project traffic conditions.

### **7.7 OFF-RAMP QUEUING ANALYSIS**

A queuing analysis was performed for the off-ramps at the I-215 Freeway at Alessandro Boulevard interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 Freeway mainline. Queuing analysis findings are presented in Table 7-4 for Horizon Year (2040) Without and With Project traffic conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 7-4, there are no queuing issues anticipated for Horizon Year (2040) Without and With Project traffic conditions.

Worksheets for Horizon Year (2040) Without Project conditions off-ramp queuing analysis are provided in Appendix 7.5. Worksheets for Horizon Year (2040) With Project conditions off-ramp queuing analysis are provided in Appendix 7.6.



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

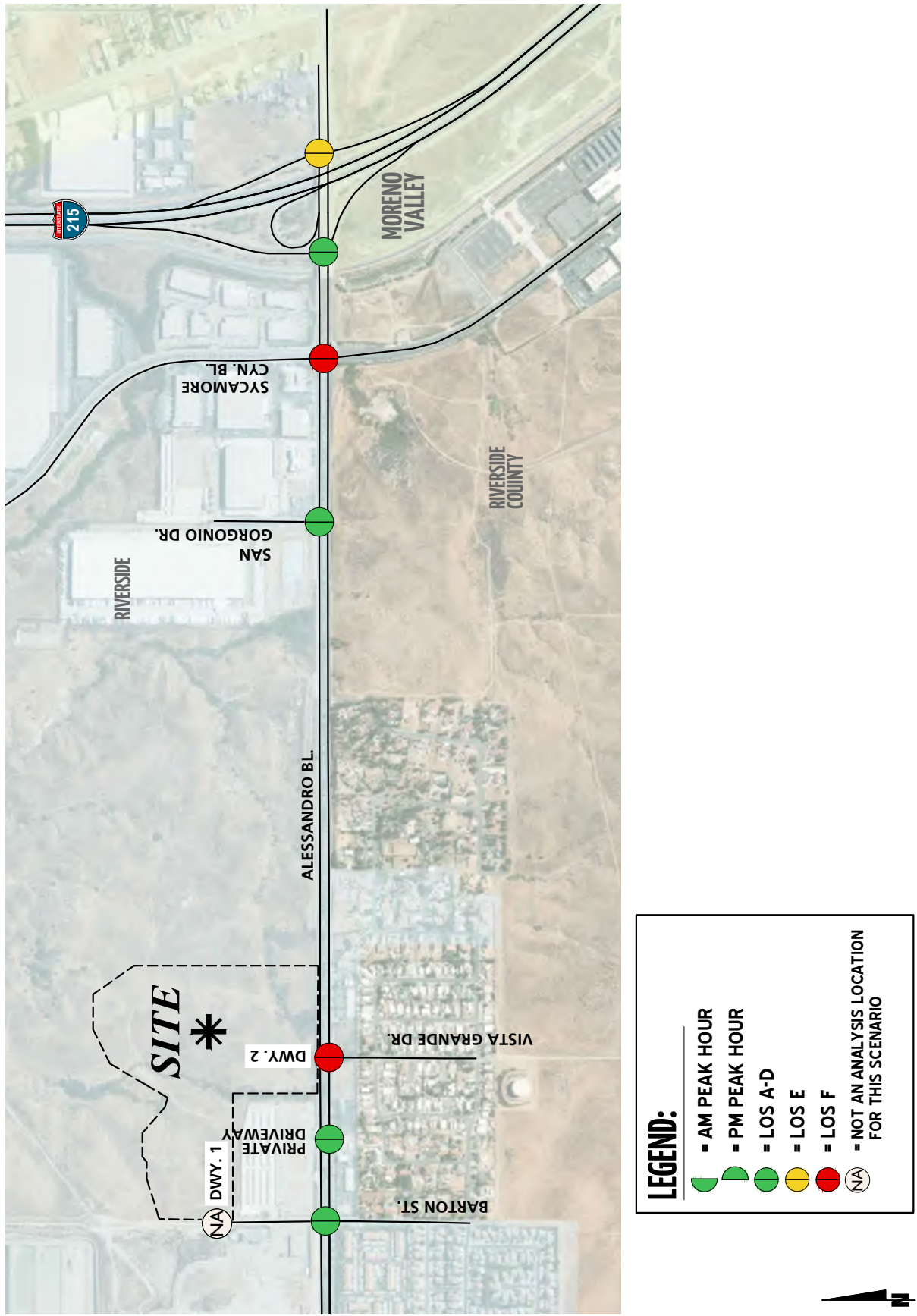




EXHIBIT 7-4: HORIZON YEAR (2040) WITH PROJECT SUMMARY OF LOS



**LEGEND:**

- AM PEAK HOUR
- PM PEAK HOUR
- LOS A-D
- LOS E
- LOS F





Table 7-2

## Deficient Intersection Summary for Horizon Year (2040) Conditions

#	Intersection	Jurisdiction	Project % of Total Traffic		Change in Delay (secs.)		Project Trip Contribution		Deficiency? 1,2,3
			AM	PM	AM	PM	AM	PM	
1	Barton St. & Driveway 1	Riverside	N/A	N/A	--	--	N/A	N/A	No
2	Barton St. & Alessandro Bl.	Riverside	N/A	N/A	1.4	0.1	N/A	N/A	No
3	Private Driveway & Alessandro Bl.	Riverside	N/A	N/A	0.1	0.2	N/A	N/A	No
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.	Riverside	N/A	N/A	<b>&gt;1.0</b>	<b>&gt;1.0</b>	N/A	N/A	<b>Yes</b>
5	San Gorgonio Dr. & Alessandro Bl.	Riverside/JPA	N/A	N/A	0.8	2.0	N/A	N/A	No
6	Sycamore Canyon Bl. & Alessandro Bl.	Riverside/JPA	1.0%	1.1%	0.3	0.5	68	80	<b>Yes<sup>4</sup></b>
7	I-215 SB Ramps & Alessandro Bl.	Caltrans/Riverside/County	N/A	N/A	3.3	3.3	N/A	N/A	No
8	I-215 NB Ramps & Alessandro Bl.	Caltrans/Riverside/County	N/A	N/A	0.8	1.3	33	43	No

\* **BOLD** = Deficient Intersection

N/A = Not Applicable

<sup>1</sup> For intersections within the jurisdiction of the City of Riverside, a deficiency occurs at a study area intersection when the addition of project related trips causes either peak hour LOS to degrade from acceptable (LOS A through D) to unacceptable levels (LOS E/F) or the peak hour delay to increase as follows:

- LOS A/B = By 10.0 seconds
- LOS C = By 8.0 seconds
- LOS D = By 5.0 seconds
- LOS E = By 2.0 seconds
- LOS F = By 1.0 seconds

<sup>2</sup> For intersections within the jurisdiction of March JPA, if the pre-project condition is at or better than LOS D (or acceptable LOS) and the project-generated traffic causes deterioration below acceptable levels, a deficiency is deemed to occur. However, if the pre-project condition is already below LOS D (or acceptable LOS), deficiency occurs if the Project contributes more than 2% of the total traffic.

<sup>3</sup> For intersections within the jurisdiction of Caltrans, the County of Riverside, or City of Moreno Valley, if the pre-project condition is at or better than LOS D (or acceptable LOS) and the project-generated traffic causes deterioration below acceptable levels, a deficiency is deemed to occur. A deficiency also occurs if the Project contributes 50 or more peak hour trips to an already deficient intersection.

<sup>4</sup> The intersection currently built out to the General Plan ultimate cross-section and exceeds the General Plan target LOS. As such, the deficiency is unavoidable.



Table 7-3

## Roadway Segment Analysis for Horizon Year (2040) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity <sup>1</sup>	2040 NP	V/C <sup>2</sup>	LOS <sup>3</sup>	2040 WP	V/C <sup>2</sup>	LOS <sup>3</sup>	Acceptable LOS <sup>3</sup>
1	Alessandro Bl.	Barton St. to Private Driveway	6D	49,500	75,352	1.52	F	75,816	1.53	F	D
2		Private Driveway to Vista Grande Dr.	6D	49,500	76,860	1.55	F	77,324	1.56	F	D
3		Vista Grande Dr. to San Gorgonio Dr.	6D	49,500	84,666	1.71	F	85,818	1.73	F	D
4		San Gorgonio Dr. to Sycamore Canyon Bl.	6D	49,500	85,687	1.73	F	86,839	1.75	F	D
5		Sycamore Canyon Bl. to I-215 SB Ramps	6D	49,500	72,308	1.46	F	73,431	1.48	F	D
6		I-215 SB Ramps to I-215 NB Ramps	6D	49,500	65,293	1.32	F	65,898	1.33	F	D

<sup>1</sup> These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

<sup>2</sup> V/C = Volume to Capacity ratio

<sup>3</sup> LOS = Level of Service



Table 7-4

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

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Alessandro Bl.	SBL	525	349 <sup>2</sup>	281 <sup>2</sup>	Yes	Yes	349 <sup>2</sup>	281 <sup>2</sup>	Yes	Yes
	SBL/R	1,540	360 <sup>2</sup>	279 <sup>2</sup>	Yes	Yes	378 <sup>2</sup>	287 <sup>2</sup>	Yes	Yes
	SBR	525	341 <sup>2</sup>	261 <sup>2</sup>	Yes	Yes	360 <sup>2</sup>	270 <sup>2</sup>	Yes	Yes
I-215 NB Ramps / Alessandro Bl.	NBL	450	588 <sup>2</sup>	409 <sup>2</sup>	Yes <sup>3</sup>	Yes	602 <sup>2</sup>	453 <sup>2</sup>	Yes <sup>3</sup>	Yes
	NBL/T/R	1,345	624 <sup>2</sup>	446 <sup>2</sup>	Yes	Yes	636 <sup>2</sup>	490 <sup>2</sup>	Yes	Yes
	NBR	450	123	244	Yes	Yes	123	257	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.

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

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



## 7.8 HORIZON YEAR (2040) DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

### 7.8.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed improvements for deficient intersections (see Table 7-2) is presented in Table 7-5 for Horizon Year (2040) traffic conditions. Based on each jurisdiction's deficiency criteria, the Project is anticipated to result in deficiencies at the following intersections, as the Project would contribute to the total Horizon Year (2040) With Project traffic forecasts:

- Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)
- Sycamore Canyon Bl. & Alessandro Bl. (#6)

The deficiencies and recommended improvements for Horizon Year (2040) conditions are consistent with E+P and Opening Year Cumulative (2023) conditions.

#### ***Project Design Feature 1.1 – Driveway 2/Vista Grande Dr. & Alessandro Bl. (#4)***

- The intersection of Vista Grande Drive & Alessandro Boulevard is not warranted for a traffic signal (based on volume warrants). However, it is anticipated to continue to operate at a deficient LOS. The additional of a traffic signal would improve the LOS to acceptable levels. The addition of a traffic signal is not currently feasible as the intersection is in close proximity of an existing signalized intersection (Private Driveway at Alessandro Boulevard). The adjacent signalized intersection of Private Driveway at Alessandro Boulevard is not anticipated to warrant a traffic signal as the volumes on the north and south leg are nominal (significantly less than the south leg of Vista Grande Drive & Alessandro Boulevard). It would require the removal of the existing traffic signal at Private Driveway & Alessandro Boulevard for a traffic signal to be installed at Vista Grande Drive and Alessandro Boulevard. It is recommended that the existing signal at Private Driveway & Alessandro Boulevard is to be removed and that the Project will construct a new traffic signal at the intersection of Driveway 2/Vista Grande Drive & Alessandro Boulevard.

The intersection of Sycamore Canyon Boulevard & Alessandro Boulevard is currently built out to its General Plan ultimate cross-section and exceeds the General Plan target LOS. Until additional right-of-way beyond those designated in the General Plan is obtained, there are no anticipated feasible improvements. As such, the deficiency is considered unavoidable.

The intersection operations analysis worksheets for Horizon Year (2040) With Project traffic conditions, with improvements, are included in Appendix 7.7.

### 7.8.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES

As shown previously on Table 7-2, there are no peak hour queuing issues anticipated at the I-215 Freeway at Alessandro Boulevard interchange for Horizon Year (2040) traffic conditions. As such, no improvements have been recommended.



Table 7-5

## Intersection Analysis for Horizon Year (2040) Conditions With Improvements

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
3	Private Driveway & Alessandro Bl.																	
	- Without Improvements	TS	0	1	0	0	1	0	1	3	0	1	3	0	5.0	13.4	A	B
	- With Improvements	<u>CSS</u> <sup>4</sup>	0	<u>0</u>	<u>1</u>	0	<u>0</u>	<u>1</u>	1	3	0	1	3	0	12.5	31.6	B	D
4	Driveway 2/Vista Grande Dr. & Alessandro Bl.																	
	- Without Improvements	CSS	0	1	d	0	0	0	0	3	0	1	3	0	>100.0	>100.0	F	F
	- With Improvements	<u>TS</u>	0	1	d	<u>1</u>	<u>1</u>	0	<u>1</u>	3	0	1	3	0	12.7	20.5	B	C

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

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

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

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal; TS = Improvement

<sup>4</sup> Recommended improvement includes the elimination of the existing traffic and restricting the driveway access to right-in/right-out access only.



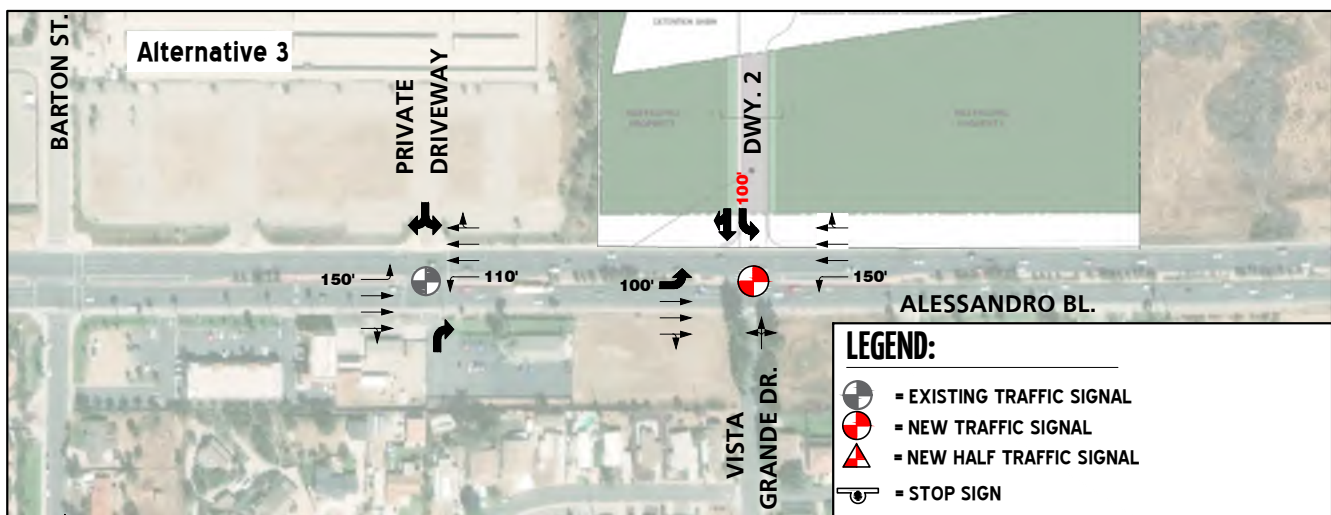
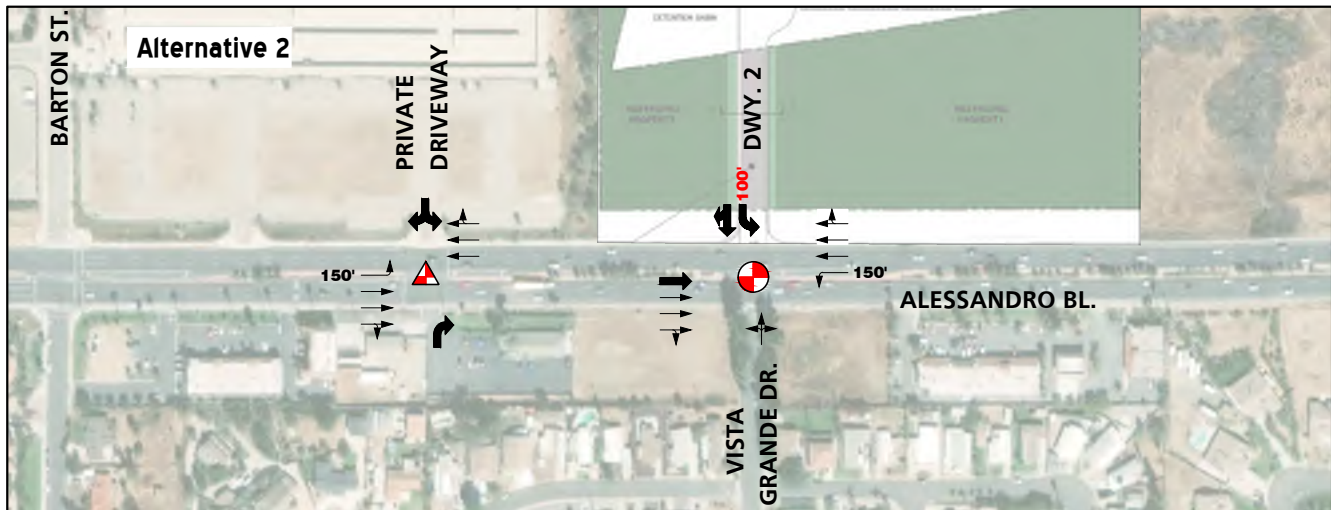
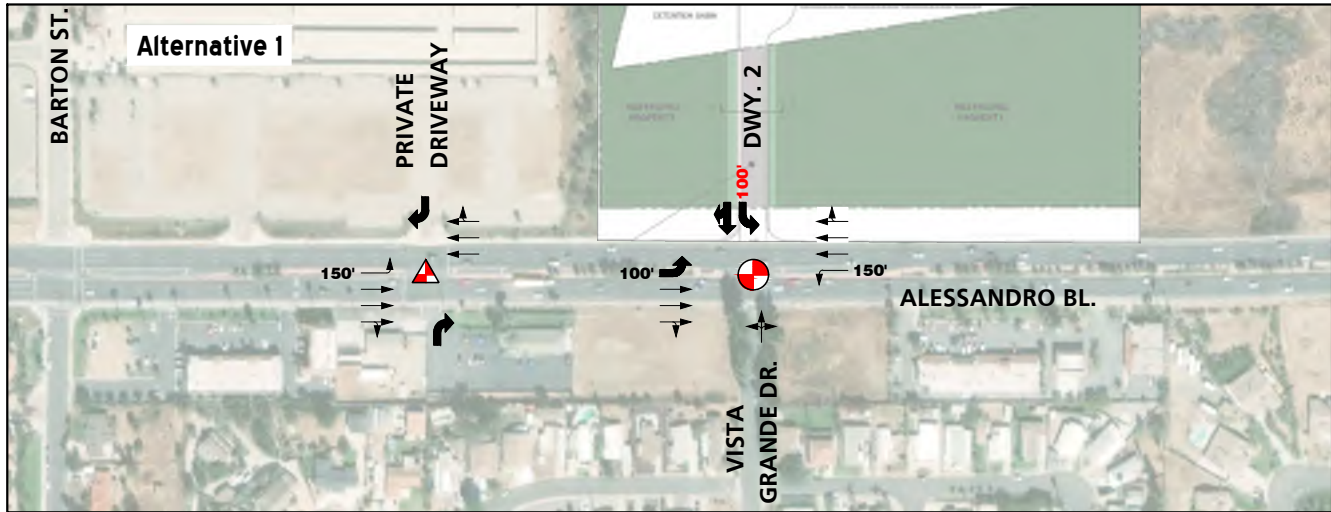
## 8 SUPPLEMENTAL ANALYSIS

At the request of City staff, supplemental analysis has been provided for informational purposes only. The configurations identified in Section 1.5 *Site Adjacent Roadway and Site Access Improvements* and Project Design Feature 1.1 remains the recommendation of the TA. Exhibit 8-1 identifies the lane configurations for the three alternative configurations provided by City staff. It should be noted that the removal of the left turn pockets on Alessandro Boulevard would force vehicles to make a u-turn at the next available intersection. The overall traffic conditions of the study area would become less efficient without the left turn pockets on Alessandro Boulevard.

The supplemental intersection and queuing analysis is presented in Tables 8-1 and 8-2, respectively. The supplemental analysis worksheets for Alternatives 1, 2, and 3 are included in Appendices 8-1, 8-2, and 8-3, respectively.



### EXHIBIT 8-1: ALTERNATIVE CONFIGURATIONS



#### LEGEND:

- = EXISTING TRAFFIC SIGNAL
- = NEW TRAFFIC SIGNAL
- = NEW HALF TRAFFIC SIGNAL
- = STOP SIGN
- = EXISTING LANE
- = LANE IMPROVEMENT
- = 150' = MINIMUM TURN POCKET LENGTH
- = 150' = MINIMUM TURN POCKET LENGTH IMPROVEMENT



Table 8-1

## Intersection Analysis for Alternative Configurations

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
3	Private Driveway & Alessandro Bl. E+P																	
	- Staff Preferred Alternative	<u>CSS</u> <sup>4</sup>	0	0	1	0	0	1	0	3	0	0	3	0	10.7	14.7	B	B
	- Alternative 1	<u>TS</u> <sup>5</sup>	0	0	1	0	0	1	1	3	0	0	3	0	1.1	1.0	A	A
	- Alternative 2	<u>TS</u> <sup>5</sup>	0	0	1	0	1	0	1	3	0	0	3	0	1.2	1.0	A	A
	- Alternative 3	<u>TS</u>	0	0	1	0	1	0	1	3	0	1	3	0	1.2	1.0	A	A
	Opening Year Cumulative (2023)																	
	- Staff Preferred Alternative	<u>CSS</u> <sup>4</sup>	0	0	1	0	0	1	0	3	0	0	3	0	11.6	17.6	B	C
	- Alternative 1	<u>TS</u> <sup>5</sup>	0	0	1	0	0	1	1	3	0	0	3	0	1.2	1.0	A	A
	- Alternative 2	<u>TS</u> <sup>5</sup>	0	0	1	0	1	0	1	3	0	0	3	0	1.2	1.0	A	A
	- Alternative 3	<u>TS</u>	0	0	1	0	1	0	1	3	0	1	3	0	1.3	1.0	A	A
	Horizon Year (2040)																	
	- Staff Preferred Alternative	<u>CSS</u> <sup>4</sup>	0	0	1	0	0	1	0	3	0	0	3	0	12.5	31.6	B	D
	- Alternative 1	<u>TS</u> <sup>5</sup>	0	0	1	0	0	1	1	3	0	0	3	0	2.0	1.1	A	A
	- Alternative 2	<u>TS</u> <sup>5</sup>	0	0	1	0	1	0	1	3	0	0	3	0	2.0	1.1	A	A
	- Alternative 3	<u>TS</u>	0	0	1	0	1	0	1	3	0	1	3	0	2.0	1.1	A	A
4	Driveway 2/Vista Grande Dr. & Alessandro Bl. E+P																	
	- Staff Preferred Alternative	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	7.2	5.5	A	A
	- Alternative 1	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	8.1	7.2	A	A
	- Alternative 2	<u>TS</u>	0	1	d	1	1	0	0	4	0	1	3	0	3.8	5.6	A	A
	- Alternative 3	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	8.1	7.1	A	A
	Opening Year Cumulative (2023)																	
	- Staff Preferred Alternative	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	7.8	9.5	A	A
	- Alternative 1	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	9.0	8.3	A	A
	- Alternative 2	<u>TS</u>	0	1	d	1	1	0	0	4	0	1	3	0	4.1	6.1	A	A
	- Alternative 3	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	8.1	8.1	A	A
	Horizon Year (2040)																	
	- Staff Preferred Alternative	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	12.7	20.5	B	C
	- Alternative 1	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	12.4	12.3	B	B
	- Alternative 2	<u>TS</u>	0	1	d	1	1	0	0	4	0	1	3	0	5.0	7.3	A	A
	- Alternative 3	<u>TS</u>	0	1	d	1	1	0	1	3	0	1	3	0	12.4	11.7	A	B

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

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

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

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal; TS = Improvement

<sup>4</sup> Recommended improvement includes the elimination of the existing traffic and restricting the driveway access to right-in/right-out only.

<sup>5</sup> Recommended improvement includes the modifying the existing traffic to allow no uncontrolled left turns.



Table 8-2

Peak Hour Queuing Summary for Alternative Configurations

Intersection	Movement	Available Stacking Distance (Feet)	2040 With Project			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM
Private Driveway & Alessandro Bl. - Staff Preferred Alternative			No Applicable Turn Pockets			
	EBL	150	22	21	Yes	Yes
	EBL	150	42	27	Yes	Yes
	EBL WBL	150 110	26 68	10 28	Yes	Yes
Driveway 2/Vista Grande Dr. & Alessandro Bl. - Staff Preferred Alternative	EBL	100	16	24	Yes	Yes
	EBT	500	111	343	Yes	Yes
	WBL	150	56	50	Yes	Yes
	EBL	100	16	16	Yes	Yes
	EBT	500	66	332	Yes	Yes
	WBL	150	44	60	Yes	Yes
	EBT	500	59	189	Yes	Yes
	WBL	150	36	71	Yes	Yes
	EBL EBT WBL	100 500 150	22 90 56	20 333 63	Yes Yes Yes	Yes Yes Yes
- Alternative 1						
- Alternative 2						
- Alternative 3						

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown in this table, where applicable.



## 9 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements throughout the City of Riverside are funded through a combination of project improvements, fair share contributions or development impact fee programs, such as Transportation Uniform Mitigation Fee (TUMF) program or the City's Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

### 9.1 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

In 2002, the TUMF program was initiated in Western Riverside County. City of Riverside participates in the TUMF program. Under the TUMF, developers of residential, industrial and commercial property are required to pay a development fee to fund regional transportation projects, which mitigates cumulative deficiencies to the intersections included in the TUMF program. The TUMF funds both local and regional arterial projects. The applicant shall participate in the funding of off-site improvements, including traffic signals that are needed to serve cumulative traffic conditions through the payment of required Western Riverside County TUMF and other applicable fair share contributions, as directed by the City of Riverside. These fees are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected vehicle trip increases.

The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2017 to address major changes in right of way acquisition and improvement cost factors. (11) This regional program was put into place to ensure that development pays its fair share and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

TUMF guidelines empower a local zone committee to prioritize and arbitrate certain projects. The Project is located in the Central Zone. The zone has developed a 5-year capital improvement program to prioritize public construction of certain roads. TUMF is focused on improvements necessitated by regional growth.

### 9.2 CITY OF RIVERSIDE DEVELOPMENT IMPACT FEE PROGRAM

The City of Riverside has created its own local DIF program to impose and collect fees from new residential, commercial and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. Under the City's DIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of



implementing necessary improvements. The City also uses this data to ensure that the improvements are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance standard.

The Project Applicant will be subject to the City's DIF fee program and will pay the requisite City DIF fees at the rates then in effect pursuant to the City's ordinance. The Project Applicant's payment of the requisite DIF at the rates then in effect, pursuant to the City DIF Program, would satisfy the Project's proportional improvement requirements at potentially affected DIF-funded facilities.

At the time of preparation of the traffic study, the City of Riverside does not currently maintain a list of DIF covered facilities.



## 10 REFERENCES

1. **City of Riverside.** *Traffic Impact Analysis Preparation Guide*. City of Riverside : s.n., December 2017.
2. **California Department of Transportation.** *Guide for the Preparation of Traffic Impact Studies*. December 2002.
3. **Institute of Transportation Engineers.** *Trip Generation*. 10th Edition. 2017.
4. **City of Moreno Valley.** *City of Moreno Valley General Plan*. Moreno Valley : s.n., July 11, 2006.
5. **Transportation Research Board.** *Highway Capacity Manual (HCM) 6th Edition*. s.l. : National Academy of Sciences.
6. **California Department of Transportation.** Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD)*. 2014.
7. **VRPA Technologies, Inc.** *Final Traffic Impact Analysis Preparation Guide*. March Joint Powers Authority : s.n., August 3, 2011.
8. **San Bernardino Associated Governments.** *Congestion Management Program for County of San Bernardino*. County of San Bernardino : s.n., Updated December 2007.
9. **Institute of Transportation Engineers.** *High Cube Warehouse Vehicle Trip Generation Analysis*. Washington, DC : Institute of Transportation Engineers, October 2016.
10. **Southern California Association of Governments.** *2016 Regional Transportation Plan/Sustainable Communities Strategy*. April 2016.
11. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update*. July 2017.



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## **APPENDIX 1.1:**

### **APPROVED TRAFFIC STUDY SCOPING AGREEMENT**



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## Exhibit B

### SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of Riverside Public Works Traffic Engineering Division requirements for traffic impact analysis of the following project. The analysis must follow the City Traffic Impact Analysis Preparation Guide dated January 2016.

Case No. \_\_\_\_\_  
Related Cases - \_\_\_\_\_  
SP No. Sycamore Canyon Business Park Specific Plan (SCBPSP)  
EIR No. \_\_\_\_\_  
GPA No. \_\_\_\_\_  
CZ No. \_\_\_\_\_  
Project Name: Sycamore Hill Distribution Center  
Project Location: North of Alessandro Boulevard and east of Barton Street  
Project Description: 603,100 square feet of High-Cube Transload Short-Term Warehouse use within two buildings

	<u>Consultant</u>	<u>Developer</u>
Name:	<u>Urban Crossroads, Inc.</u>	<u>Darrell Butler</u>
Address:	<u>260 E Baker Street, Suite 200</u> <u>Costa Mesa, CA 92626</u>	<u>3241 Alta Laguna Boulevard</u> <u>Laguna Beach, CA 92651</u>
Telephone:	<u>Pranesh Tarikere, 949-336-5992</u>	<u>949-632-9892</u>

**A. Trip Generation Source:** ITE Trip Generation Manual, most recent edition

Existing Land Use	<u>B/OP - Business/Office Park</u>	Proposed Land Use	<u>I - Industrial</u>
Existing Zoning	<u>BMP - Business and Manufacturing</u>	Proposed Zoning	<u>I - General Industrial</u>
Total Daily Trips	<u>1,266</u>		

	In	Out	Total
AM Trips	<u>57</u>	<u>18</u>	<u>75</u>
PM Trips	<u>27</u>	<u>62</u>	<u>87</u>

Internal Trip ☐ Yes ☒ No ( \_\_\_\_\_ % Trip Discount)  
Allowance  
Pass-By Trip Allowance ☐ Yes ☒ No ( \_\_\_\_\_ % Trip Discount)  
(Attach additional sheet if this is a multi-use site with a breakdown of trips generated)

**B. Trip Geographic Distribution:** N 0 % S 0 % E 80 % W 20 %  
(See attached exhibit for detailed assignment)

**C. Background Traffic**

Project Completion Year: 2023 Annual Ambient Growth Rate: 2 %  
Other area projects to be included: City of Riverside, County of Riverside, Moreno Valley, March JPA



Please contact Planning Division or use the most recently provided data  
Model/Forecast methodology if required RvTAM

**D. Build-out Studies:** Does this project require a Build-out Study per TIA Guidelines Section 7.2?  
☒ Yes ☐ No

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

- |   |  |
|---|--|
| 1. <u>Barton St. / Driveway 1</u>                       | 5. <u>San Geronimo Dr. / Alessandro Bl</u>     |
| 2. <u>Barton St. / Alessandro Bl</u>                    | 6. <u>Sycamore Canyon Bl. / Alessandro Bl.</u> |
| 3. <u>Private Driveway / Alessandro Bl</u>              | 7. <u>I-215 SB Ramps / Alessandro Bl.</u>      |
| 4. <u>Vista Grande Dr. / Driveway 2 / Alessandro Bl</u> | 8. <u>I-215 NB Ramps / Alessandro Bl</u>       |

**F. Study Roadway Segments (For Build-out Studies):**

- |   |   |
|---|---|
| 1. <u>Alessandro Bl. btw Barton St. / Private Driveway</u>          | 5. <u>Alessandro Bl. btw Sycamore Canyon Bl. / I-215 SB Ramps</u> |
| 2. <u>Alessandro Bl. btw Private Driveway / Vista Grande Dr.</u>    | 6. <u>Alessandro Bl. btw I-215 SB Ramps / I-215 NB Ramps</u>      |
| 3. <u>Alessandro Bl. btw Vista Grande Dr. / San Geronimo Dr.</u>    | 7. _____  |
| 4. <u>Alessandro Bl. btw San Geronimo Dr. / Sycamore Canyon Bl.</u> | 8. _____  |

**G. Other Jurisdictional Impacts**

Is this project within any other Agency's Sphere of Influence or one-mile radius of boundaries? ☒ Yes ☐ No

If so, name of Jurisdiction: County of Riverside, City of Moreno Valley, March JPA

**H. Site Plan** (please attach a legible 11'X17' copy)

**I. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline)** (To be filled out by Public Works Traffic Department)

\*Assess location of traffic signal currently west of Vista Grande & east of Barton.

**Recommended by:**

[Signature]  
Consultant's Representative

Scoping Agreement Submitted on

Scoping Agreement Resubmitted on

**Approved Scoping Agreement:**

[Signature]  
City of Riverside  
Traffic Engineering Division

5/7/2019  
Date

10/31/2018  
Date

5/7/2019  
Date

5/8/19  
Date

cc: Planning Division



October 31, 2018 (revised May 7, 2019)

Mr. Nathan Mustafa  
City of Riverside  
3900 Main Street  
Riverside, California 92522

**SUBJECT: SCOPING ASSUMPTIONS FOR THE SYCAMORE HILLS DISTRIBUTION CENTER TRAFFIC IMPACT ANALYSIS**

Dear Mr. Nathan Mustafa:

The firm of Urban Crossroads, Inc. is pleased to submit this letter documenting the suggested scope of study for the Sycamore Hills Distribution Center ("Project"), which is located north of Alessandro Boulevard and east of Barton Street, within the of the City of Riverside. It is our understanding that the Project is to consist of 603,100 square feet of High-Cube Transload Short-Term Warehouse use between two buildings.

Our goal is to obtain comments from City of Riverside staff, to ensure that the traffic study fully addresses the potential impacts of the proposed Project. The remainder of this letter describes the draft proposed analysis methodology, project trip generation, trip distribution, and project traffic assignment/project trips on the surrounding roadway network, which have been used to establish the draft proposed project study area and analysis locations.

Exhibit 1 depicts the location of the proposed Project in relation to the existing roadway network. For purposes of the traffic analysis it is anticipated that the Project will be evaluated in a single phase with a projected Opening Year of 2023. As indicated on Exhibit 1, access to the Project site is proposed to be provided to Barton Street via Driveway 1 and Alessandro Boulevard via Driveway 2. All driveways are proposed to provide full access.

**INTERSECTIONS AND ROADWAY SEGMENTS**

Exhibit 2 illustrates the proposed study area intersections and roadway segments. The study area was determined based on the City of Riverside [Traffic Impact Analysis Preparation Guide](#) (December 2017) and consultation with City staff.

**FREEWAYS**

- Freeway segment analysis will be conducted for segments of I-215 Freeway, north and south of Alessandro Boulevard (2 segments each direction) based on the currently accepted Highway Capacity Manual (HCM 6th Edition) Basic Freeway Segment Analysis methodology.



- Freeway merge/diverge analysis will be conducted for ramp junctions on I-215 Freeway, north and south of Alessandro Boulevard (5 ramp junctions) based on the currently accepted Highway Capacity Manual (HCM 6th Edition Freeway Ramp Merge/Diverge Analysis methodology.
- Freeway off-ramp queuing analysis will be conducted at the I-215 Freeway/Alessandro Boulevard interchange.

## ANALYSIS SCENARIOS

Consistent with traffic study guidelines adopted by multiple local jurisdictions throughout the County of Riverside, peak hour operations at each of the study area intersections and site access driveways will be assessed for the following analysis scenarios:

1. Existing (2019) Conditions (Baseline)
2. Existing plus Project (E+P) Conditions
3. Opening Year Cumulative (2023) Without and With Project Conditions
4. Horizon Year (2040) Without and With Project Conditions

Analysis Scenario #1 establishes the baseline for CEQA purposes.

Consistent with recent CEQA case law, Analysis Scenario #2 identifies significant traffic impacts associated with the proposed Project.

Analysis Scenarios #3 and #4 would identify cumulative impacts for Opening Year Cumulative (near-term) and Horizon Year (long-term) traffic conditions. It is assumed that intersection improvements required to address Opening Year Cumulative and Horizon Year traffic impacts will be addressed through either an existing fee program, or through a fair-share contribution. The Opening Year Cumulative (2023) traffic volume forecasts will be derived from Existing (2019) baseline conditions plus ambient growth. Individual cumulative projects will be added, as necessary. The Horizon Year (2040) traffic volume forecasts will be derived from the Riverside County Transportation Analysis Model (RivTAM) using accepted procedures for model forecast refinement and smoothing. The 2040 forecasts will be based on the most current socio-economic data (SED) provided by County staff in December 2017. The SED was updated within the WRCOG region to be consistent with the adopted *Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan (RTP)* (April 2016).

Information for Existing (2019) conditions will be disclosed to represent the baseline traffic conditions as they existed at the time the report is prepared. Weekday AM peak hour (7 AM to 9 AM) and PM peak hour (4 PM to 6 PM) turning movement counts have been previously collected in May and October 2018 at the study area intersections shown on Exhibit 2. The counts taken in 2018 will have a 2% growth rate applied in order to represent 2019 traffic conditions. The traffic counts include the following vehicle



classifications: Passenger Cars, 2-Axle Trucks, 3-Axle Trucks, and 4 or More Axle Trucks. Traffic counts were scheduled while nearby schools are in session.

## TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Actual vehicle trip generation rates for the Project and the actual vehicle trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 1. For comparison, passenger-car-equivalent (PCE) trip generation rates for the Project and the PCE trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 2.

The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation manual, 10th Edition, 2017. ITE land use code 154 (High-Cube Transload and Short-Term Storage) have been used to derive site specific trip generation estimates for the Project.

As noted on Tables 1 and 2, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips by vehicle mix. Data regarding the vehicle mix has been obtained from High Cube Warehouse Vehicle Trip Generation Analysis (October 2016). The High Cube Warehouse Vehicle Trip Generation provides vehicle mix for Short-Term Storage and Transload Warehouse uses, which consists of 32.2% trucks for daily trips, 30.8% trucks for AM peak hour trips and 21.7% trucks for PM peak hour trips. The South Coast Air Quality Management (SCAQMD) recommended truck mix for each axle type has been utilized for 2-axle, 3-axle, and 4+-axle trucks. The recommended truck mix for with for without cold storage warehouses is: 16.7% 2-axle, 20.7% 3-axle, and 62.6% 4+-axle trucks.

The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project in actual vehicles are shown on Table 1, and Table 2 shows the trip generation summary based on PCE. As shown on Table 1, the proposed Project is anticipated to generate a net total of 847 actual vehicle trip-ends per day with 51 AM peak hour trips and 64 PM peak hour trips. In comparison, the proposed Project is anticipated to generate a net total of 1,266 PCE trip-ends per day, 75 PCE AM peak hour trips and 87 PCE PM peak hour trips (see Table 2).

For the purposes of this analysis, it is proposed that the trucks will be converted into PCE in order to most accurately reflect the effects of heavy trucks in the analysis.

## TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional



freeway system. The trip distribution pattern for truck traffic is also influenced by the local truck routes approved by the City of Riverside, County of Riverside, March Joint Powers Authority, the City of Moreno Valley, and the California Department of Transportation (Caltrans). Given these differences, separate trip distributions were generated for both passenger cars and truck trips.

Exhibit 3 illustrates the passenger car trip distribution patterns for the proposed Project. Exhibit 4 illustrates the truck trip distribution patterns.

## **INTERSECTION ANALYSIS METHODOLOGY**

For the purposes of this analysis, signalized intersection operations analysis will be based on the methodology described in the *Highway Capacity Manual* (HCM 6<sup>th</sup> Edition). Intersection levels of service (LOS) operations are based on an intersection's average control delay. Unsignalized intersections will be evaluated using the methodology described in the HCM 6<sup>th</sup> Edition. At two-way or side-street stop-controlled intersections, LOS for the intersection will be the worst LOS of all the individual movements. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

To represent the impact large trucks, buses and recreational vehicles have on traffic flow, truck traffic will be accounted for in the analysis as a percentage of total traffic at the study area intersections. In other words, the traffic volumes utilized for intersections and roadway segment analyses will utilize the actual vehicle traffic flow and trucks will be reflected in the analysis as a percentage of the total traffic flow, not PCE.

## **TRAFFIC SIGNAL WARRANTS**

Traffic signal warrant analysis will be conducted for unsignalized intersections. Peak Hour Volume based Warrant 3 based on 2014 California Manual on Uniform Traffic Control Devices (MUTCD) will be utilized to determine whether a signal would be warranted.

In addition, traffic signal warrant analysis will also be conducted at the existing traffic signal located east of Barton Road at the intersection of the Private Driveway and Alessandro Boulevard.

## **LEVEL OF SERVICE (LOS) CRITERIA**

The definitions of an operational deficiency for each of the applicable jurisdictions are as follows:

### **CITY OF RIVERSIDE**

Per City of Riverside Policy CCM-2.3, maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials that are used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case



basis. City of Riverside allows Level of Service (LOS) D to be used as the maximum acceptable threshold for the study intersections and roadways of Collector or higher classification. LOS C is to be maintained on all street intersections.

#### **COUNTY OF RIVERSIDE**

County of Riverside General Plan Policy C 2.1 states that the following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County:

- LOS C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non- Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans. LOS E may be allowed by the Board of Supervisors within designated areas where transit oriented development and walkable communities are proposed.

Notwithstanding the forgoing minimum LOS targets, the Board of Supervisors may, on occasion by virtue of their discretionary powers, approve a project that fails to meet these LOS targets in order to balance congestion management considerations in relation to benefits, environmental impacts and costs, provided an Environmental Impact Report, or equivalent, has been completed to fully evaluate the impacts of such approval. Any such approval must incorporate all feasible mitigation measures, make specific findings to support the decision, and adopt a statement of overriding considerations.

#### **MARCH JOINT POWERS AUTHORITY**

Based on the March Joint Powers Authority Traffic Impact Study Preparation Guide (August 3, 2011), all intersections and roadway segments within the March JPA Planning Area shall operate at LOS D or better with limiting circumstances of LOS E to occur. LOS E may also be allowed to the extent that would support transit-oriented development (TOD) and walkable communities. LOS E is also acceptable during peak hours at interchange ramp intersections where ramp metering occurs. The Project is not proposed to be a TOD and neither the Alessandro Boulevard nor Cactus Avenue on-ramps are currently metered, as such, the minimum LOS utilized for the purposes of this analysis is LOS D.



#### **CITY OF MORENO VALLEY**

The Minimum LOS for the City of Moreno Valley is LOS D for intersections and roadway segments that are adjacent to freeway on/off ramps, and/or adjacent to employment generating land uses. LOS C is applicable to all other intersections and roadway segments. Boundary intersections are assumed to be LOS D.

#### **CALTRANS**

Based on recent guidance from Caltrans District 8, the LOS for operating State highway facilities is based on Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing MOE should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways, roadways segments, and intersections is D. For undeveloped or not densely developed locations, the goal may be to achieve LOS C.

### **CEQA COMPLIANCE AND DOCUMENTATION – INTERSECTIONS**

#### **CITY OF RIVERSIDE**

For projects in conformance with the General Plan, a significant impact occurs at a study intersection when the peak hour LOS falls below C, or D per CCM-2.3 as noted below. For projects that propose uses or intensities above that contained in the General Plan, a significant impact at a study intersection is when the addition of project related trips causes either peak hour LOS to degrade from acceptable (LOS A thru D) to unacceptable levels (E or F) or the peak hour delay to increase as follows:

LOS A/B	=	By 10.0 seconds or more
LOS C	=	By 8.0 seconds or more
LOS D	=	By 5.0 seconds or more
LOS E	=	By 2.0 seconds or more
LOS F	=	By 1.0 second or more

#### **MARCH JPA**

For the study area intersections that lie within March JPA, to determine whether the addition of project traffic (as defined through the comparison of Existing to E+P traffic conditions) at a study intersection would result in a direct project-specific traffic impact, both of the following conditions must occur:

- Peak hour project traffic plus existing traffic causes an intersection to operate at LOS E or F; and



- Peak hour project traffic comprises 2% or more of the total peak hour traffic on the intersection for LOS E and 2% or more for LOS F.

#### **COUNTY OF RIVERSIDE AND CITY OF MORENO VALLEY**

For the study area intersections that lie within the County of Riverside and City of Moreno Valley, to determine whether the addition of project traffic (as defined through the comparison of Existing to E+P traffic conditions) at a study intersection would result in a direct project-specific traffic impact, the following conditions must occur:

- Peak hour project traffic plus existing traffic causes an intersection to operate at LOS E or F

#### **CALTRANS**

To determine that the addition of project traffic to the SHS freeway segments would result in a deficiency, both of the following must be found:

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

### **SPECIAL ISSUES**

The following special issues will be addressed in the traffic study:

- Truck turning templates will be used to address how Project truck traffic (e.g., large trucks such as a WB-67) would enter and exit the Project site.
- Provide a queuing analysis to determine the 95th percentile queues and the minimum requirement of storage lengths for right and left-turn movements at the Project driveways and site adjacent signalized intersections based on forecasted traffic volumes of Horizon Year (2040) with Project traffic conditions.
- Evaluate the potential removal of the traffic signal at the existing private driveway between Barton Street and Vista Grande Drive, and moving the signal to the intersection of Alessandro Boulevard and Vista Grande Drive.

### **OPEN ITEMS - CUMULATIVE DEVELOPMENT PROJECTS**

The City of Riverside cumulative projects (April 2019) will be included in the analysis. The County of Riverside, March JPA, and City of Moreno Valley will also be consulted for their input on cumulative projects within their jurisdiction.



Mr. Nathan Mustafa  
City of Riverside  
May 7, 2019  
Page 8 of 8

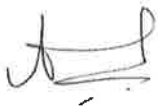
## CONCLUSION

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

If you have any questions, please contact me directly at (949) 336-5992.

Respectfully submitted,

URBAN CROSSROADS, INC.



Pranesh Tarikere, PE  
Senior Engineer



Table 1

## Project Trip Generation Summary (Actual Vehicles)

Project Trip Generation Rates									
Land Use <sup>1</sup>	ITE LU Code	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage <sup>3,4,5</sup>	154	TSF	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (69.2% AM, 78.3% PM, 67.8% Daily)			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks (5.14% AM, 3.62% PM, 5.38% Daily)			0.003	0.001	0.004	0.001	0.003	0.004	0.076
3-Axle Trucks (6.38% AM, 4.49% PM, 6.66% Daily)			0.004	0.001	0.005	0.001	0.003	0.004	0.093
4-Axle+ Trucks (19.28% AM, 13.59% PM, 20.16% Daily)			0.012	0.003	0.015	0.004	0.010	0.014	0.282

Project Trip Generation									
Project	Quantity	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage	603.100	TSF							
Passenger Cars:			26	8	34	14	34	48	573
Truck Trips:									
2-axle:			2	1	3	1	2	3	46
3-axle:			3	1	4	1	2	3	57
4+-axle:			8	2	10	3	7	10	171
- Net Truck Trips (Actual Vehicles)			13	4	17	5	11	16	274
<b>Building A NET TRIPS (Actual Vehicles)<sup>6</sup></b>			<b>39</b>	<b>12</b>	<b>51</b>	<b>19</b>	<b>45</b>	<b>64</b>	<b>847</b>

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Handbook, Third Edition (September 2017).

<sup>4</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), High-Cube Warehouse Vehicle Trip Generation Analysis (October 2016).

<sup>5</sup> Truck Mix Source: SCAQMD Warehouse Truck Trip Study Data Results and Usage (2014):

Normalized % - Without Cold Storage:

16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks

<sup>6</sup> TOTAL NET TRIPS (Actual Vehicles) = Passenger Cars + Net Truck Trips (Actual Trucks).



Table 2

## Project Trip Generation Summary (PCE)

Project Trip Generation Rates									
Land Use <sup>1</sup>	ITE LU Code	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage <sup>3,4,5</sup>	154	TSF	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (69.2% AM, 78.3% PM, 67.8% Daily)			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks (5.14% AM, 3.62% PM, 5.38% Daily)			0.005	0.002	0.007	0.002	0.005	0.007	0.114
3-Axle Trucks (6.38% AM, 4.49% PM, 6.66% Daily)			0.008	0.002	0.010	0.002	0.006	0.008	0.186
4-Axle+ Trucks (19.28% AM, 13.59% PM, 20.16% Daily)			0.036	0.009	0.045	0.012	0.030	0.042	0.846

Project Trip Generation									
Project	Quantity	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Transload Short-Term Warehouse without Cold Storage	603.100	TSF							
Passenger Cars:			26	8	34	14	34	48	573
Truck Trips <sup>6</sup> :									
2-axle (PCE=1.5):			4	2	6	2	4	6	69
3-axle (PCE=2.0):			5	2	7	2	4	6	113
4+ axle (PCE=3.0):			22	6	28	8	19	27	511
- Net Truck Trips (PCE)			31	10	41	13	28	39	693
<b>Building A NET TRIPS (PCE)<sup>7</sup></b>			<b>57</b>	<b>18</b>	<b>75</b>	<b>27</b>	<b>62</b>	<b>87</b>	<b>1,266</b>

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Handbook, Third Edition (September 2017).

<sup>4</sup> Vehicle Mix Source: Institute of Transportation Engineers (ITE), High-Cube Warehouse Vehicle Trip Generation Analysis (October 2016).

<sup>5</sup> Truck Mix Source: SCAQMD Warehouse Truck Trip Study Data Results and Usage (2014).

Normalized % - Without Cold Storage:

16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks

<sup>6</sup> PCE rates are per San Bernardino County Transportation Authority (SBCTA).

<sup>7</sup> TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).



**EXHIBIT 1: PRELIMINARY SITE PLAN**





## EXHIBIT 2: LOCATION MAP



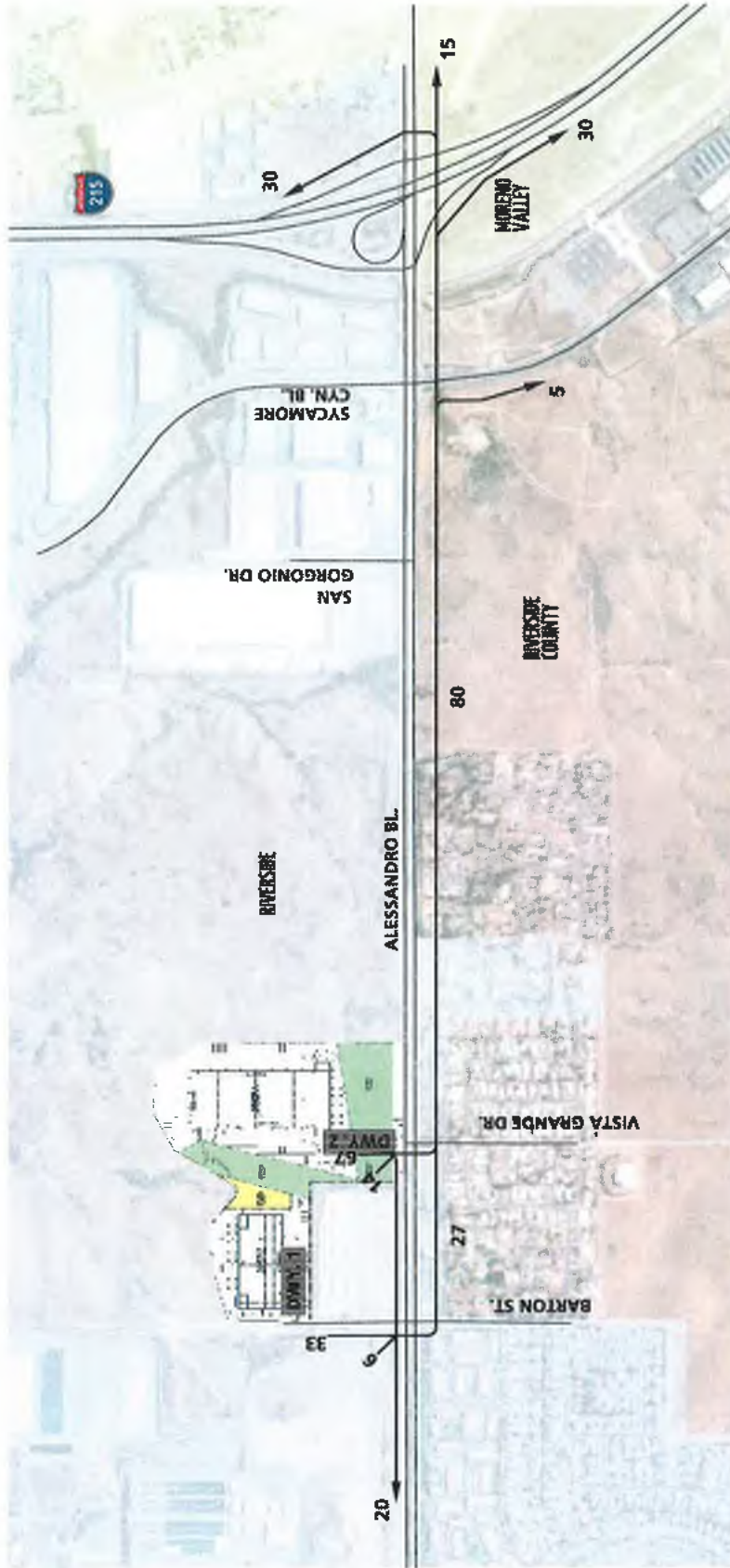
### LEGEND:

- EXISTING INTERSECTION ANALYSIS LOCATION
- FUTURE INTERSECTION ANALYSIS LOCATION
- CMP INTERSECTION





### EXHIBIT 3: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION



#### LEGEND:

10 = PERCENT TO/FROM PROJECT





# EXHIBIT 4: PROJECT (TRUCK) TRIP DISTRIBUTION



## LEGEND:

10 - PERCENT TO/FROM PROJECT



**APPENDIX 1.2:**

**SITE ADJACENT QUEUING ANALYSIS WORKSHEETS**



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# Queuing and Blocking Report

Horizon Year (2040) With Project - AM Peak Hour WITH IMPROVEMENTS

08/11/2020

## Intersection: 1: Barton St. & Driveway 1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	24
Link Distance (ft)	688
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

## Intersection: 2: Barton St. & Alessandro Bl.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	LT	R	L
Maximum Queue (ft)	26	238	272	228	146	428	487	473	14	136	55	44
Average Queue (ft)	3	125	106	81	52	135	172	171	0	50	28	7
95th Queue (ft)	16	217	208	172	107	284	331	332	5	101	54	28
Link Distance (ft)		1616	1616	1616		592	592	592	592	1196	1196	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200				200							150
Storage Blk Time (%)		1				4						
Queuing Penalty (veh)		0				2						

## Intersection: 2: Barton St. & Alessandro Bl.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	42
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	674
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	



## Queuing and Blocking Report

Horizon Year (2040) With Project - AM Peak Hour WITH IMPROVEMENTS

08/11/2020

### Intersection: 3: Private Driveway & Alessandro Bl.

Movement	WB	NB
Directions Served	TR	R
Maximum Queue (ft)	42	31
Average Queue (ft)	1	8
95th Queue (ft)	14	30
Link Distance (ft)	528	346
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 4: Vista Grande Dr. & Alessandro Bl.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LTR	L	TR
Maximum Queue (ft)	28	137	140	153	72	173	187	210	52	37	31
Average Queue (ft)	3	34	47	30	19	64	67	59	19	11	2
95th Queue (ft)	16	93	111	91	56	168	180	161	45	33	12
Link Distance (ft)		528	528	528		2647	2647	2647	846		748
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	155				155					150	
Storage Blk Time (%)		0				0					
Queuing Penalty (veh)		0				0					

### Zone Summary

Zone wide Queuing Penalty: 2
------------------------------



# Queuing and Blocking Report

Horizon Year (2040) With Project - PM Peak Hour WITH IMPROVEMENTS

08/11/2020

## Intersection: 1: Barton St. & Driveway 1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	13
95th Queue (ft)	39
Link Distance (ft)	588
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

## Intersection: 2: Barton St. & Alessandro Bl.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	LT	R	L
Maximum Queue (ft)	53	663	640	632	129	209	240	228	13	139	96	47
Average Queue (ft)	12	344	328	306	43	93	105	109	1	39	43	15
95th Queue (ft)	38	591	590	575	95	182	206	212	6	98	71	43
Link Distance (ft)		1616	1616	1616		598	598	598	598	1196	1196	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200				200							150
Storage Blk Time (%)		17				1						
Queuing Penalty (veh)		2				0						

## Intersection: 2: Barton St. & Alessandro Bl.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	21
Average Queue (ft)	5
95th Queue (ft)	19
Link Distance (ft)	694
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	



## Queuing and Blocking Report

Horizon Year (2040) With Project - PM Peak Hour WITH IMPROVEMENTS

08/11/2020

### Intersection: 3: Private Driveway & Alessandro Bl.

Movement	EB	EB	EB	NB
Directions Served	T	T	TR	R
Maximum Queue (ft)	581	603	570	32
Average Queue (ft)	38	56	19	6
95th Queue (ft)	276	337	188	27
Link Distance (ft)	598	598	598	279
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

### Intersection: 4: Vista Grande Dr. & Alessandro Bl.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LTR	L	TR
Maximum Queue (ft)	50	316	337	322	72	325	283	276	31	94	52
Average Queue (ft)	5	207	229	232	17	97	86	81	11	32	10
95th Queue (ft)	24	311	337	343	50	205	175	189	34	75	35
Link Distance (ft)		542	542	542		2632	2632	2632	839		778
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	155				155					150	
Storage Blk Time (%)		6				2					
Queuing Penalty (veh)		0				1					

### Zone Summary

Zone wide Queuing Penalty: 4



## **APPENDIX 3.1:**

### **EXISTING TRAFFIC COUNTS – OCTOBER 2018**



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# Counts Unlimited, Inc.

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

RIVALBAVG  
Site Code: 051-18807

City of Riverside  
Alessandro Boulevard  
B/ Barton Road - Vista Grande  
24 Hour Directional Classification Count

## Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/30/18	0	122	26	0	2	0	0	0	1	0	0	0	0	151
01:00	1	70	13	0	2	1	0	0	0	0	0	0	0	87
02:00	1	65	14	2	4	2	0	0	0	0	0	0	0	88
03:00	0	69	24	0	5	0	0	0	1	0	0	0	0	99
04:00	1	167	35	3	16	1	0	0	2	0	1	0	0	226
05:00	6	273	88	4	38	3	0	3	0	0	0	0	0	415
06:00	5	496	146	6	39	2	0	2	2	0	0	0	0	698
07:00	15	772	184	4	50	3	0	12	3	1	0	0	0	1044
08:00	11	716	209	4	46	3	2	13	2	0	0	0	0	1006
09:00	8	629	166	7	46	1	0	8	4	0	0	0	0	869
10:00	12	644	182	6	56	2	0	2	2	0	0	0	0	906
11:00	5	736	228	6	51	2	0	10	1	2	0	0	0	1041
12 PM	11	881	222	8	61	3	2	9	4	1	0	0	0	1202
13:00	9	900	218	10	50	4	2	5	2	1	0	2	0	1203
14:00	6	1022	268	2	62	4	0	20	0	0	1	0	0	1385
15:00	22	1262	309	4	81	3	0	26	1	2	1	0	0	1711
16:00	28	1563	375	3	87	5	0	17	0	6	0	1	0	2085
17:00	28	1735	322	3	73	4	2	27	0	3	1	1	0	2199
18:00	22	1428	329	2	94	4	1	7	1	0	0	0	0	1888
19:00	12	937	226	3	47	2	1	4	0	1	0	1	0	1234
20:00	3	623	189	2	36	0	0	6	0	0	0	0	0	859
21:00	11	479	97	1	20	0	0	0	1	0	0	0	0	609
22:00	2	288	70	0	5	0	0	0	0	0	0	0	0	365
23:00	3	200	39	0	6	0	0	0	1	0	0	0	0	249
Total	222	16077	3979	80	977	49	10	171	28	17	4	5	0	21619
Percent	1.0%	74.4%	18.4%	0.4%	4.5%	0.2%	0.0%	0.8%	0.1%	0.1%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	11:00	09:00	10:00	05:00	08:00	08:00	09:00	11:00	04:00			07:00
Vol.	15	772	228	7	56	3	2	13	4	2	1			1044
PM Peak	16:00	17:00	16:00	13:00	18:00	16:00	12:00	17:00	12:00	16:00	14:00	13:00		17:00
Vol.	28	1735	375	10	94	5	2	27	4	6	1	2		2199
Grand Total	222	16077	3979	80	977	49	10	171	28	17	4	5	0	21619
Percent	1.0%	74.4%	18.4%	0.4%	4.5%	0.2%	0.0%	0.8%	0.1%	0.1%	0.0%	0.0%	0.0%	



# Counts Unlimited, Inc.

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

RIVALBAVG  
Site Code: 051-18807

City of Riverside  
Alessandro Boulevard  
B/ Barton Road - Vista Grande  
24 Hour Directional Classification Count

## Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/30/18	0	52	7	0	1	0	0	0	1	0	0	0	0	61
01:00	1	42	5	0	1	0	0	0	0	0	0	0	0	49
02:00	0	50	6	0	1	2	0	0	0	0	0	0	0	59
03:00	3	79	10	0	1	0	0	1	1	0	0	0	0	95
04:00	4	218	44	1	7	1	0	0	0	0	0	0	0	275
05:00	4	499	119	3	12	1	0	6	0	1	0	0	0	645
06:00	12	1100	172	4	27	9	1	12	4	3	0	1	0	1345
07:00	21	1237	170	2	29	9	0	4	5	2	2	1	0	1482
08:00	9	1153	153	8	28	7	2	5	5	1	1	0	0	1372
09:00	9	698	110	4	29	8	0	9	3	1	0	0	0	871
10:00	6	517	98	0	20	3	0	4	3	1	0	0	0	652
11:00	3	508	95	5	24	2	0	7	2	0	0	0	0	646
12 PM	2	576	76	5	14	6	0	8	1	0	0	0	0	688
13:00	5	675	125	8	27	4	0	9	2	1	1	0	0	857
14:00	5	730	130	8	36	3	0	9	1	0	1	0	1	924
15:00	2	873	146	7	29	5	0	10	1	2	0	0	0	1075
16:00	7	877	139	4	35	0	0	8	1	1	1	0	0	1073
17:00	5	779	109	1	29	2	1	5	0	0	0	0	0	931
18:00	10	558	79	2	14	1	0	2	0	0	0	1	0	667
19:00	5	351	49	3	7	0	1	1	0	0	0	0	0	417
20:00	4	248	39	2	9	0	0	0	0	0	0	0	0	302
21:00	1	207	23	2	3	0	0	0	1	0	0	0	0	237
22:00	1	125	14	1	1	1	0	0	1	0	0	0	0	144
23:00	0	105	7	0	1	0	0	0	0	0	0	0	0	113
Total	119	12257	1925	70	385	64	5	100	32	13	6	3	1	14980
Percent	0.8%	81.8%	12.9%	0.5%	2.6%	0.4%	0.0%	0.7%	0.2%	0.1%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	06:00	08:00	07:00	06:00	08:00	06:00	07:00	06:00	07:00	06:00		07:00
Vol.	21	1237	172	8	29	9	2	12	5	3	2	1		1482
PM Peak	18:00	16:00	15:00	13:00	14:00	12:00	17:00	15:00	13:00	15:00	13:00	18:00	14:00	15:00
Vol.	10	877	146	8	36	6	1	10	2	2	1	1	1	1075
Grand Total	119	12257	1925	70	385	64	5	100	32	13	6	3	1	14980
Percent	0.8%	81.8%	12.9%	0.5%	2.6%	0.4%	0.0%	0.7%	0.2%	0.1%	0.0%	0.0%	0.0%	



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City of Riverside  
Alessandro Boulevard  
B/ Barton Road - Vista Grande  
24 Hour Directional Classification Count

## Eastbound, Westbound

Start Time	Cars & Trailers	Bikes	Buses	2 Axle Long	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/30/18	0	174	0	33	0	0	0	2	0	0	0	0	212
01:00	2	112	0	18	1	0	0	0	0	0	0	0	136
02:00	1	115	2	20	4	0	0	0	0	0	0	0	147
03:00	3	148	0	34	0	0	1	2	0	0	0	0	194
04:00	5	385	4	79	2	0	0	2	0	1	0	0	501
05:00	10	772	7	207	4	0	9	0	1	0	0	0	1060
06:00	17	1596	10	318	11	1	14	6	3	0	1	0	2043
07:00	36	2009	6	354	12	0	16	8	3	2	1	0	2526
08:00	20	1869	12	362	10	4	18	7	1	1	0	0	2378
09:00	17	1327	11	276	9	0	17	7	1	0	0	0	1740
10:00	18	1161	6	280	5	0	6	5	1	0	0	0	1558
11:00	8	1244	11	323	4	0	17	3	2	0	0	0	1687
12 PM	13	1457	13	298	9	2	17	5	1	0	0	0	1890
13:00	14	1575	18	343	8	2	14	4	2	1	2	0	2060
14:00	11	1752	10	398	7	0	29	1	0	2	0	1	2309
15:00	24	2135	11	455	8	0	36	2	4	1	0	0	2786
16:00	35	2440	7	514	5	0	25	1	7	1	1	0	3158
17:00	33	2514	4	431	6	3	32	0	3	1	1	0	3130
18:00	32	1986	4	408	5	1	9	1	0	0	1	0	2555
19:00	17	1288	6	275	2	2	5	0	1	0	1	0	1651
20:00	7	871	4	228	0	0	6	0	0	0	0	0	1161
21:00	12	686	3	120	0	0	0	2	0	0	0	0	846
22:00	3	413	1	84	1	0	0	1	0	0	0	0	509
23:00	3	305	0	46	0	0	0	1	0	0	0	0	362
Total	341	28334	150	5904	113	15	271	60	30	10	8	1	36599
Percent	0.9%	77.4%	0.4%	16.1%	0.3%	0.0%	0.7%	0.2%	0.1%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00	08:00	07:00	08:00	08:00	07:00	06:00	07:00	06:00		07:00
Vol.	36	2009	12	362	12	4	18	8	3	2	1		2526
PM Peak	16:00	17:00	13:00	16:00	12:00	17:00	15:00	12:00	16:00	14:00	13:00	14:00	16:00
Vol.	35	2514	18	514	9	3	36	5	7	2	2	1	3158
Grand Total	341	28334	150	5904	113	15	271	60	30	10	8	1	36599
Percent	0.9%	77.4%	0.4%	16.1%	0.3%	0.0%	0.7%	0.2%	0.1%	0.0%	0.0%	0.0%	



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

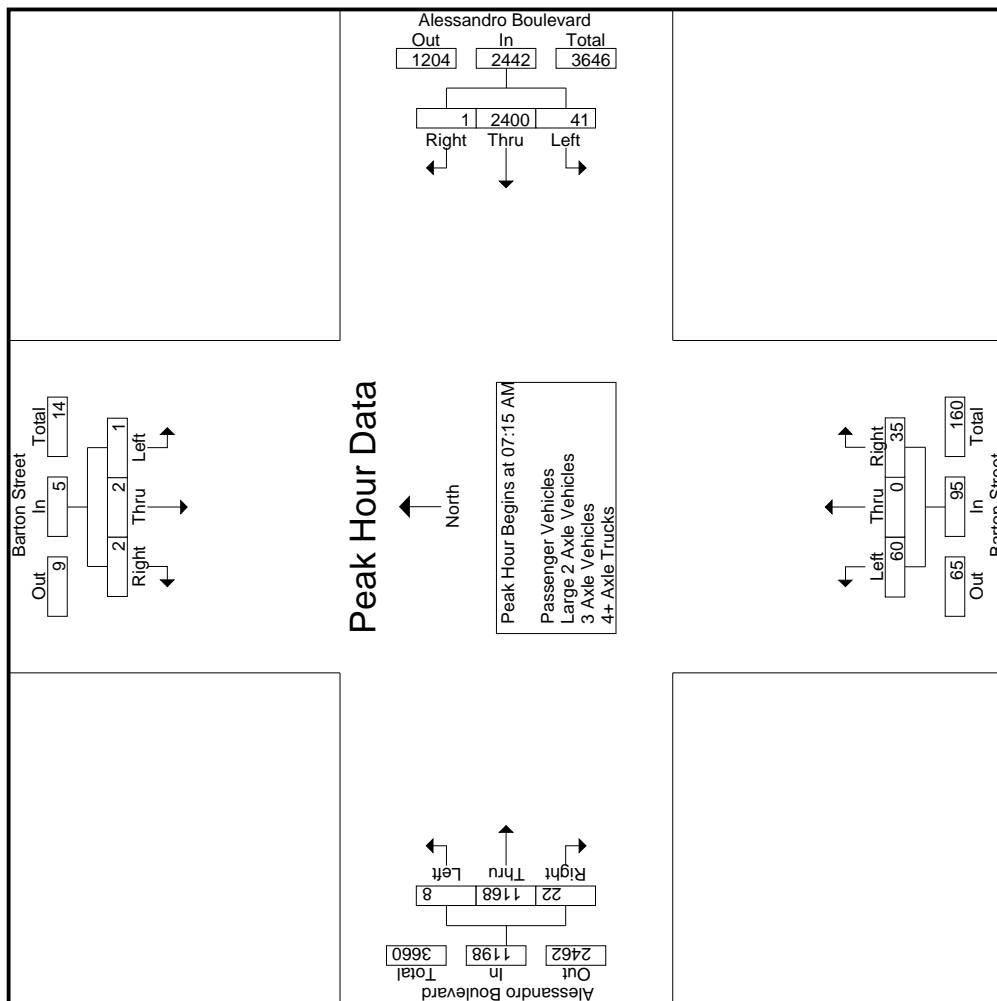
File Name : 01\_RIV\_Barton St\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

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

		Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound								
Start Time		Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM		0	0	2	0	2	6	635	2	0	643	33	1	9	4	43	1	237	5	1	243	5	931	936	
07:15 AM		0	0	0	0	0	7	683	0	0	690	17	0	10	8	27	1	270	3	0	274	8	991	999	
07:30 AM		1	1	1	0	3	7	568	0	0	575	14	0	10	7	24	3	286	2	0	291	7	893	900	
07:45 AM		0	0	1	0	1	9	522	1	0	532	16	0	9	9	25	3	285	8	0	296	9	854	863	
Total		1	1	4	0	6	29	2408	3	0	2440	80	1	38	28	119	8	1078	18	1	1104	29	3669	3698	
08:00 AM		0	1	0	0	1	18	627	0	0	645	13	0	6	5	19	1	327	9	0	337	5	1002	1007	
08:15 AM		3	0	5	1	8	11	606	3	0	620	13	0	8	6	21	4	258	6	1	268	8	917	925	
08:30 AM		1	0	3	2	4	8	490	3	0	501	13	0	8	7	21	2	239	5	1	246	10	772	782	
08:45 AM		1	0	0	0	1	8	475	1	0	484	8	1	3	3	12	1	205	3	0	209	3	706	709	
Total		5	1	8	3	14	45	2198	7	0	2250	47	1	25	21	73	8	1029	23	2	1060	26	3397	3423	
Grand Total		6	2	12	3	20	74	4606	10	0	4690	127	2	63	49	192	16	2107	41	3	2164	55	7066	7121	
Approch %		30	10	60			1.6	98.2	0.2			66.1	1	32.8			0.7	97.4	1.9						
Total %		0.1	0	0.2		0.3	1	65.2	0.1		66.4	1.8	0	0.9		2.7	0.2	29.8	0.6		30.6	0.8	99.2		
Passenger Vehicles		5	1	10		19	74	4534	9		4617	124	2	62		237	15	2063	40		2121	0	0	6994	
% Passenger Vehicles		83.3	50	83.3	100	82.6	100	98.4	90	0	98.4	97.6	100	98.4	100	98.3	93.8	97.9	97.6	100		97.9	0	0	98.2
Large 2 Axle Vehicles		0	1	2		3	0	47	0	0	47	3	0	1		4	0	39	1		40	0	0	94	
% Large 2 Axle Vehicles		0	50	16.7	0	13	0	1	0	0	1	2.4	0	1.6	0	1.7	0	1.9	2.4	0		1.8	0	0	1.3
3 Axle Vehicles		1	0	0		1	0	17	0	0	17	0	0	0	0	0	1	1	0	0	2	0	0	20	
% 3 Axle Vehicles		16.7	0	0	0	4.3	0	0.4	0	0	0.4	0	0	0	0	0	6.2	0	0	0	0.1	0	0	0.3	
4+ Axle Trucks		0	0	0		0	0	8	1		9	0	0	0	0	0	0	4	0	0	4	0	0	13	
% 4+ Axle Trucks		0	0	0	0	0	0	0.2	10	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0.2	

		Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound							
Start Time		Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total		Int. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 07:15 AM																								
07:15 AM		0	0	0		0	7	683	0		690	17	0	0		10	27	0	0		270	3	274	991
07:30 AM		1	1	1		3	7	568	0		575	14	0	0		10	24	0	0		286	2	291	893
07:45 AM		0	0	1		1	9	522	1		532	16	0	0		9	25	0	0		285	8	296	854
08:00 AM		0	1	0		1	18	627	0		645	13	0	0		6	19	0	0		327	9	337	1002
Total Volume		1	2	2		5	41	2400	1		2442	60	0	0		35	95	8	1168	22		1198		3740
% App. Total		20	40	40			1.7	98.3	0			63.2	0	0		36.8	0.7	97.5	1.8					3740
PHF		.250	.500	.500		.417	.569	.878	.250		.885	.882	.000	.875		.880	.667	.893	.611			.889		.933







City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

3.1-6

	Barton Street Southbound				Alessandro Boulevard Westbound				Barton Street Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:45 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	0	0	1	1	7	683	0	690	33	1	9	43	1	270	3	274
+15 mins.	0	1	0	1	7	568	0	575	17	0	10	27	3	286	2	291
+30 mins.	3	0	5	8	9	522	1	532	14	0	10	24	3	285	8	296
+45 mins.	1	0	3	4	18	627	0	645	16	0	9	25	1	327	9	337
Total Volume	4	1	9	14	41	2400	1	2442	80	1	38	119	8	1168	22	1198
% App. Total	28.6	7.1	64.3		1.7	98.3	0		67.2	0.8	31.9		0.7	97.5	1.8	
PHE	333	250	450	438	569	878	250	885	606	250	950	692	667	893	611	889



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton St\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

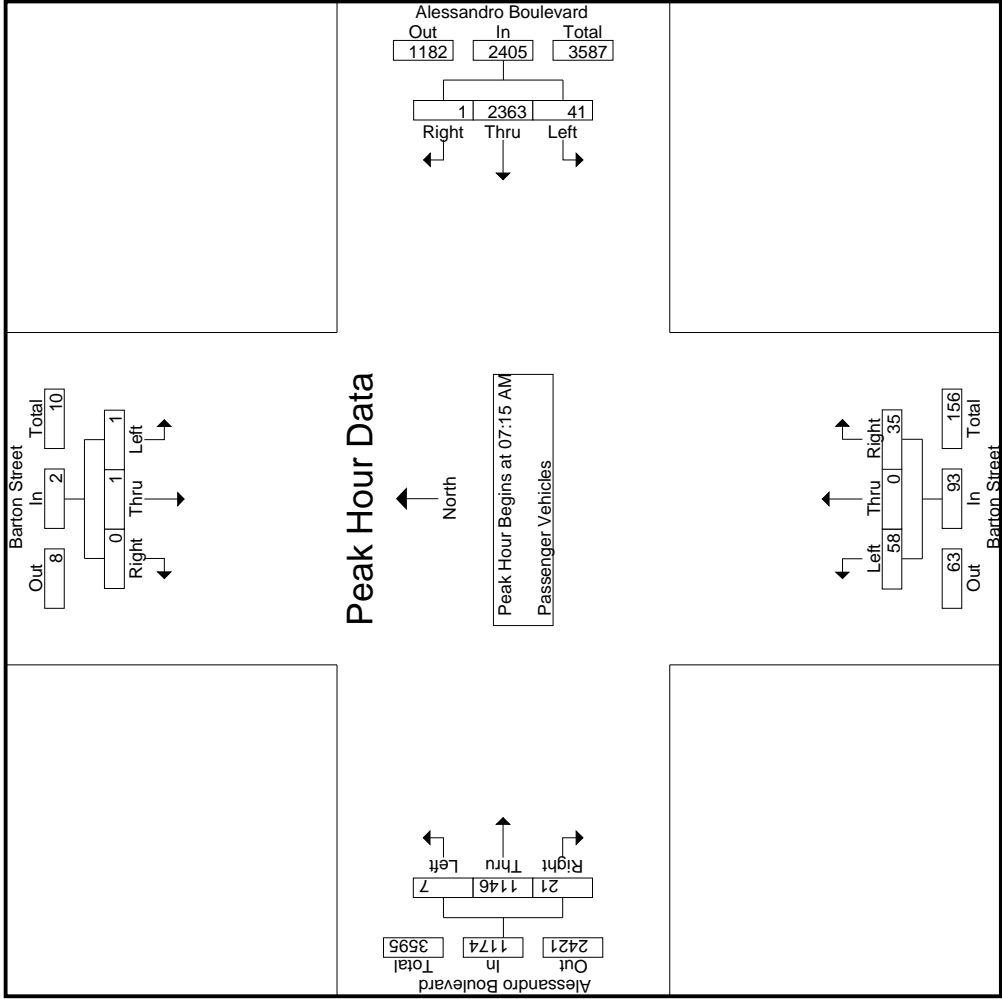
Groups Printed- Passenger Vehicles

	Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	2	0	2	6	630	2	0	638	33	1	8	4	42	1	233	5	1	239	5	921	926
07:15 AM	0	0	0	0	0	7	675	0	0	682	15	0	10	8	25	0	267	3	0	270	8	977	985
07:30 AM	1	0	0	0	1	7	557	0	0	564	14	0	10	7	24	3	277	2	0	282	7	871	878
07:45 AM	0	0	0	0	0	9	513	1	0	523	16	0	9	9	25	3	281	8	0	292	9	840	849
Total	1	0	2	0	3	29	2375	3	0	2407	78	1	37	28	116	7	1058	18	1	1083	29	3609	3638
08:00 AM	0	1	0	0	1	18	618	0	0	636	13	0	6	5	19	1	321	8	0	330	5	986	991
08:15 AM	2	0	5	1	7	11	599	3	0	613	13	0	8	6	21	4	248	6	1	258	8	899	907
08:30 AM	1	0	3	2	4	8	479	2	0	489	13	0	8	7	21	2	237	5	1	244	10	758	768
08:45 AM	1	0	0	0	1	8	463	1	0	472	7	1	3	3	11	1	199	3	0	203	3	687	690
Total	4	1	8	3	13	45	2159	6	0	2210	46	1	25	21	72	8	1005	22	2	1035	26	3330	3356
Grand Total	5	1	10	3	16	74	4534	9	0	4617	124	2	62	49	188	15	2063	40	3	2118	55	6939	6994
Apprch %	31.2	6.2	62.5			1.6	98.2	0.2		66.5	66	1.1	33		2.7	0.7	97.4	1.9		30.5	0.8	99.2	
Total %	0.1	0	0.1		0.2	1.1	65.3	0.1			1.8	0	0.9			0.2	29.7	0.6					

3.1-7

Start Time	Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound					
	Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Int. Total
Peak Hour Analysis From 07:15 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		7	675	0	682		15	0	10	25		0	267	3	270		977
07:30 AM	1	0	0	1		7	557	0	564		14	0	10	24		3	277	2	282		871
07:45 AM	0	0	0	0		9	513	1	523		16	0	9	25		3	281	8	292		840
08:00 AM	0	1	0	1		18	618	0	636		13	0	6	19		1	321	8	330		986
Total Volume	1	1	0	2		41	2363	1	2405		58	0	35	93		7	1146	21	1174		3674
% App. Total	50	50	0			1.7	98.3	0			62.4	0	37.6			0.6	97.6	1.8			
PHF	.250	.250	.000	.500		.569	.875	.250	.882		.906	.000	.875	.930		.583	.893	.656	.889		.932







City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

3.1-9

	Barton Street Southbound				Alessandro Boulevard Westbound				Barton Street Northbound				Alessandro Boulevard Eastbound			
	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 Each Approach Begins at:																
	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	7	675	0	682	15	0	10	25	0	267	3	270
+15 mins.	1	0	0	1	7	557	0	564	14	0	10	24	3	277	2	282
+30 mins.	0	0	0	0	9	513	1	523	16	0	9	25	3	281	8	292
+45 mins.	0	1	0	1	18	618	0	636	13	0	6	19	1	321	8	330
Total Volume	1	1	0	2	41	2363	1	2405	58	0	35	93	7	1146	21	1174
% App. Total	50	50	0		1.7	98.3	0		62.4	0	37.6		0.6	97.6	1.8	
PHE	250	250	000	500	569	875	250	882	906	000	875	930	583	893	656	889



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton St\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

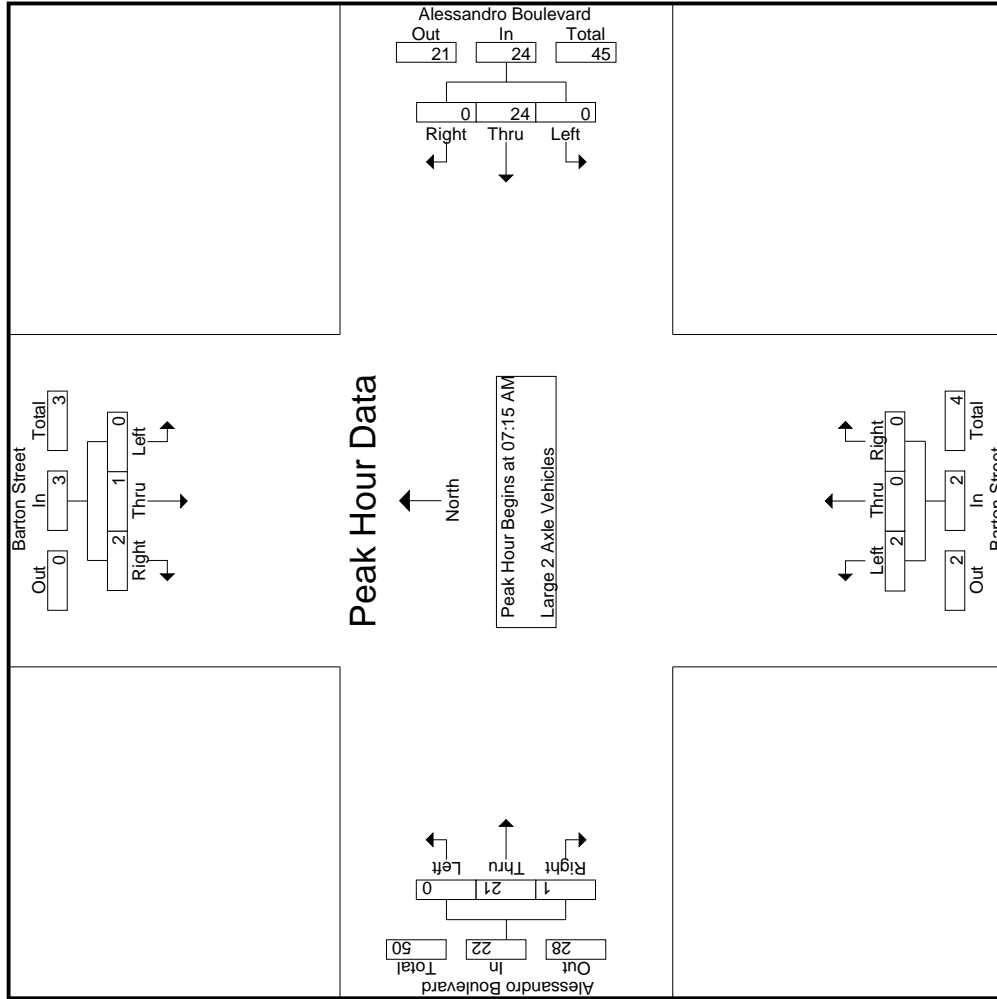
Groups Printed- Large 2 Axle Vehicles

Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound				
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	4	0	0	4	1	0	4	0	4	0	9	9	
07:15 AM	0	0	0	0	0	0	6	0	0	6	2	0	3	0	3	0	11	11	
07:30 AM	0	1	1	0	2	0	7	0	0	7	0	0	8	0	8	0	17	17	
07:45 AM	0	0	1	0	1	0	6	0	0	6	0	0	4	0	4	0	11	11	
Total	0	1	2	0	3	0	23	0	0	23	2	0	19	0	19	0	48	48	
08:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	6	1	7	0	12	12	
08:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	9	0	9	0	13	13	
08:30 AM	0	0	0	0	0	0	8	0	0	8	0	0	1	0	1	0	9	9	
08:45 AM	0	0	0	0	0	0	7	0	0	7	1	0	4	0	4	0	12	12	
Total	0	0	0	0	0	0	24	0	0	24	1	0	20	1	21	0	46	46	
Grand Total	0	1	2	0	3	0	47	0	0	47	3	0	39	1	40	0	94	94	
Apprch %	0	33.3	66.7			0	100	0		75	0	25	2.5			0			
Total %	0	1.1	2.1		3.2	0	50	0		3.2	0	1.1	1.1		42.6	0	100		

3.1-10

Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 07:15 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	6	0	6	2	0	0	2	0	3	0	3	11		
07:30 AM	0	1	1	2	0	7	0	7	0	0	0	0	0	8	0	8	17		
07:45 AM	0	0	1	1	0	6	0	6	0	0	0	0	0	4	0	4	11		
08:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	6	1	7	12		
Total Volume	0	1	2	3	0	24	0	24	2	0	0	2	0	21	1	22	51		
% App. Total	0	33.3	66.7		0	100	0		100	0	0		0	95.5	4.5				
PHF	.000	.250	.500	.375	.000	.857	.000	.857	.250	.000	.000	.250	.000	.656	.250	.688	.750		







City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton St\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

Start Time	Barton Street Southbound			Alessandro Boulevard Westbound			Barton Street Northbound			Alessandro Boulevard Eastbound		
	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 Each Approach Begins at:												
+0 mins.	07:15 AM			0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	2	0	0	0	0	2	0	3	3
+30 mins.	0	0	1	1	0	0	0	0	0	0	8	8
+45 mins.	0	0	0	0	0	6	0	0	0	0	4	4
Total Volume	0	1	2	3	0	24	0	24	2	0	6	7
% App. Total	0	33.3	66.7		0	100	0	100	100	0	95.5	4.5
PHF	.000	.250	.500	.375	.000	.857	.000	.857	.250	.000	.656	.250
												.688



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton St\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- 3 Axle Vehicles

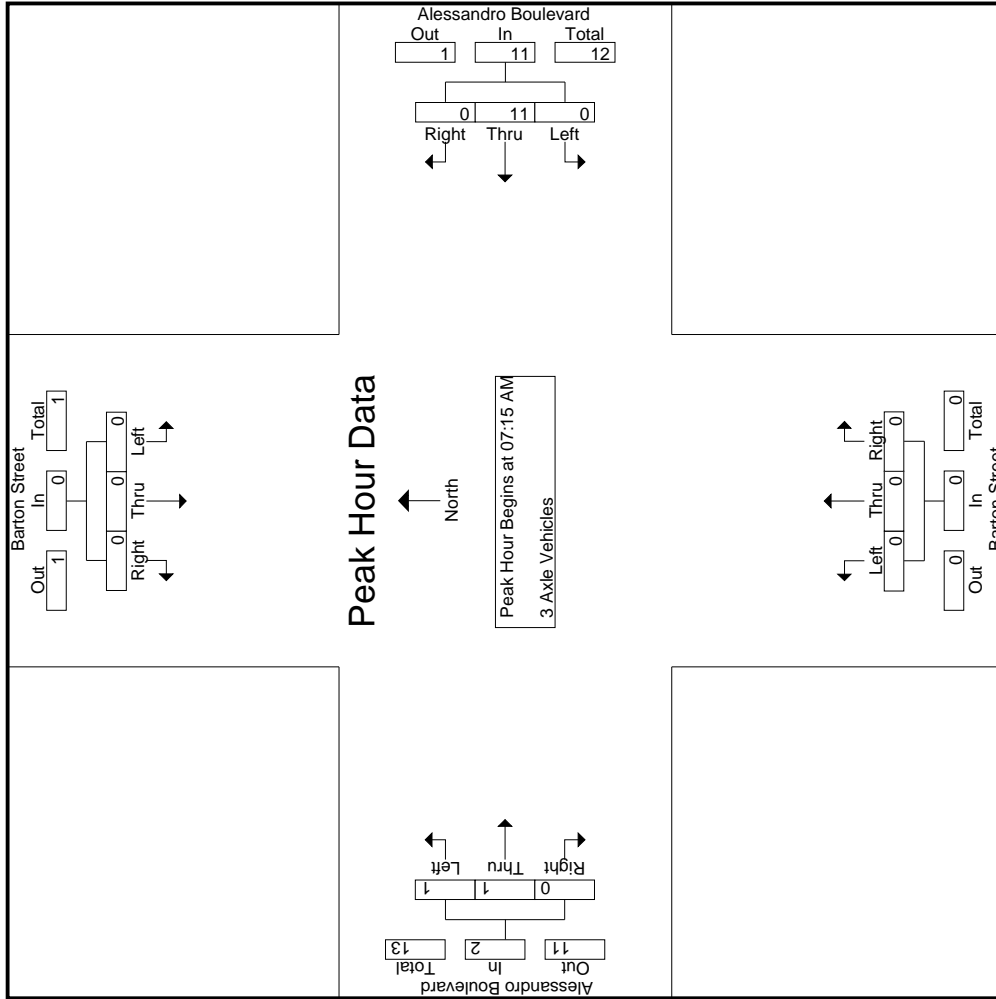
Start Time	Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1
07:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1
07:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	1	0	0	2
08:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	0	1	0	17	0	0	17	0	0	0	0	0	1	1	0	0	2
Apprch %	100	0	0			0	100	0			0	0	0			50	50	0		0
Total %	5	0	0		5	0	85	0		85	0	0	0		0	5	5	0		10

3.1-13

Start Time	Barton Street Southbound				Alessandro Boulevard Westbound				Barton Street Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	1	0	0	1
07:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	11	0	11	0	0	0	0	1	1	0	2
% App. Total	0	0	0		0	100	0		0	0	0		50	50	0	
PHF	.000	.000	.000	.000	.000	.688	.000	.688	.000	.000	.000	.000	.250	.250	.000	.500
																.813

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







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

City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

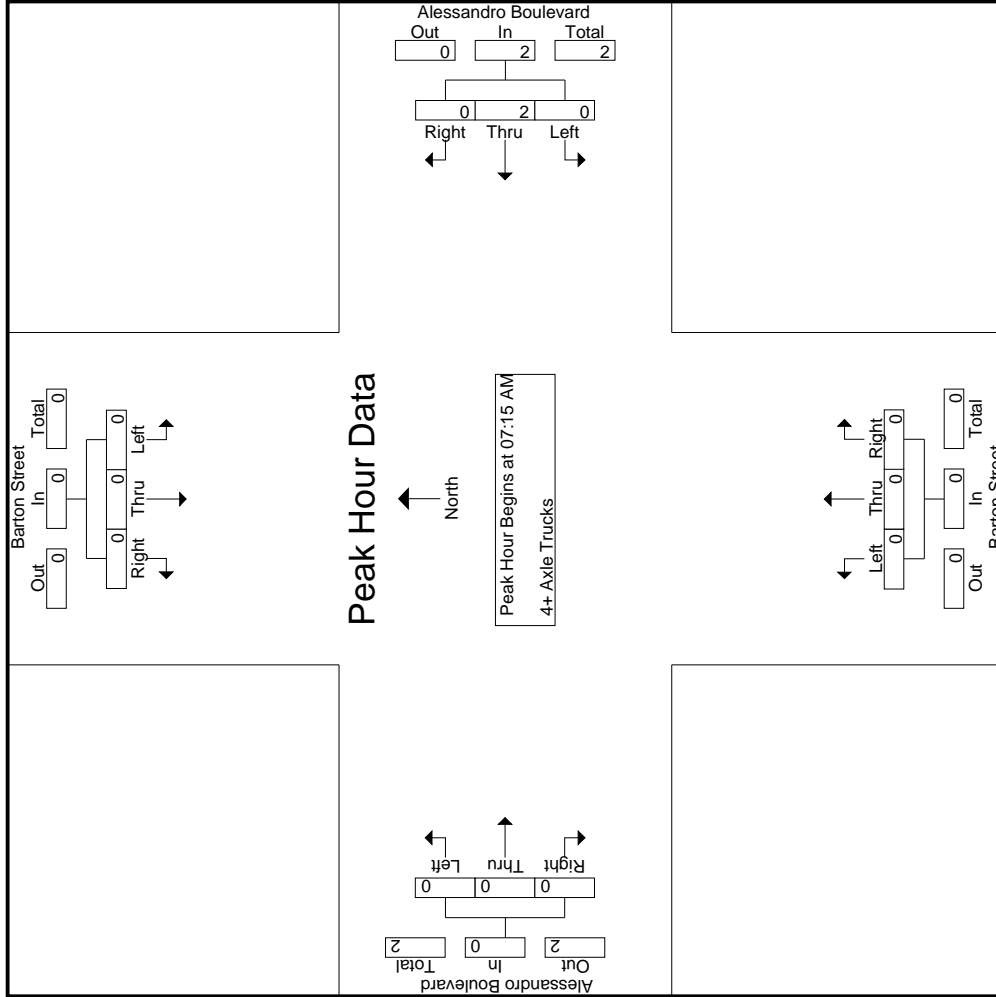
File Name : 01\_RIV\_Barton St\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

Start Time	Barton Street Southbound			Alessandro Boulevard Westbound			Barton Street Northbound			Alessandro Boulevard Eastbound		
	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 Each Approach Begins at:												
+0 mins.	0	0	0	0	07:15 AM	0	2	0	0	07:15 AM	1	0
+15 mins.	0	0	0	0	0	3	0	0	0	0	1	0
+30 mins.	0	0	0	0	0	2	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	4	0	0	0	0	0	0
Total Volume	0	0	0	0	0	11	0	0	0	1	1	0
% App. Total	0	0	0	0	0	100	0	0	0	50	50	0
PHF	.000	.000	.000	.000	.000	.688	.000	.000	.000	.250	.250	.500











City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton St\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

Start Time	Barton Street Southbound			Alessandro Boulevard Westbound			Barton Street Northbound			Alessandro Boulevard Eastbound		
	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 Each Approach Begins at:												
	07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	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
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

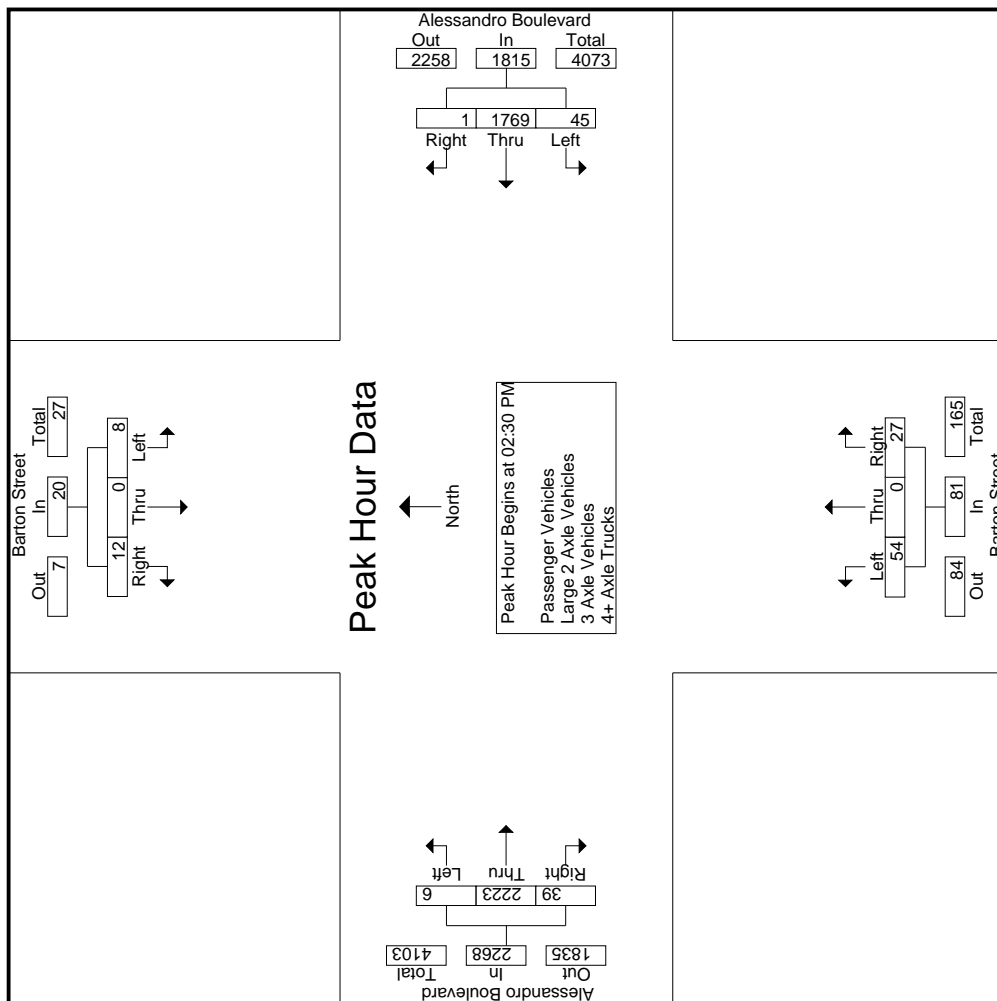
File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

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

		Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
02:00 PM	2	0	4	4	6	11	502	3	1	516	11	0	6	2	17	6	448	15	0	469	7	1008	1015
02:15 PM	2	0	6	5	8	12	478	3	0	493	7	0	6	6	13	1	501	9	1	511	12	1025	1037
02:30 PM	5	0	9	9	14	13	440	0	0	453	12	0	5	4	17	1	603	8	1	612	14	1096	1110
02:45 PM	2	0	2	2	4	15	428	0	0	443	21	0	12	10	33	3	492	7	0	502	12	982	994
Total	11	0	21	20	32	51	1848	6	1	1905	51	0	29	22	80	11	2044	39	2	2094	45	4111	4156
03:00 PM	1	0	1	1	2	8	469	1	0	478	13	0	5	5	18	2	564	10	0	576	6	1074	1080
03:15 PM	0	0	0	0	0	9	432	0	0	441	8	0	5	2	13	0	564	14	1	578	3	1032	1035
03:30 PM	0	0	1	1	1	10	405	1	0	416	14	0	6	4	20	3	498	14	0	515	5	952	957
03:45 PM	1	0	1	0	2	13	369	1	0	383	15	0	8	8	23	0	594	11	1	605	9	1013	1022
Total	2	0	3	2	5	40	1675	3	0	1718	50	0	24	19	74	5	2220	49	2	2274	23	4071	4094
Grand Total	13	0	24	22	37	91	3523	9	1	3623	101	0	53	41	154	16	4264	88	4	4368	68	8182	8250
Approch %	35.1	0	64.9			2.5	97.2	0.2		65.6	0	34.4				0.4	97.6	2					
Total %	0.2	0	0.3		0.5	1.1	43.1	0.1		44.3	1.2	0	0.6		1.9	0.2	52.1	1.1		53.4	0.8	99.2	
Passenger Vehicles	13	0	23		58	90	3484	9		3584	101	0	52		193	15	4210	86		4315	0	0	8150
% Passenger Vehicles	100	0	95.8	100	98.3	98.9	98.9	100	100	98.9	100	0	98.1	97.6	99	93.8	98.7	97.7	100	98.7	0	0	98.8
Large 2 Axle Vehicles	0	0	1		1	1	29	0	0	30	0	0	1		2	1	42	2		45	0	0	78
% Large 2 Axle Vehicles	0	0	4.2	0	1.7	1.1	0.8	0	0	0.8	0	0	1.9	2.4	1	6.2	1	2.3	0	1	0	0	0.9
3 Axle Vehicles	0	0	0		0	0	5	0	0	5	0	0	0		0	0	8	0		8	0	0	13
% 3 Axle Vehicles	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0.2
4+ Axle Trucks	0	0	0		0	0	5	0	0	5	0	0	0		0	0	4	0		4	0	0	9
% 4+ Axle Trucks	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0.1

		Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total		
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 02:30 PM																							
02:30 PM	5	0	0		9	14				0	453				5	17		1		603	8	612	1096
02:45 PM	2	0	2		4	15	428	0		443	21	0	12		12	33		3	492	7	502	982	
03:00 PM	1	0	1		2	8	469	1		478	13	0	5		5	18		2	564	10	1074	1074	
03:15 PM	0	0	0		0	9	432	0		441	8	0	5		13	13		0	564	14	578	1032	
Total Volume	8	0	12		20	45	1769	1		1815	54	0	27		27	81		6	2223	39	2268	4184	
% App. Total	40	0	60		60	2.5	97.5	0.1		99.4	66.7	0	33.3		33.3	0.3	98		1.7		.926	.954	
PHF	.400	.000	.333		.357	.750	.943	.250		.949	.643	.000	.563		.563	.614	.922	.696					







City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

3.1-21



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

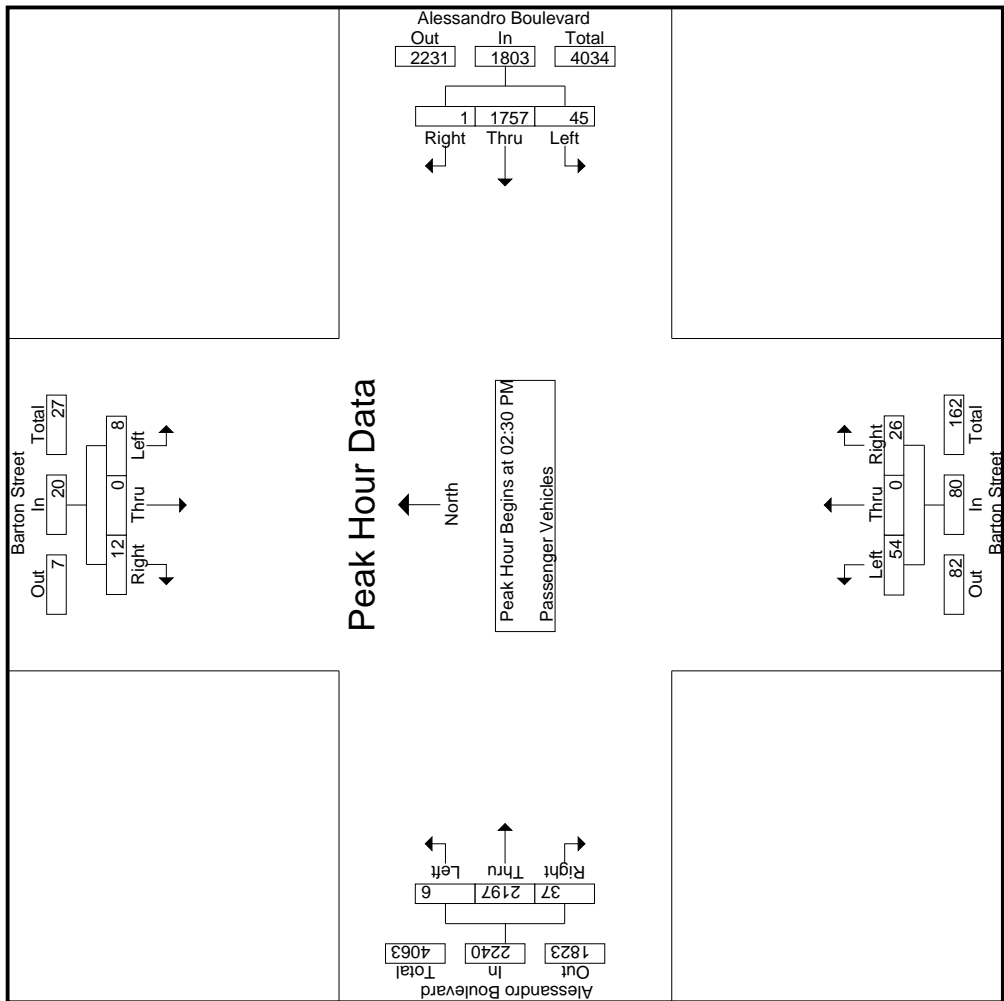
Groups Printed- Passenger Vehicles

	Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
02:00 PM	2	0	4	4	6	11	490	3	1	504	11	0	6	2	17	5	439	15	0	459	7	986	993
02:15 PM	2	0	5	5	7	12	471	3	0	486	7	0	6	6	13	1	497	9	1	507	12	1013	1025
02:30 PM	5	0	9	9	14	13	437	0	0	450	12	0	5	4	17	1	595	7	1	603	14	1084	1098
02:45 PM	2	0	2	2	4	15	425	0	0	440	21	0	12	10	33	3	485	7	0	495	12	972	984
Total	11	0	20	20	31	51	1823	6	1	1880	51	0	29	22	80	10	2016	38	2	2064	45	4055	4100
03:00 PM	1	0	1	1	2	8	465	1	0	474	13	0	4	4	17	2	564	9	0	575	5	1068	1073
03:15 PM	0	0	0	0	0	9	430	0	0	439	8	0	5	2	13	0	553	14	1	567	3	1019	1022
03:30 PM	0	0	1	1	1	10	399	1	0	410	14	0	6	4	20	3	492	14	0	509	5	940	945
03:45 PM	1	0	1	0	2	12	367	1	0	380	15	0	8	8	23	0	585	11	1	596	9	1001	1010
Total	2	0	3	2	5	39	1661	3	0	1703	50	0	23	18	73	5	2194	48	2	2247	22	4028	4050
Grand Total	13	0	23	22	36	90	3484	9	1	3583	101	0	52	40	153	15	4210	86	4	4311	67	8083	8150
Apprch %	36.1	0	63.9			2.5	97.2	0.3		44.3	66	0	34		1.9	0.3	97.7	2		53.3	0.8	99.2	
Total %	0.2	0	0.3		0.4	1.1	43.1	0.1			1.2	0	0.6			0.2	52.1	1.1					

3.1-22

Start Time	Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound					
	Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Int. Total
Peak Hour Analysis From 02:30 PM to 03:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:30 PM																					
02:30 PM	5	0	9	14		13	437	0	450		12	0	5	17		1	595	7	603		1084
02:45 PM	2	0	2	4		15	425	0	440		21	0	12	33		3	485	7	495		972
03:00 PM	1	0	1	2		8	465	1	474		13	0	4	17		2	564	9	575		1068
03:15 PM	0	0	0	0		9	430	0	439		8	0	5	13		0	553	14	567		1019
Total Volume	8	0	12	20		45	1757	1	1803		54	0	26	80		6	2197	37	2240		4143
% App. Total	40	0	60			2.5	97.4	0.1			67.5	0	32.5			0.3	98.1	1.7			
PHF	.400	.000	.333	.357		.750	.945	.250	.951		.643	.000	.542	.606		.500	.923	.661	.929		.955







City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

3.1-24



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- Large 2 Axle Vehicles

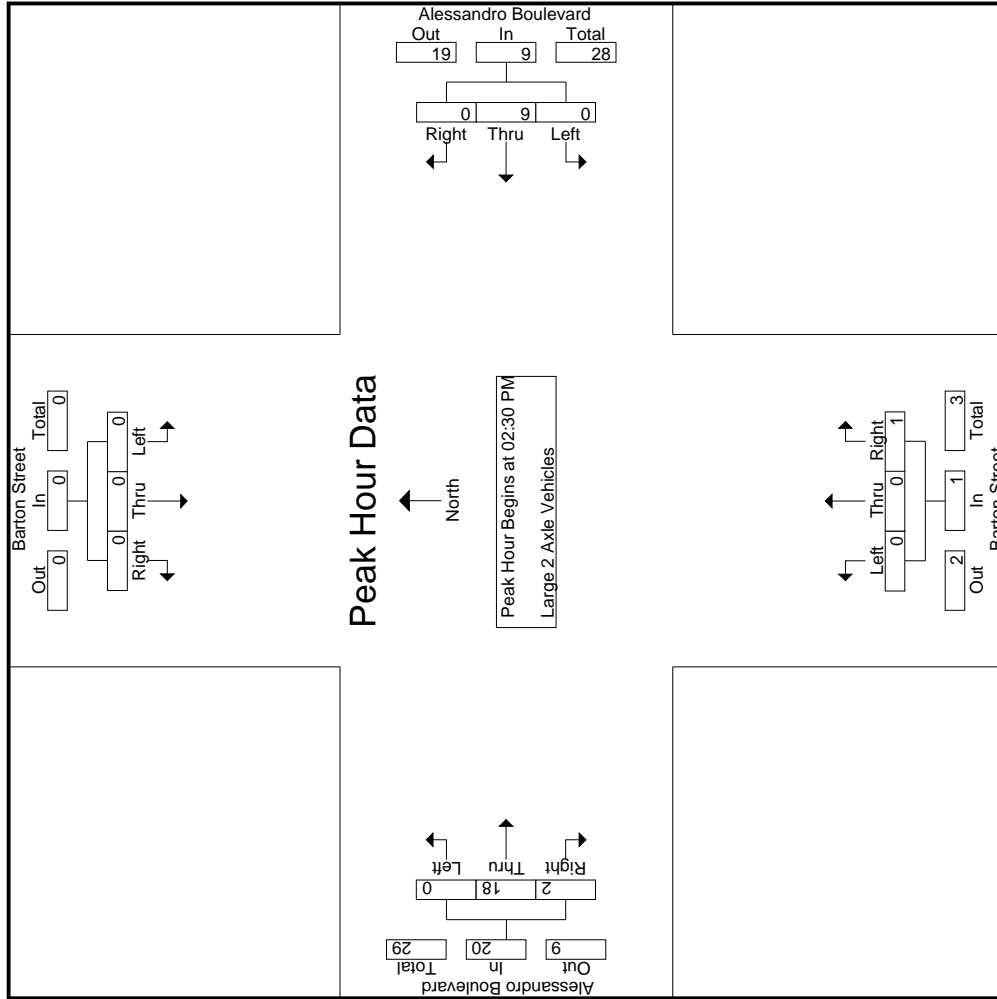
Start Time	Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total
02:00 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	1	8	0	0	9
02:15 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2
02:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	1	0	6
02:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4
Total	0	0	1	0	1	0	19	0	0	19	0	0	0	0	0	1	19	1	0	21
03:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	1	1	1	0	0	1	0	1
03:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9
03:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5
03:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	9	0	0	9
Total	0	0	0	0	0	1	10	0	0	11	0	0	1	1	1	0	23	1	0	24
Grand Total	0	0	1	0	1	1	29	0	0	30	0	0	1	1	1	1	42	2	0	45
Apprch %	0	0	100			3.3	96.7	0			0	0	100			2.2	93.3	4.4		
Total %	0	0	1.3		1.3	1.3	37.7	0		39	0	0	1.3		1.3	1.3	54.5	2.6		58.4

3.1-25

Start Time	Barton Street Southbound				Alessandro Boulevard Westbound				Barton Street Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
02:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	5	1	6
02:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4
03:00 PM	0	0	0	0	0	2	0	2	0	0	1	1	0	0	1	1
03:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	9	0	9
Total Volume	0	0	0	0	0	9	0	9	0	0	1	1	0	18	2	20
% App. Total	0	0	0	0	0	100	0	100	0	0	100	100	0	90	10	10
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.250	.250	.000	.500	.500	.682

Peak Hour Analysis From 02:30 PM to 03:15 PM - Peak 1 of 1  
Peak Hour for Entire Intersection Begins at 02:30 PM







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

City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

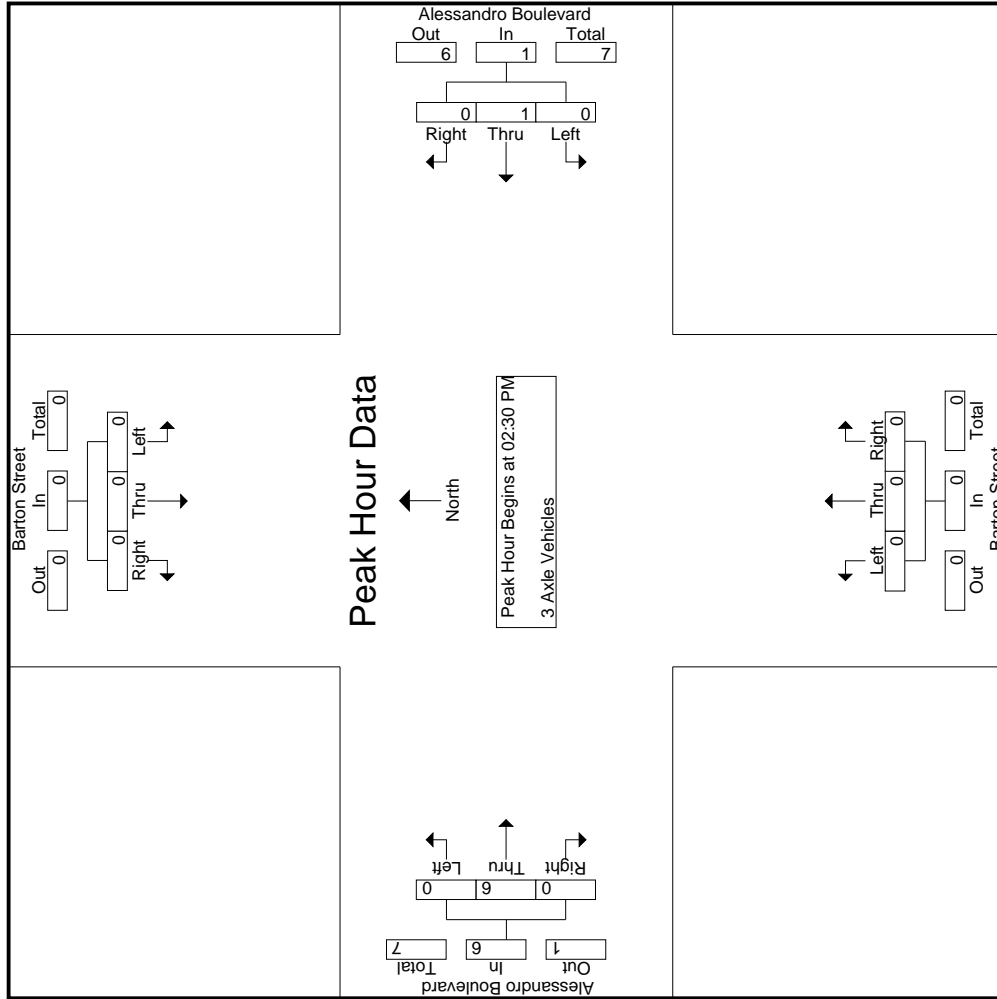
File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

Start Time	Barton Street Southbound			Alessandro Boulevard Westbound			Barton Street Northbound			Alessandro Boulevard Eastbound		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 02:30 PM to 03:15 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	02:30 PM			0	0	0	0	0	0	0	0	0
+15 mins.	02:30 PM			0	0	0	0	0	0	0	0	0
+30 mins.	02:30 PM			0	0	0	0	0	0	0	0	0
+45 mins.	02:30 PM			0	0	0	0	0	0	0	0	0
Total Volume	02:30 PM			0	0	0	0	0	0	0	0	0
% App. Total	02:30 PM			0	0	0	0	0	0	0	0	0
PHF	02:30 PM			.000	.000	.000	.000	.000	.000	.000	.000	.000
	02:30 PM			.750	.750	.000	.250	.250	.000	.500	.500	.556



Groups Printed- 3 Axle Vehicles																							
Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound								
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
02:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	3
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	7	7
03:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2
03:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
03:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	6	6
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	0	13	13
Approch %	0	0	0			0	100	0		38.5	0	0	0		0	0	100	0		61.5	0	100	
Total %	0	0	0			0	38.5	0		38.5	0	0	0		0	0	61.5	0		61.5	0	100	
3.1-28																							
Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound								
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total		
Peak Hour Analysis From 02:30 PM to 03:15 PM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 02:30 PM																							
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	3
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	0	0	6	0	7	7
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0	100	0	0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.583	







City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

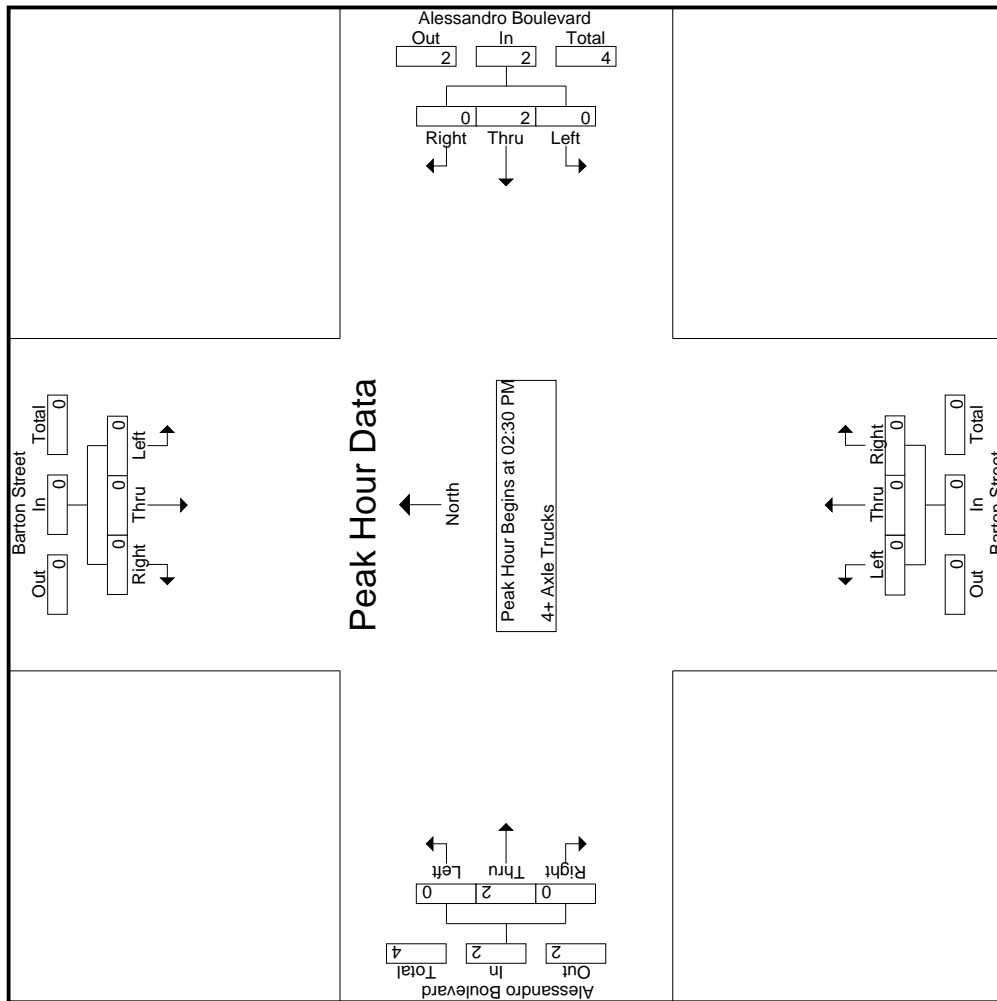
3.1-30



City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

Groups Printed- 4+ Axle Trucks																							
Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound								
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	2	2
02:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	1	0	0	0	3	3
02:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	2	0	0	0	3	3
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4	0	4	0	0	0	8	8
03:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	4	0	4	0	0	0	9	9
Approch %	0	0	0	0	0	0	100	0	0	55.6	0	0	0	0	0	100	0	44.4	0	0	0	100	100
Total %	0	0	0	0	0	0	55.6	0	0	55.6	0	0	0	0	0	44.4	0	44.4	0	0	0	100	100
3.1-31																							
Barton Street Southbound					Alessandro Boulevard Westbound					Barton Street Northbound					Alessandro Boulevard Eastbound								
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total		
Peak Hour Analysis From 02:30 PM to 03:15 PM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 02:30 PM																							
02:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	2	3	
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	2	4	
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0	100	0	0	0	0	4	
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.333	







City of Riverside  
N/S: Barton Street  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 01\_RIV\_Barton\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

Start Time	Barton Street Southbound			Alessandro Boulevard Westbound			Barton Street Northbound			Alessandro Boulevard Eastbound		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 02:30 PM to 03:15 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
	02:30 PM			02:30 PM	02:30 PM			02:30 PM	02:30 PM			02:30 PM
+0 mins.	0	0	0	0	0	1	0	0	0	0	2	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	0	0	0	2	0
% App. Total	0	0	0	0	0	100	0	0	0	0	100	0
PHF	.000	.000	.000	.000	.000	.500	.000	.000	.000	.000	.250	.000
												.250



Location: Riverside  
 N/S: Barton Street  
 E/W: Alessandro Boulevard



Date: 10/25/2018  
 Day: Thursday

PEDESTRIANS

	North Leg Barton Street	East Leg Alessandro Boulevard	South Leg Barton Street	West Leg Alessandro Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Barton Street	East Leg Alessandro Boulevard	South Leg Barton Street	West Leg Alessandro Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
2:00 PM	0	1	0	0	1
2:15 PM	0	0	1	0	1
2:30 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0
3:00 PM	0	2	0	0	2
3:15 PM	0	1	0	0	1
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	4	1	0	5



Location: Riverside  
 N/S: Barton Street  
 E/W: Alessandro Boulevard



Date: 10/25/2018  
 Day: Thursday

BICYCLES

		Southbound Barton Street			Westbound Alessandro Boulevard			Northbound Barton Street			Eastbound Alessandro Boulevard			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	2
	8:00 AM	0	7	0	0	0	0	0	0	0	0	0	0	7
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:		0	8	0	0	0	0	0	1	0	1	0	0	10

		Southbound Barton Street			Westbound Alessandro Boulevard			Northbound Barton Street			Eastbound Alessandro Boulevard			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	2:00 PM	0	1	0	0	0	0	0	1	0	0	1	0	3
	2:15 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
	2:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	6	0	0	0	0	0	2	1	0	2	0	11



City of Riverside  
N/S: Private Driveway  
E/W: Alessandro Boulevard  
Weather: Clear

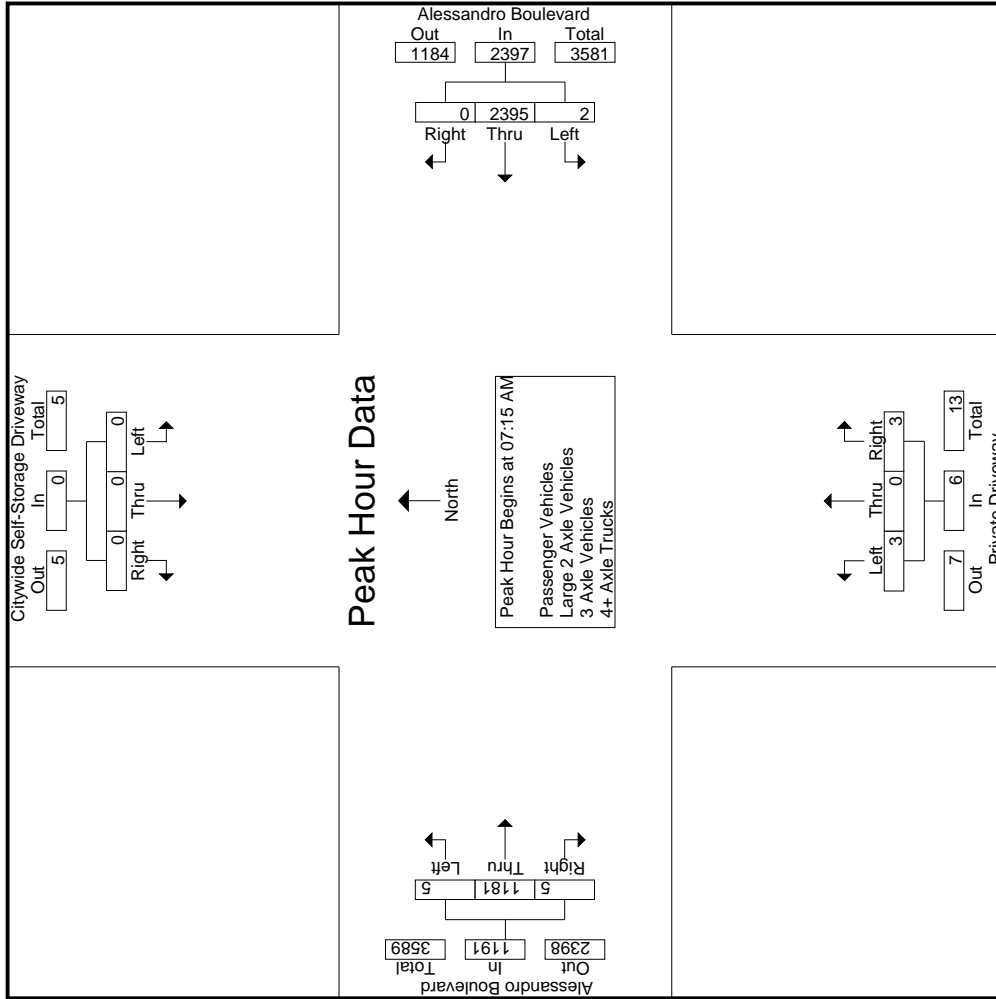
File Name : 02\_RIV\_Private DW\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

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

Citywide Self-Storage Driveway Southbound					Alessandro Boulevard Westbound					Private Driveway Northbound					Alessandro Boulevard Eastbound					
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
07:00 AM	0	0	0	0	0	0	635	0	0	635	0	0	2	2	2	2	244	0	244	883
07:15 AM	0	0	0	0	0	0	681	0	0	681	1	0	1	1	2	0	280	1	281	965
07:30 AM	0	0	0	0	0	0	560	0	0	560	0	0	2	2	2	0	291	1	292	856
07:45 AM	0	0	0	0	0	1	513	0	0	514	0	0	0	0	0	2	282	1	285	799
Total	0	0	0	0	0	1	2389	0	0	2390	1	0	5	5	6	2	1097	3	1102	3503
08:00 AM	0	0	0	0	0	1	641	0	0	642	2	0	0	0	2	3	328	2	333	977
08:15 AM	0	0	0	0	0	0	610	0	0	610	1	0	0	0	1	0	270	0	270	881
08:30 AM	0	0	0	0	0	1	480	0	0	481	1	0	0	0	1	2	239	0	241	723
08:45 AM	0	0	0	0	0	1	474	0	0	475	2	0	0	0	2	2	213	0	215	692
Total	0	0	0	0	0	3	2205	0	0	2208	6	0	0	0	6	7	1050	2	1059	3273
Grand Total	0	0	0	0	0	4	4594	0	0	4598	7	0	5	5	12	9	2147	5	2161	6776
Approach %	0	0	0	0	0	0.1	99.9	0	0	58.3	0	41.7	0	0	0.2	0.4	99.4	0.2	31.9	99.9
Total %	0	0	0	0	0	0.1	67.8	0	0	67.9	0.1	0	0.1	0	0.2	0.1	31.7	0.1	31.9	99.9
Passenger Vehicles	0	0	0	0	0	4	4520	0	0	4524	7	0	4	15	15	9	2100	5	2114	6653
% Passenger Vehicles	0	0	0	0	0	100	98.4	0	0	98.4	100	0	80	80	88.2	100	97.8	100	97.8	98.2
Large 2 Axle Vehicles	0	0	0	0	0	0	47	0	0	47	0	0	1	2	2	0	41	0	41	90
% Large 2 Axle Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	20	20	11.8	0	1.9	0	1.9	1.3
3 Axle Vehicles	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	2	0	2	21
% 3 Axle Vehicles	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	0.1	0	0.1	0.3
4+ Axle Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	4	0	4	12
% 4+ Axle Trucks	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.2	0	0.2	0.2

Citywide Self-Storage Driveway Southbound					Alessandro Boulevard Westbound					Private Driveway Northbound					Alessandro Boulevard Eastbound					
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:15 AM																				
07:15 AM	0	0	0	0	0	0	681	0	0	681	1	0	0	1	1	2	280	1	281	964
07:30 AM	0	0	0	0	0	0	560	0	0	560	0	0	0	2	2	0	291	1	292	854
07:45 AM	0	0	0	0	0	1	513	0	0	514	0	0	0	0	0	2	282	1	285	799
08:00 AM	0	0	0	0	0	1	641	0	0	642	2	0	0	0	2	3	328	2	333	977
Total Volume	0	0	0	0	0	2	2395	0	0	2397	3	0	3	3	6	5	1181	5	1191	3594
% App. Total	0	0	0	0	0	0.1	99.9	0	0	99.9	50	0	50	50	99.2	0.4	99.2	0.4	99.2	99.2
PHF	.000	.000	.000	.000	.000	.500	.879	.000	.880	.375	.375	.000	.375	.000	.750	.417	.900	.625	.894	.920







Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
+0 mins.	0	0	0	0	07:15 AM	0	0	0	0	0	0	0	07:15 AM	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	513	0	514	0	0	0	0	2	282	1	285
+45 mins.	0	0	0	0	1	641	0	642	0	0	0	0	3	328	2	333
Total Volume	0	0	0	0	2	2395	0	2397	1	0	5	6	5	1181	5	1191
% App. Total	0	0	0	0	0.1	99.9	0	16.7	0	83.3	0.4	99.2	0.4	99.2	0.4	1191
PHF	.000	.000	.000	.000	.500	.879	.000	.880	.250	.000	.625	.750	.417	.900	.625	.894



City of Riverside  
N/S: Private Driveway  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 02\_RIV\_Private DW\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

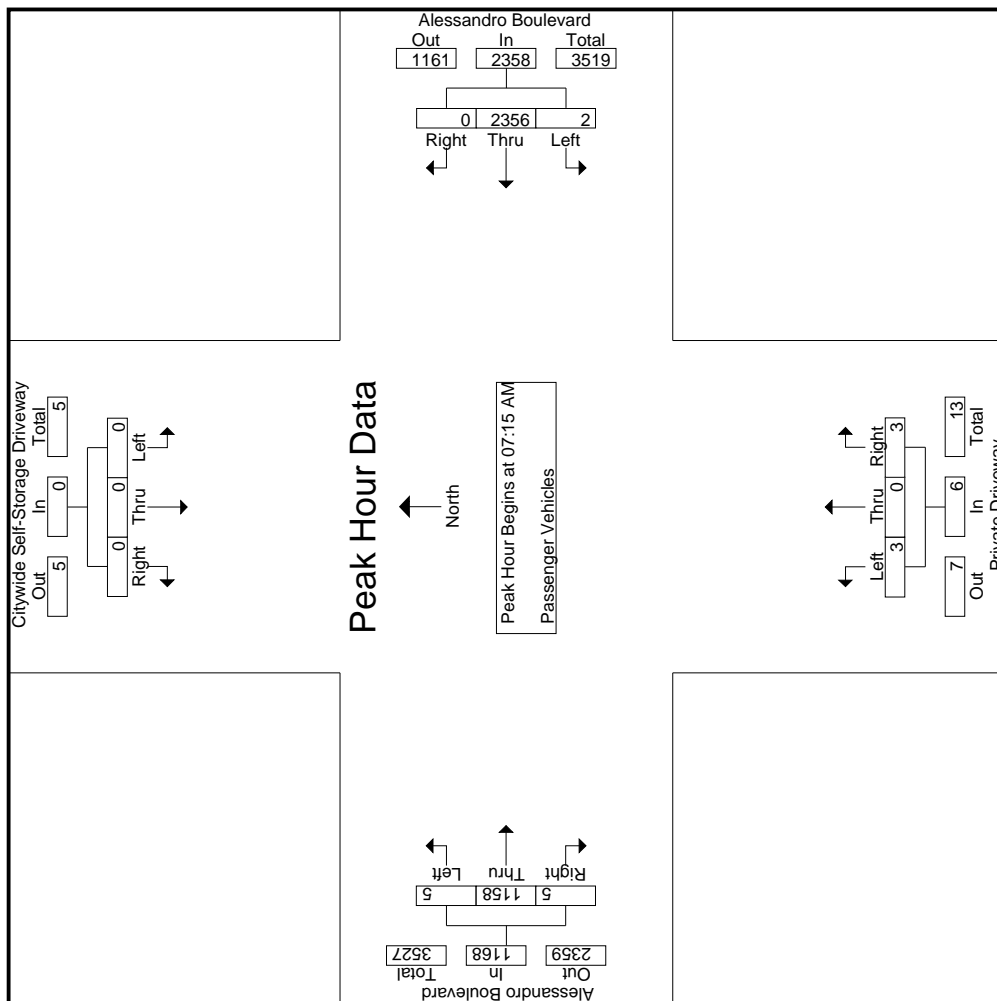
Groups Printed- Passenger Vehicles

Start Time	Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
07:00 AM	0	0	0	0	0		0	630	0	0	630		0	0	1	1	1		0	239	0	0	239	
07:15 AM	0	0	0	0	0		0	673	0	0	673		1	0	1	1	2		0	277	1	0	278	
07:30 AM	0	0	0	0	0		0	549	0	0	549		0	0	2	2	2		0	282	1	0	283	
07:45 AM	0	0	0	0	0		1	504	0	0	505		0	0	0	0	0		2	279	1	0	282	
Total	0	0	0	0	0		1	2356	0	0	2357		1	0	4	4	5		2	1077	3	0	1082	
08:00 AM	0	0	0	0	0		1	630	0	0	631		2	0	0	0	2		3	320	2	0	325	
08:15 AM	0	0	0	0	0		0	604	0	0	604		1	0	0	0	1		0	259	0	0	259	
08:30 AM	0	0	0	0	0		1	468	0	0	469		1	0	0	0	1		2	237	0	0	239	
08:45 AM	0	0	0	0	0		1	462	0	0	463		2	0	0	0	2		2	207	0	0	209	
Total	0	0	0	0	0		3	2164	0	0	2167		6	0	0	0	6		7	1023	2	0	1032	
Grand Total	0	0	0	0	0		4	4520	0	0	4524		7	0	4	4	11		9	2100	5	0	2114	
Apprch %	0	0	0				0.1	99.9	0		63.6		0.1	0	36.4		0.2		0.4	99.3	0.2		31.8	
Total %	0	0	0				0.1	68	0		68		0	0	0.1		0.2		0.1	31.6	0.1		99.9	

3.1-39

Start Time	Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	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	673	0	0	673		1	0	1	1	2		0	277	1	0	278	
07:30 AM	0	0	0	0	0		0	549	0	0	549		0	0	2	2	2		0	282	1	0	283	
07:45 AM	0	0	0	0	0		1	504	0	0	505		0	0	0	0	0		2	279	1	0	282	
08:00 AM	0	0	0	0	0		1	630	0	0	631		2	0	0	0	2		3	320	2	0	325	
Total Volume	0	0	0	0	0		2	2356	0	0	2358		3	0	3	6	6		5	1158	5	0	1168	
% App. Total	0	0	0	0	0		0.1	99.9	0		63.1		50	0	50		0.4		0.4	99.1	0.4		31.8	
PHF	.000	.000	.000		.000		.500	.875	.000		.876		.375	.000	.375		.750		.417	.905	.625		.898	







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

City of Riverside  
N/S: Private Driveway  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 02\_RIV\_Private DW\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	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 Each Approach Begins at:																
+0 mins.	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+15 mins.	0	0	0	0	0	673	0	673	0	0	1	2	0	277	1	278
+30 mins.	0	0	0	0	0	549	0	549	0	0	2	2	0	282	1	283
+45 mins.	0	0	0	0	1	504	0	505	0	0	0	0	2	279	1	282
Total Volume	0	0	0	0	1	630	0	631	2	0	0	2	3	320	2	325
% App. Total	0	0	0	0	2	2356	0	2358	3	0	3	6	5	1158	5	1168
PHF	.000	.000	.000	.000	.500	.875	.000	.876	.375	.000	.375	.750	.417	.905	.625	.898



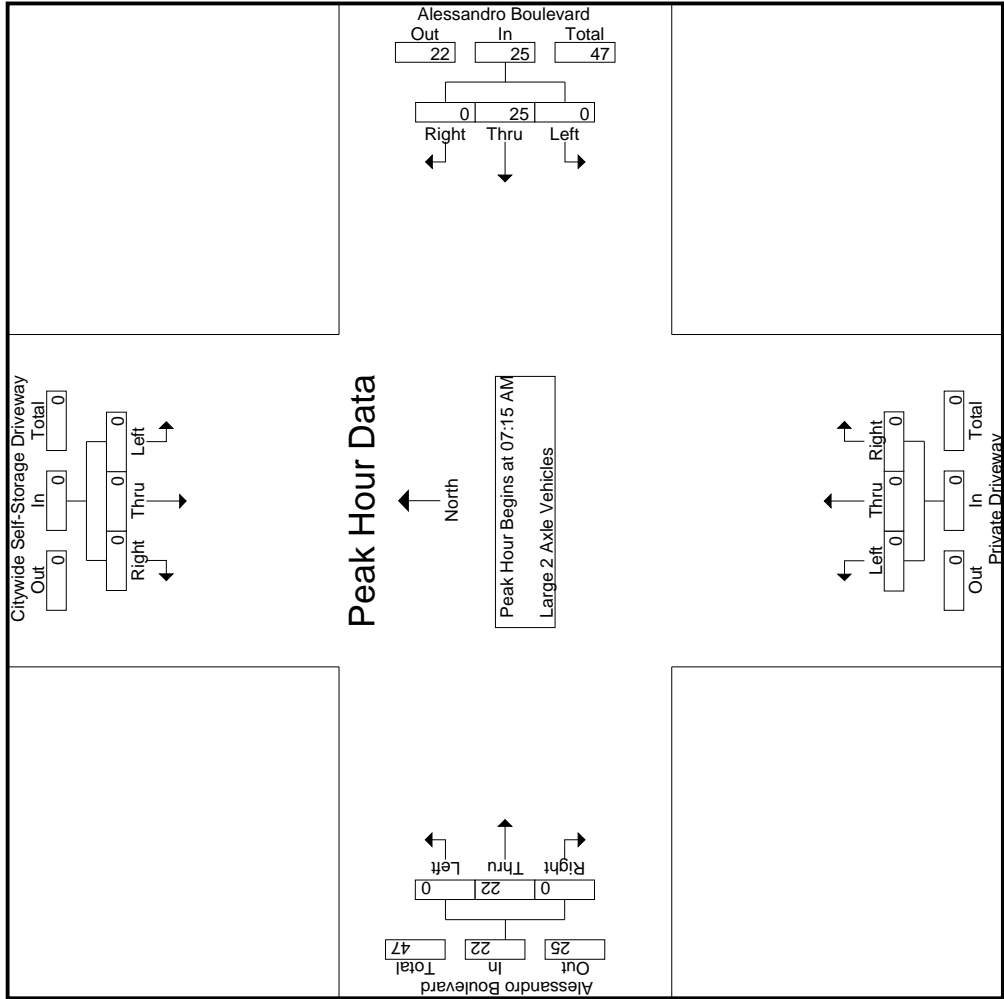
Groups Printed- Large 2 Axle Vehicles

Start Time	Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
07:00 AM	0	0	0	0	0		0	4	0	0	4		0	0	1	1	1		0	5	0	0	5	
07:15 AM	0	0	0	0	0		0	6	0	0	6		0	0	0	0	0		0	3	0	0	3	
07:30 AM	0	0	0	0	0		0	7	0	0	7		0	0	0	0	0		0	8	0	0	8	
07:45 AM	0	0	0	0	0		0	6	0	0	6		0	0	0	0	0		0	3	0	0	3	
Total	0	0	0	0	0		0	23	0	0	23		0	0	1	1	1		0	19	0	0	19	
08:00 AM	0	0	0	0	0		0	6	0	0	6		0	0	0	0	0		0	8	0	0	8	
08:15 AM	0	0	0	0	0		0	4	0	0	4		0	0	0	0	0		0	9	0	0	9	
08:30 AM	0	0	0	0	0		0	7	0	0	7		0	0	0	0	0		0	1	0	0	1	
08:45 AM	0	0	0	0	0		0	7	0	0	7		0	0	0	0	0		0	4	0	0	4	
Total	0	0	0	0	0		0	24	0	0	24		0	0	0	0	0		0	22	0	0	22	
Grand Total	0	0	0	0	0		0	47	0	0	47		0	0	1	1	1		0	41	0	0	41	
Apprch %	0	0	0				0	100	0				0	0	100				0	100	0			
Total %	0	0	0				0	52.8	0		52.8		0	0	1.1		1.1		0	46.1	0		46.1	

3.1-42

Start Time	Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	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	6	0	0	6		0	0	0	0	0		0	3	0	0	3	
07:30 AM	0	0	0	0	0		0	7	0	0	7		0	0	0	0	0		0	8	0	0	8	
07:45 AM	0	0	0	0	0		0	6	0	0	6		0	0	0	0	0		0	3	0	0	3	
08:00 AM	0	0	0	0	0		0	6	0	0	6		0	0	0	0	0		0	8	0	0	8	
Total Volume	0	0	0	0	0		0	25	0	0	25		0	0	0	0	0		0	22	0	0	22	
% App. Total	0	0	0	0	0		0	100	0		100		0	0	0		0		0	100	0			
PHF	.000	.000	.000	.000	.000		.000	.893	.000	.893	.000		.000	.000	.000	.000	.000		.000	.688	.000	.688	.000	.783







Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	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 Each Approach Begins at:																
+0 mins.	0	0	0	0	07:15 AM	0	6	0	6	07:15 AM	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	7	0	7	0	0	0	0	0	8	0	8
+30 mins.	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	0	6	0	6	0	0	0	0	0	8	0	8
Total Volume	0	0	0	0	0	25	0	25	0	0	0	0	0	22	0	22
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.893	.000	.893	.000	.000	.000	.000	.000	.688	.000	.688



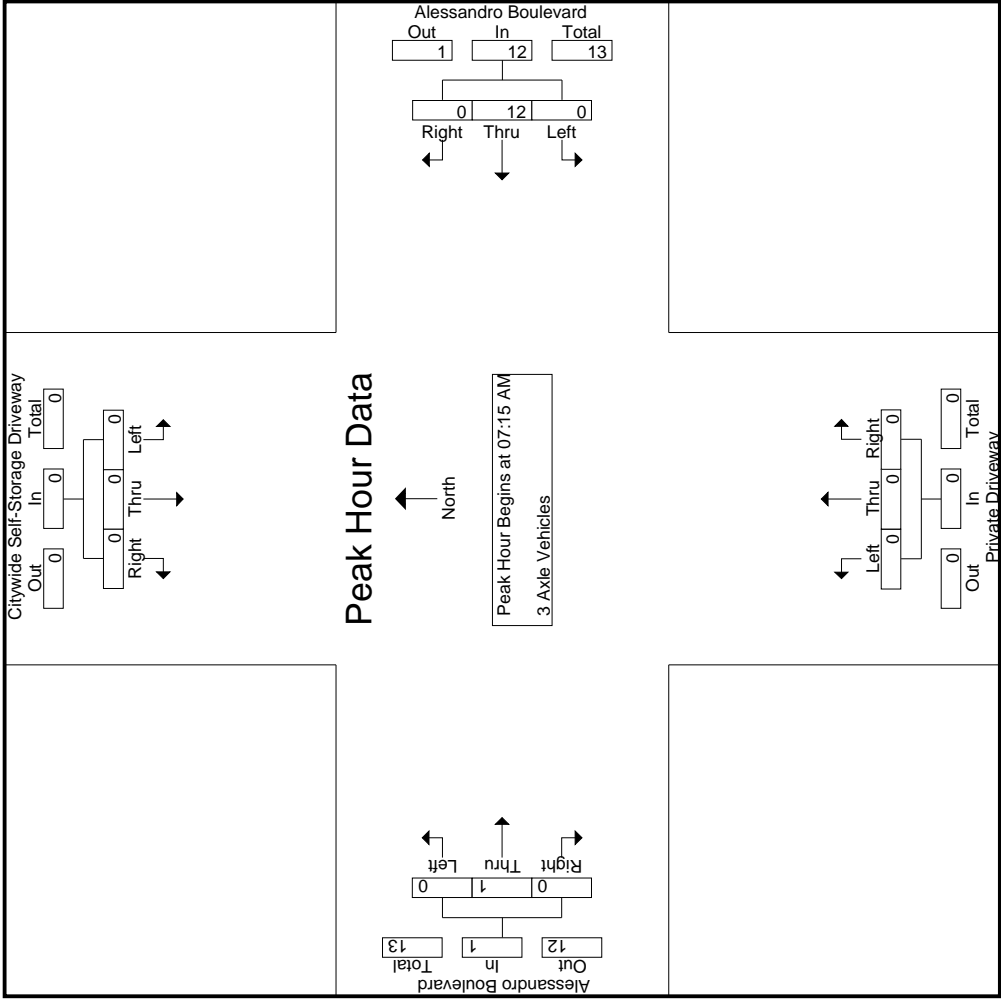
City of Riverside  
N/S: Private Driveway  
E/W: Alessandro Boulevard  
Weather: Clear

### Groups Printed- 3 Axle Vehicles

3.1-45

	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
Start Time	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	2	0	2	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	12	0	12	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.250	.000	.250
																.813







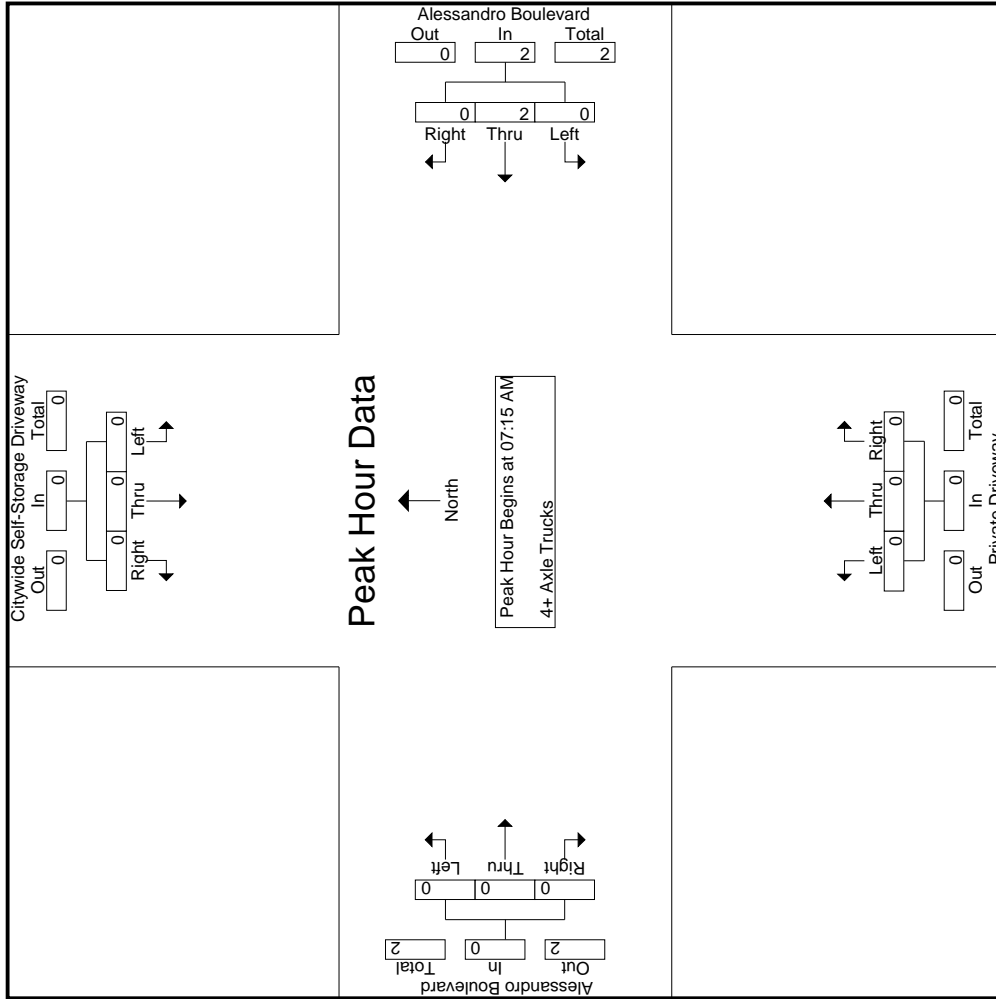
Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
+0 mins.	0	0	0	0	07:15 AM	0	2	0	2	07:15 AM	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	12	0	12	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.250	.000	.250



City of Riverside  
N/S: Private Driveway  
E/W: Alessandro Boulevard  
Weather: Clear

Groups Printed- 4+ Axle Trucks																							
Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound					
Start Time	Left	Thru	Right	R TOR	App. Total	Left	Thru	Right	R TOR	App. Total	Left	Thru	Right	R TOR	App. Total	Left	Thru	Right	R TOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	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	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2
08:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	0	4	4
08:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	0	4	4
Total	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	0	0	11	11
Grand Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	4	0	0	0	0	12	12
Approch %	0	0	0			0	100	0		66.7	0	0	0	0		0	100	0					
Total %	0	0	0			0	66.7	0		66.7	0	0	0	0		0	33.3	0			33.3	0	100
3.1-48																							
Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound					
Start Time	Left	Thru	Right	R TOR	App. Total	Left	Thru	Right	R TOR	App. Total	Left	Thru	Right	R TOR	App. Total	Left	Thru	Right	R TOR	App. Total	Int. Total		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 07:15 AM																							
07:15 AM	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
07:30 AM	0	0	0		0	0	0	1		1	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	0	0
08:00 AM	0	0	0		0	0	0	1		1	0	0	0		0	0	0	0		0	0	0	1
Total Volume	0	0	0		0	0	2	0		2	0	0	0		0	0	0	0		0	0	0	2
% App. Total	0	0	0		0	0	100	0		0	0	0	0		0	0	0	0		0	0	0	.500
PHF	.000	.000	.000		.000	.000	.000	.500		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.500	







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

City of Riverside  
N/S: Private Driveway  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 02\_RIV\_Private DW\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 3

Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	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 Each Approach Begins at:																
+0 mins.	0	0	0	0	07:15 AM	0	0	0	0	07:15 AM	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	2	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000



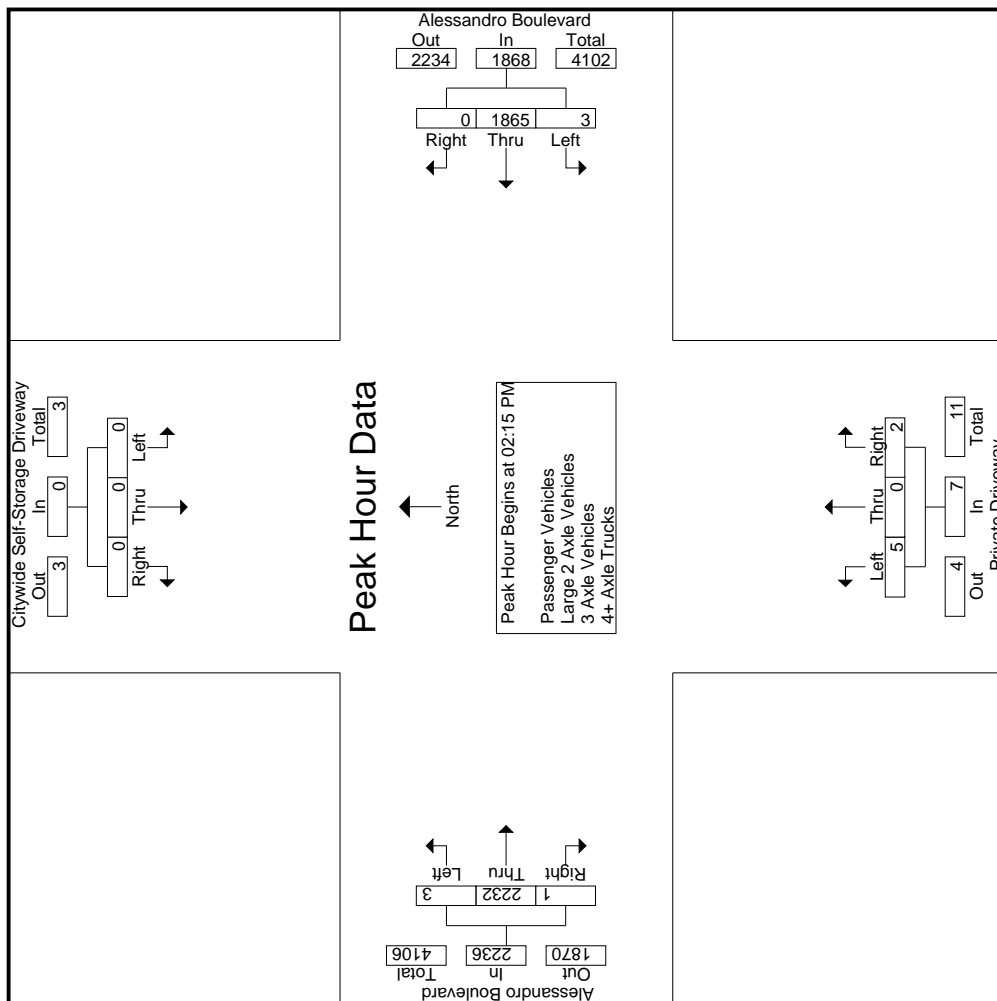
City of Riverside  
N/S: Private Driveway  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 02\_RIV\_Private DW\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks																																		
Citywide Self-Storage Driveway Southbound														Alessandro Boulevard Westbound							Private Driveway Northbound							Alessandro Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total											
02:00 PM	0	0	0	0	0	0	512	0	0	512	1	0	0	0	1	1	439	0	0	440	0	953	953											
02:15 PM	0	0	0	0	0	2	499	0	0	501	0	0	1	1	1	1	524	1	0	526	1	1028	1029											
02:30 PM	0	0	0	0	0	0	456	0	0	456	1	0	1	1	2	2	619	0	0	621	1	1079	1080											
02:45 PM	0	0	0	0	0	0	424	0	0	424	2	0	0	0	2	0	500	0	0	500	0	926	926											
Total	0	0	0	0	0	2	1891	0	0	1893	4	0	2	2	6	4	2082	1	0	2087	2	3986	3988											
03:00 PM	0	0	0	0	0	1	486	0	0	487	2	0	0	0	2	0	589	0	0	589	0	1078	1078											
03:15 PM	0	0	0	0	0	1	452	0	0	453	0	0	0	0	0	0	573	0	0	573	0	1026	1026											
03:30 PM	0	0	0	0	0	0	417	0	0	417	0	0	0	0	0	0	502	0	0	502	0	919	919											
03:45 PM	0	0	0	0	0	1	377	0	0	378	0	0	0	0	0	0	617	2	0	619	0	997	997											
Total	0	0	0	0	0	3	1732	0	0	1735	2	0	0	0	2	0	2281	2	0	2283	0	4020	4020											
Grand Total	0	0	0	0	0	5	3623	0	0	3628	6	0	2	2	8	4	4363	3	0	4370	2	8006	8008											
Approch %	0	0	0			0.1	99.9	0		75	0	25			0.1	99.8	0.1																	
Total %	0	0	0			0.1	45.3	0		45.3	0.1	0	0	0.1	0.1	0	54.5	0	54.6	0	100													
Passenger Vehicles	0	0	0			5	3583	0	0	3588	6	0	2		10	4	4307	3		4314	0	0	7912											
% Passenger Vehicles	0	0	0			100	98.9	0	0	98.9	100	0	100	100	100	100	98.7	100	0	98.7	0	0	98.8											
Large 2 Axle Vehicles	0	0	0			0	30	0	0	30	0	0	0	0	0	0	44	0		44	0	0	74											
% Large 2 Axle Vehicles	0	0	0			0	0.8	0	0	0.8	0	0	0	0	0	0	1	0	0	1	0	0	0.9											
3 Axle Vehicles	0	0	0			0	5	0	0	5	0	0	0	0	0	0	8	0		8	0	0	13											
% 3 Axle Vehicles	0	0	0			0	0.1	0	0	0.1	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0.2											
4+ Axle Trucks	0	0	0			0	5	0	0	5	0	0	0	0	0	0	4	0		4	0	0	9											
% 4+ Axle Trucks	0	0	0			0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0.1											

Citywide Self-Storage Driveway Southbound														Alessandro Boulevard Westbound							Private Driveway Northbound							Alessandro Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total											
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																																		
Peak Hour for Entire Intersection Begins at 02:15 PM																																		
02:15 PM	0	0	0		0	2	499	0	0	501	0	0	0	0	1	1	1	1		524	1	526	1028											
02:30 PM	0	0	0		0	0	456	0	0	456	0	0	0	0	1	2	2	619	0	621	0	1079												
02:45 PM	0	0	0		0	0	424	0	0	424	0	0	0	0	2	0	2	500	0	500	0	926												
03:00 PM	0	0	0		0	1	486	0	0	487	0	0	0	0	2	0	2	589	0	589	0	1078												
Total Volume	0	0	0		0	3	1865	0	0	1868	5	0	2	2	7	3	2232	1	2236	1	2236	4111												
% App. Total	0	0	0		0	0.2	99.8	0		71.4	0	28.6			0.1	99.8	0																	
PHF	.000	.000	.000		.000	.375	.934	.000	.932	.625	.000	.500	.875	.375	.250	.901	.900	.953																







Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
+0 mins.	0	0	0	0	02:00 PM				02:00 PM				02:15 PM			
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	2	499	0	512	1	0	1	1	2	0	500	0
+45 mins.	0	0	0	0	0	456	0	456	2	0	0	0	0	0	589	0
Total Volume	0	0	0	0	0	424	0	424	2	0	0	0	2	0	573	0
% App. Total	0	0	0	0	2	1891	0	1893	5	0	2	7	71.4	0	2281	0
PHF	.000	.000	.000	.000	.250	.923	.000	.924	.625	.000	.500	.875	.250	.921	.000	.919



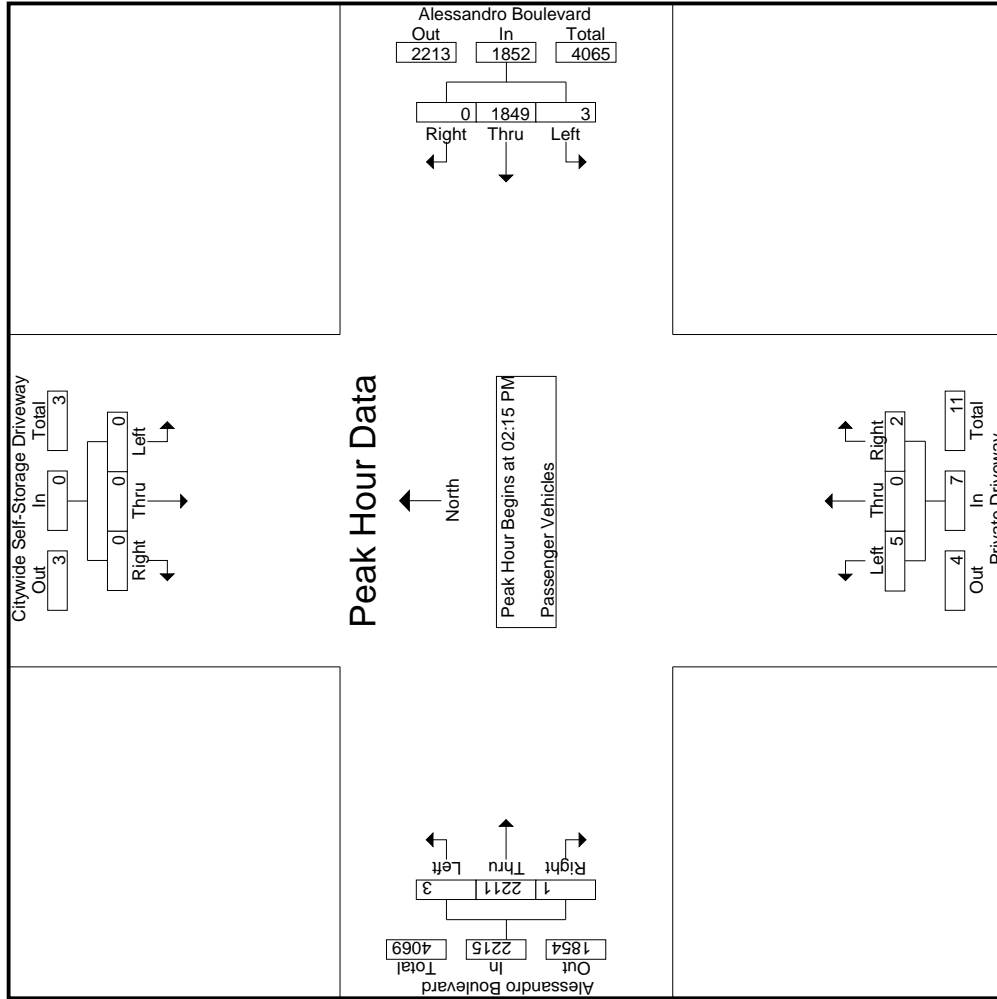
Groups Printed- Passenger Vehicles

Citywide Self-Storage Driveway Southbound					Alessandro Boulevard Westbound					Private Driveway Northbound					Alessandro Boulevard Eastbound					
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
02:00 PM	0	0	0	0	0	0	499	0	0	499	1	0	0	0	1	0	431	931		
02:15 PM	0	0	0	0	0	2	492	0	0	494	0	0	1	1	1	520	1	1017		
02:30 PM	0	0	0	0	0	0	453	0	0	453	1	0	1	1	2	610	0	1067		
02:45 PM	0	0	0	0	0	0	422	0	0	422	2	0	0	0	2	494	0	918		
Total	0	0	0	0	0	2	1866	0	0	1868	4	0	2	2	6	4	2054	2	3933	3935
03:00 PM	0	0	0	0	0	1	482	0	0	483	2	0	0	0	2	0	587	0	1072	
03:15 PM	0	0	0	0	0	1	449	0	0	450	0	0	0	0	0	562	0	1012		
03:30 PM	0	0	0	0	0	0	412	0	0	412	0	0	0	0	0	496	0	908		
03:45 PM	0	0	0	0	0	1	374	0	0	375	0	0	0	0	0	608	2	985		
Total	0	0	0	0	0	3	1717	0	0	1720	2	0	0	0	2	0	2253	0	3977	3977
Grand Total	0	0	0	0	0	5	3583	0	0	3588	6	0	2	2	8	4	4307	2	7910	7912
Apprch %	0	0	0			0.1	99.9	0		75	0	25			0.1	0.1	99.8	0		
Total %	0	0	0			0.1	45.3	0		45.4	0.1	0	0		0.1	0.1	54.5	0		

3.1-54

Start Time	Citywide Self-Storage Driveway Southbound					Alessandro Boulevard Westbound					Private Driveway Northbound					Alessandro Boulevard Eastbound				
	Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 02:15 PM																				
02:15 PM	0	0	0	0		2	492	0	494		0	0	1	1		1	520	1	522	1017
02:30 PM	0	0	0	0		0	453	0	453		1	0	1	2		2	610	0	612	1067
02:45 PM	0	0	0	0		0	422	0	422		2	0	0	2		0	494	0	494	918
03:00 PM	0	0	0	0		1	482	0	483		2	0	0	2		0	587	0	587	1072
Total Volume	0	0	0	0		3	1849	0	1852		5	0	2	7		3	2211	1	2215	4074
% App. Total	0	0	0	0		0.2	99.8	0			71.4	0	28.6			0.1	99.8	0		
PHF	.000	.000	.000	.000		.375	.940	.000	.937		.625	.000	.500	.875		.375	.906	.250	.905	.950







	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	02:15 PM				02:15 PM				02:15 PM				02:15 PM			
+0 mins.	0	0	0	0	2	492	0	494	0	0	1	1	1	520	1	522
+15 mins.	0	0	0	0	0	453	0	453	1	0	1	2	2	610	0	612
+30 mins.	0	0	0	0	0	422	0	422	2	0	0	2	0	494	0	494
+45 mins.	0	0	0	0	1	482	0	483	2	0	0	2	0	587	0	587
Total Volume	0	0	0	0	3	1849	0	1852	5	0	2	7	3	2211	1	2215
% App. Total	0	0	0	0	0.2	99.8	0	71.4	.625	.000	.286	.875	0.1	99.8	0	.905
PHF	.000	.000	.000	.000	.375	.940	.000	.937	.625	.000	.500	.875	.375	.906	.250	.905



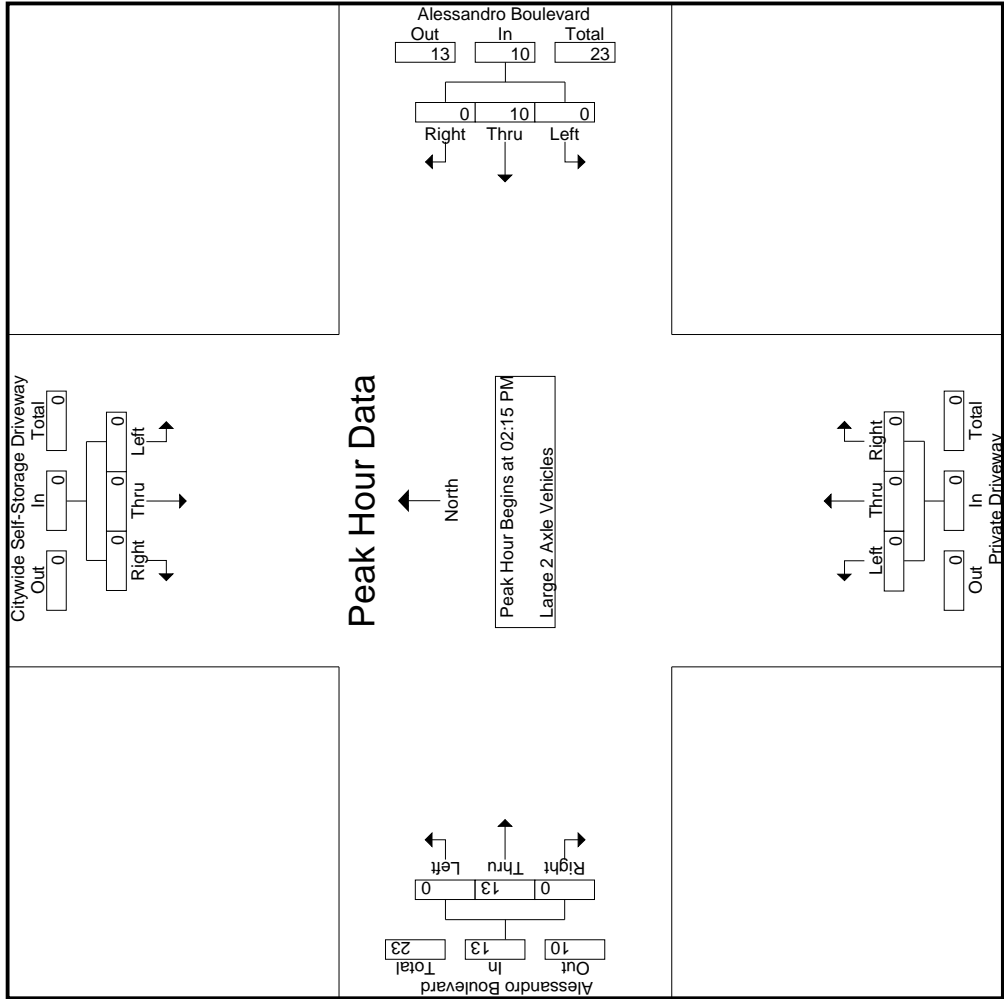
Groups Printed- Large 2 Axle Vehicles

Citywide Self-Storage Driveway Southbound										Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound														
Start Time	Left		Thru		Right		RTOR		App. Total		Left		Thru		Right		RTOR		App. Total		Left		Thru		Right		RTOR		App. Total		Exclu. Total		Inclu. Total		Int. Total	
02:00 PM	0	0	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	19	19	0	19	19	
02:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	6	6	8	8	
02:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	6	0	8	8	8		
02:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	0	5	5	5	5		
Total	0	0	0	0	0	0	0	0	0	19	0	19	0	0	0	0	0	0	0	0	0	19	0	19	0	0	0	0	19	0	38	38	38	38		
03:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	0	4	4	4	4		
03:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	9	0	9	0	0	0	0	9	0	12	12	12	12		
03:30 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	5	0	9	9	9	9		
03:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	9	0	9	0	0	0	0	9	0	11	11	11	11		
Total	0	0	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	0	0	0	0	25	0	25	0	0	0	0	25	0	36	36	36	36		
Grand Total	0	0	0	0	0	0	0	0	0	30	0	30	0	0	0	0	0	0	0	0	0	44	0	44	0	0	0	0	44	0	74	74	74	74		
Apprch %	0	0	0	0	0	0	0	0	0	100	0	100	0	0	0	0	0	0	0	0	0	100	0	100	0	0	0	0	100	0	100	100	100	100		
Total %	0	0	0	0	0	0	0	0	0	40.5	0	40.5	0	0	0	0	0	0	0	0	0	59.5	0	59.5	0	0	0	0	59.5	0	59.5	59.5	59.5	59.5		

3.1-57

Start Time	Citywide Self-Storage Driveway Southbound					Alessandro Boulevard Westbound					Private Driveway Northbound					Alessandro Boulevard Eastbound				
	Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total	
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 02:15 PM																				
02:15 PM	0	0	0	0		0	4	0	0	4		0	0	0	0	0	2	0	0	2
02:30 PM	0	0	0	0		0	2	0	0	2		0	0	0	0	0	6	0	6	8
02:45 PM	0	0	0	0		0	2	0	0	2		0	0	0	0	0	3	0	3	5
03:00 PM	0	0	0	0		0	2	0	0	2		0	0	0	0	0	2	0	2	4
Total Volume	0	0	0	0		0	10	0	0	10		0	0	0	0	0	13	0	13	23
% App. Total	0	0	0	0		0	100	0	0	100		0	0	0	0	0	100	0		
PHF	.000	.000	.000	.000		.000	.625	.000	.625	.000		.000	.000	.000	.000	.000	.542	.000	.542	.719







Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
+0 mins.	0	0	0	0	02:15 PM	0	0	0	4	0	0	0	02:15 PM	0	0	0
+15 mins.	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
+30 mins.	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6	3
+45 mins.	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
Total Volume	0	0	0	0	0	10	0	10	0	0	0	0	0	13	0	13
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.542	.000	.542



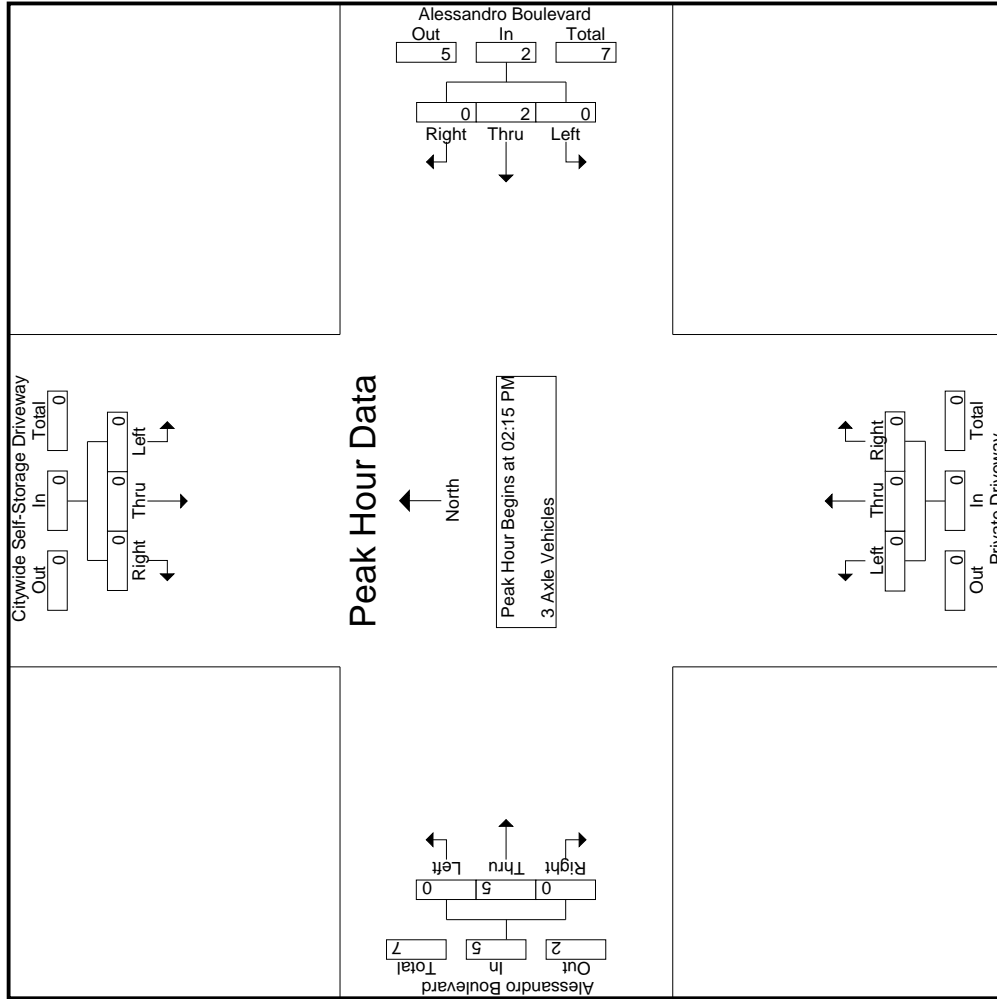
Groups Printed- 3 Axle Vehicles

Citywide Self-Storage Driveway Southbound										Alessandro Boulevard Westbound					Private Driveway Northbound					Alessandro Boulevard Eastbound				
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
02:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	
02:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2	2	
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3	
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	0	0	7	7	
03:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	2	
03:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	2	
03:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	0	6	6	
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	0	0	13	13	
Apprch %	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	100	
Total %	0	0	0	0	0	0	38.5	0	0	38.5	0	0	0	0	0	0	61.5	0	0	0	61.5	0	100	

3.1-60

Start Time	Citywide Self-Storage Driveway Southbound					Alessandro Boulevard Westbound					Private Driveway Northbound					Alessandro Boulevard Eastbound				
	Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total		Left	Thru	Right	App. Total	
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 02:15 PM																				
02:15 PM	0	0	0	0		0	0	0	1		0	0	0	0		0	1	0	0	1
02:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0	1
02:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	3	0	0	3
03:00 PM	0	0	0	0		0	1	0	1		0	0	0	0		0	0	0	0	0
Total Volume	0	0	0	0		0	2	0	2		0	0	0	0		0	5	0	0	5
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0	0
PHF	.000	.000	.000	.000		.000	.500	.000	.500		.000	.000	.000	.000		.000	.417	.000	.000	.417
																				.583







Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

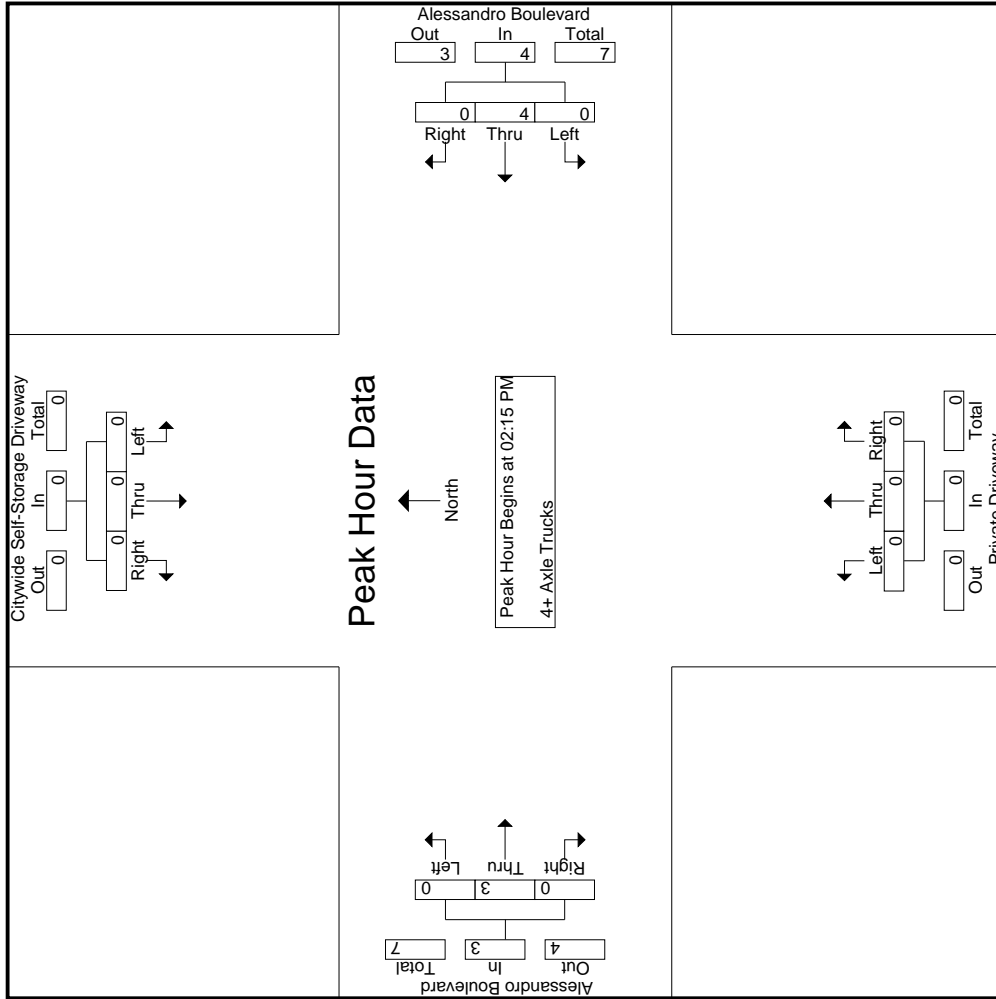


City of Riverside  
N/S: Private Driveway  
EW: Alessandro Boulevard  
Weather: Clear

File Name : 02\_RIV\_Private DW\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- 4+ Axle Trucks																								
Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
02:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2
02:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	1	0	3	3
02:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	2	0	3	3
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	0	4	0	8	8
03:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	0	4	0	9	9
Approch %	0	0	0			0	100	0		55.6	0	0	0	0	0	0	100	0		44.4	0	100		
Total %	0	0	0	0	0	0	55.6	0	0	55.6	0	0	0	0	0	0	44.4	0	0	44.4	0	100		
3.1																								
53																								
Citywide Self-Storage Driveway Southbound						Alessandro Boulevard Westbound						Private Driveway Northbound						Alessandro Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total			
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 02:15 PM																								
02:15 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	0	0	0	1	3	3	
02:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	2	3	3	
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	
Total Volume	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	0	3	7	7	
% App. Total	0	0	0	0	0	0	100	0		100	0	0	0	0	0	0	100	0		100	0			
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.375	.000	.000	.375	.583	.583	.583	







Start Time	Citywide Self-Storage Driveway Southbound				Alessandro Boulevard Westbound				Private Driveway Northbound				Alessandro Boulevard Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
+0 mins.	02:15 PM				02:15 PM				02:15 PM				02:15 PM			
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.375	.000	.375



Location: Riverside  
 N/S: Private Driveway  
 E/W: Alessandro Boulevard



Date: 10/25/2018  
 Day: Thursday

PEDESTRIANS

	North Leg Blocked Driveway	East Leg Alessandro Boulevard	South Leg Citywide Self-Storage DW	West Leg Alessandro Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Blocked Driveway	East Leg Alessandro Boulevard	South Leg Citywide Self-Storage DW	West Leg Alessandro Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
2:00 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0



Location: Riverside  
 N/S: Private Driveway  
 E/W: Alessandro Boulevard



Date: 10/25/2018  
 Day: Thursday

BICYCLES

	Southbound Blocked Driveway			Westbound Alessandro Boulevard			Northbound Citywide Self-Storage DW			Eastbound Alessandro Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound Blocked Driveway			Westbound Alessandro Boulevard			Northbound Citywide Self-Storage DW			Eastbound Alessandro Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2:00 PM	0	0	0	0	1	0	0	0	0	0	2	0	3
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	1	0	1	0	0	0	0	0	4	0	6



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

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

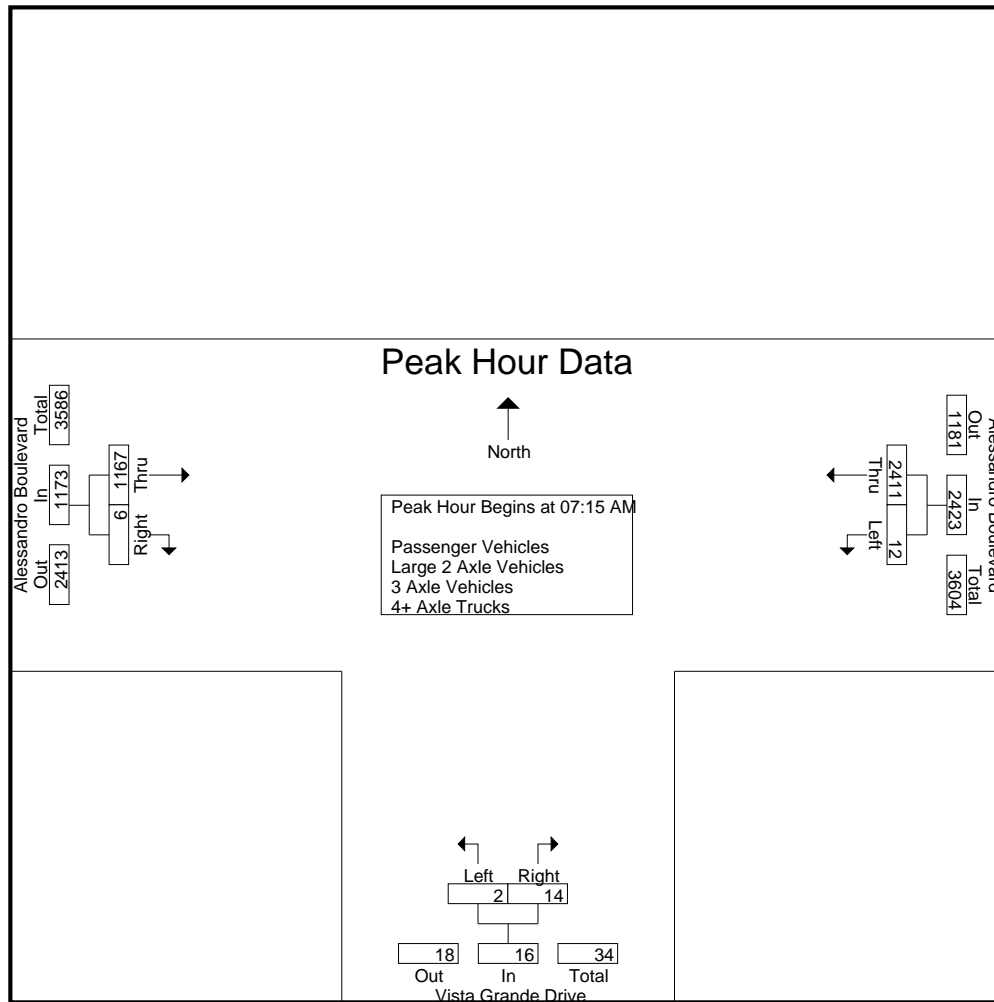
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	638	640	6	8	14	253	0	253	907
07:15 AM	3	687	690	0	3	3	277	1	278	971
07:30 AM	3	568	571	0	3	3	287	1	288	862
07:45 AM	1	510	511	2	5	7	277	2	279	797
Total	9	2403	2412	8	19	27	1094	4	1098	3537
08:00 AM	5	646	651	0	3	3	326	2	328	982
08:15 AM	1	599	600	0	3	3	265	2	267	870
08:30 AM	2	493	495	0	5	5	235	0	235	735
08:45 AM	4	484	488	1	2	3	217	2	219	710
Total	12	2222	2234	1	13	14	1043	6	1049	3297
Grand Total	21	4625	4646	9	32	41	2137	10	2147	6834
Apprch %	0.5	99.5		22	78		99.5	0.5		
Total %	0.3	67.7	68	0.1	0.5	0.6	31.3	0.1	31.4	
Passenger Vehicles	21	4553	4574	8	32	40	2091	9	2100	6714
% Passenger Vehicles	100	98.4	98.5	88.9	100	97.6	97.8	90	97.8	98.2
Large 2 Axle Vehicles	0	47	47	0	0	0	40	1	41	88
% Large 2 Axle Vehicles	0	1	1	0	0	0	1.9	10	1.9	1.3
3 Axle Vehicles	0	16	16	1	0	1	2	0	2	19
% 3 Axle Vehicles	0	0.3	0.3	11.1	0	2.4	0.1	0	0.1	0.3
4+ Axle Trucks	0	9	9	0	0	0	4	0	4	13
% 4+ Axle Trucks	0	0.2	0.2	0	0	0	0.2	0	0.2	0.2

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	3	<b>687</b>	<b>690</b>	0	3	3	277	1	278	971
07:30 AM	3	568	571	0	3	3	287	1	288	862
07:45 AM	1	510	511	<b>2</b>	<b>5</b>	<b>7</b>	<b>277</b>	<b>2</b>	<b>279</b>	<b>797</b>
08:00 AM	<b>5</b>	646	651	0	3	3	<b>326</b>	2	<b>328</b>	<b>982</b>
Total Volume	12	2411	2423	2	14	16	1167	6	1173	3612
% App. Total	0.5	99.5		12.5	87.5		99.5	0.5		
PHF	.600	.877	.878	.250	.700	.571	.895	.750	.894	.920



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 2



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

	07:15 AM			07:00 AM			07:15 AM		
+0 mins.	3	<b>687</b>	<b>690</b>	<b>6</b>	<b>8</b>	<b>14</b>	277	1	278
+15 mins.	3	568	571	0	3	3	287	1	288
+30 mins.	1	510	511	0	3	3	277	<b>2</b>	279
+45 mins.	<b>5</b>	646	651	2	5	7	<b>326</b>	2	<b>328</b>
Total Volume	12	2411	2423	8	19	27	1167	6	1173
% App. Total	0.5	99.5		29.6	70.4		99.5	0.5	
PHF	.600	.877	.878	.333	.594	.482	.895	.750	.894



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- Passenger Vehicles

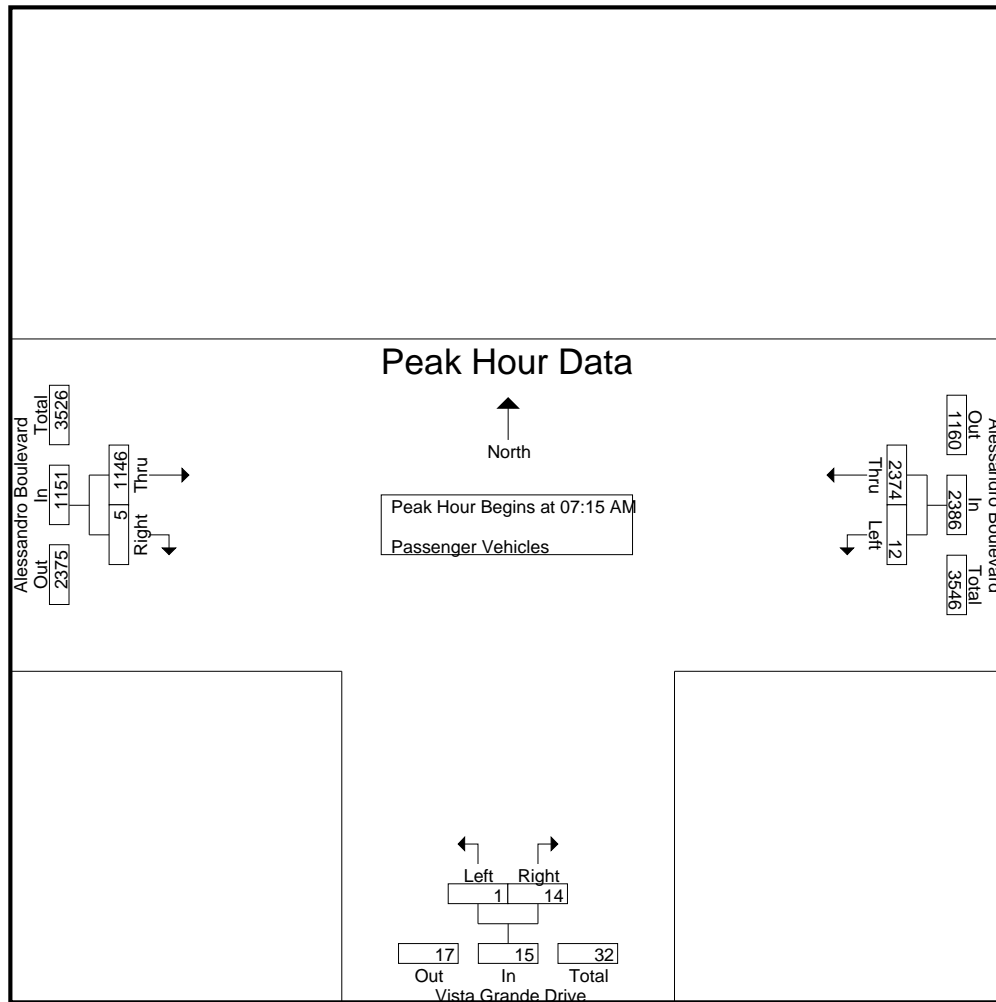
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	633	635	6	8	14	247	0	247	896
07:15 AM	3	679	682	0	3	3	275	0	275	960
07:30 AM	3	557	560	0	3	3	278	1	279	842
07:45 AM	1	503	504	1	5	6	274	2	276	786
Total	9	2372	2381	7	19	26	1074	3	1077	3484
08:00 AM	5	635	640	0	3	3	319	2	321	964
08:15 AM	1	593	594	0	3	3	255	2	257	854
08:30 AM	2	481	483	0	5	5	232	0	232	720
08:45 AM	4	472	476	1	2	3	211	2	213	692
Total	12	2181	2193	1	13	14	1017	6	1023	3230
Grand Total	21	4553	4574	8	32	40	2091	9	2100	6714
Apprch %	0.5	99.5		20	80		99.6	0.4		
Total %	0.3	67.8	68.1	0.1	0.5	0.6	31.1	0.1	31.3	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	3	<b>679</b>	<b>682</b>	0	3	3	275	0	275	960
07:30 AM	3	557	560	0	3	3	278	1	279	842
07:45 AM	1	503	504	<b>1</b>	<b>5</b>	<b>6</b>	274	<b>2</b>	276	786
08:00 AM	<b>5</b>	635	640	0	3	3	<b>319</b>	2	<b>321</b>	<b>964</b>
Total Volume	12	2374	2386	1	14	15	1146	5	1151	3552
% App. Total	0.5	99.5		6.7	93.3		99.6	0.4		
PHF	.600	.874	.875	.250	.700	.625	.898	.625	.896	.921



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
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	<b>679</b>	<b>682</b>	0	3	3	275	0	275
+15 mins.	3	557	560	0	3	3	278	1	279
+30 mins.	1	503	504	<b>1</b>	<b>5</b>	<b>6</b>	274	<b>2</b>	276
+45 mins.	<b>5</b>	635	640	0	3	3	<b>319</b>	2	<b>321</b>
Total Volume	12	2374	2386	1	14	15	1146	5	1151
% App. Total	0.5	99.5		6.7	93.3		99.6	0.4	
PHF	.600	.874	.875	.250	.700	.625	.898	.625	.896



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- Large 2 Axle Vehicles

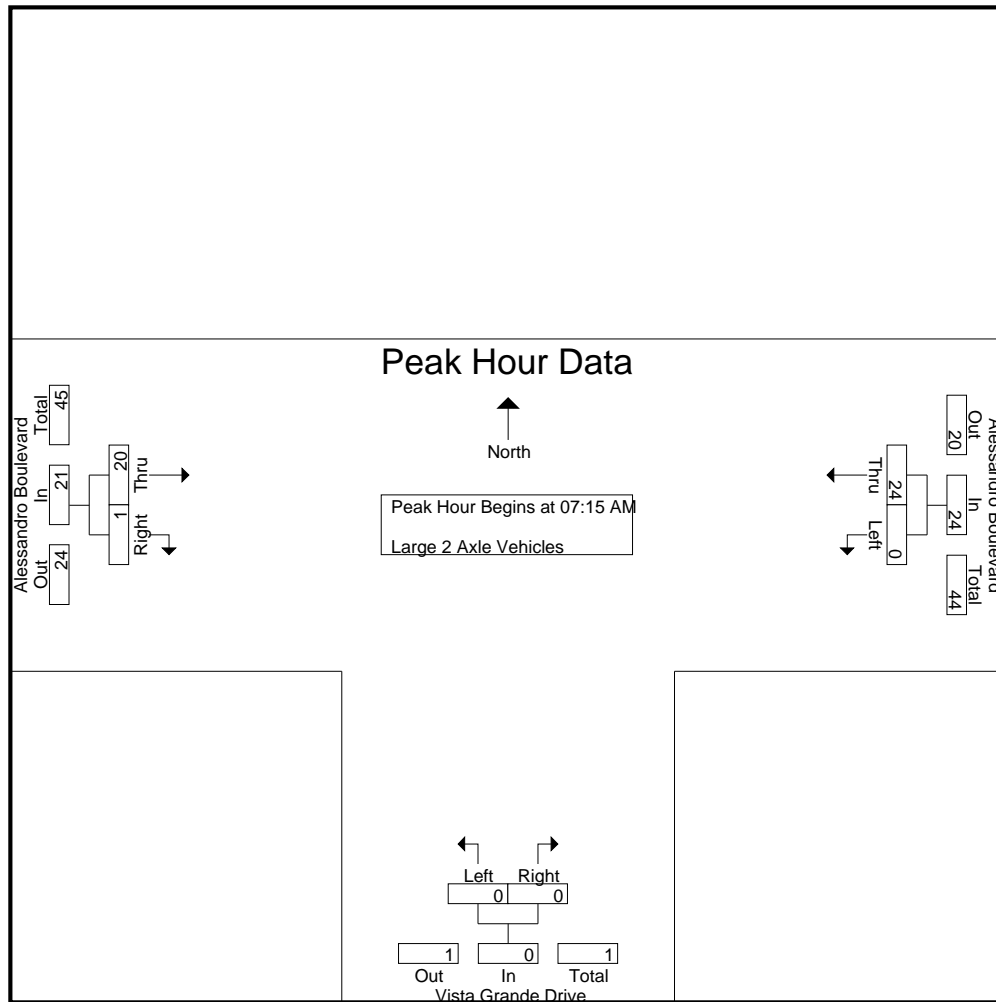
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	4	0	0	0	6	0	6	10
07:15 AM	0	6	6	0	0	0	2	1	3	9
07:30 AM	0	7	7	0	0	0	8	0	8	15
07:45 AM	0	5	5	0	0	0	3	0	3	8
Total	0	22	22	0	0	0	19	1	20	42
08:00 AM	0	6	6	0	0	0	7	0	7	13
08:15 AM	0	4	4	0	0	0	8	0	8	12
08:30 AM	0	8	8	0	0	0	2	0	2	10
08:45 AM	0	7	7	0	0	0	4	0	4	11
Total	0	25	25	0	0	0	21	0	21	46
Grand Total	0	47	47	0	0	0	40	1	41	88
Apprch %	0	100		0	0		97.6	2.4		
Total %	0	53.4	53.4	0	0	0	45.5	1.1	46.6	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	6	6	0	0	0	2	1	3	9
07:30 AM	0	7	7	0	0	0	8	0	8	15
07:45 AM	0	5	5	0	0	0	3	0	3	8
08:00 AM	0	6	6	0	0	0	7	0	7	13
Total Volume	0	24	24	0	0	0	20	1	21	45
% App. Total	0	100		0	0		95.2	4.8		
PHF	.000	.857	.857	.000	.000	.000	.625	.250	.656	.750



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
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	6	6	0	0	0	2	1	3
+15 mins.	0	7	7	0	0	0	8	0	8
+30 mins.	0	5	5	0	0	0	3	0	3
+45 mins.	0	6	6	0	0	0	7	0	7
Total Volume	0	24	24	0	0	0	20	1	21
% App. Total	0	100		0	0		95.2	4.8	
PHF	.000	.857	.857	.000	.000	.000	.625	.250	.656



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- 3 Axle Vehicles

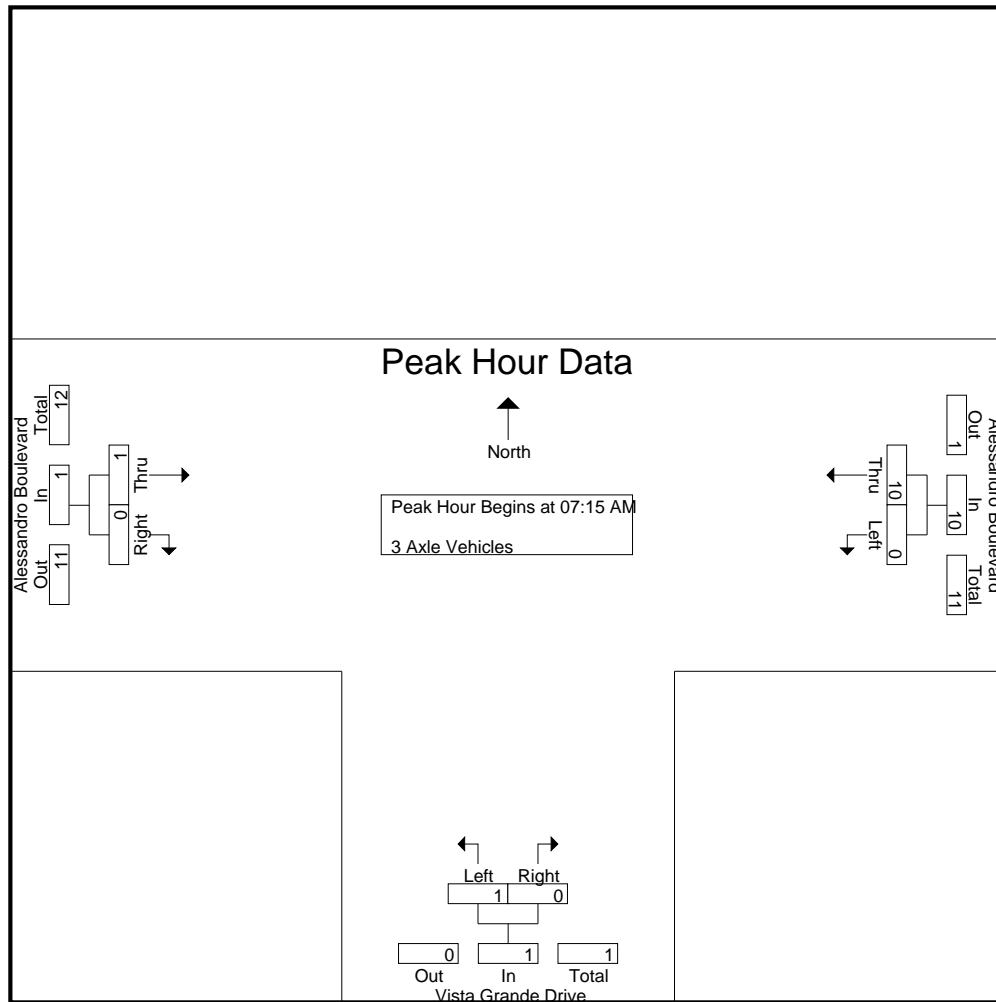
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	0	0	0	1
07:15 AM	0	2	2	0	0	0	0	0	0	2
07:30 AM	0	3	3	0	0	0	1	0	1	4
07:45 AM	0	1	1	1	0	1	0	0	0	2
Total	0	7	7	1	0	1	1	0	1	9
08:00 AM	0	4	4	0	0	0	0	0	0	4
08:15 AM	0	1	1	0	0	0	1	0	1	2
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	3	3	0	0	0	0	0	0	3
Total	0	9	9	0	0	0	1	0	1	10
Grand Total	0	16	16	1	0	1	2	0	2	19
Apprch %	0	100		100	0		100	0		
Total %	0	84.2	84.2	5.3	0	5.3	10.5	0	10.5	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	2	2	0	0	0	0	0	0	2
07:30 AM	0	3	3	0	0	0	1	0	1	4
07:45 AM	0	1	1	1	0	1	0	0	0	2
08:00 AM	0	4	4	0	0	0	0	0	0	4
Total Volume	0	10	10	1	0	1	1	0	1	12
% App. Total	0	100		100	0		100	0		
PHF	.000	.625	.625	.250	.000	.250	.250	.000	.250	.750



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
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	2	2	0	0	0	0	0	0
+15 mins.	0	3	3	0	0	0	1	0	1
+30 mins.	0	1	1	1	0	1	0	0	0
+45 mins.	0	4	4	0	0	0	0	0	0
Total Volume	0	10	10	1	0	1	1	0	1
% App. Total	0	100		100	0		100	0	
PHF	.000	.625	.625	.250	.000	.250	.250	.000	.250



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- 4+ Axle Trucks

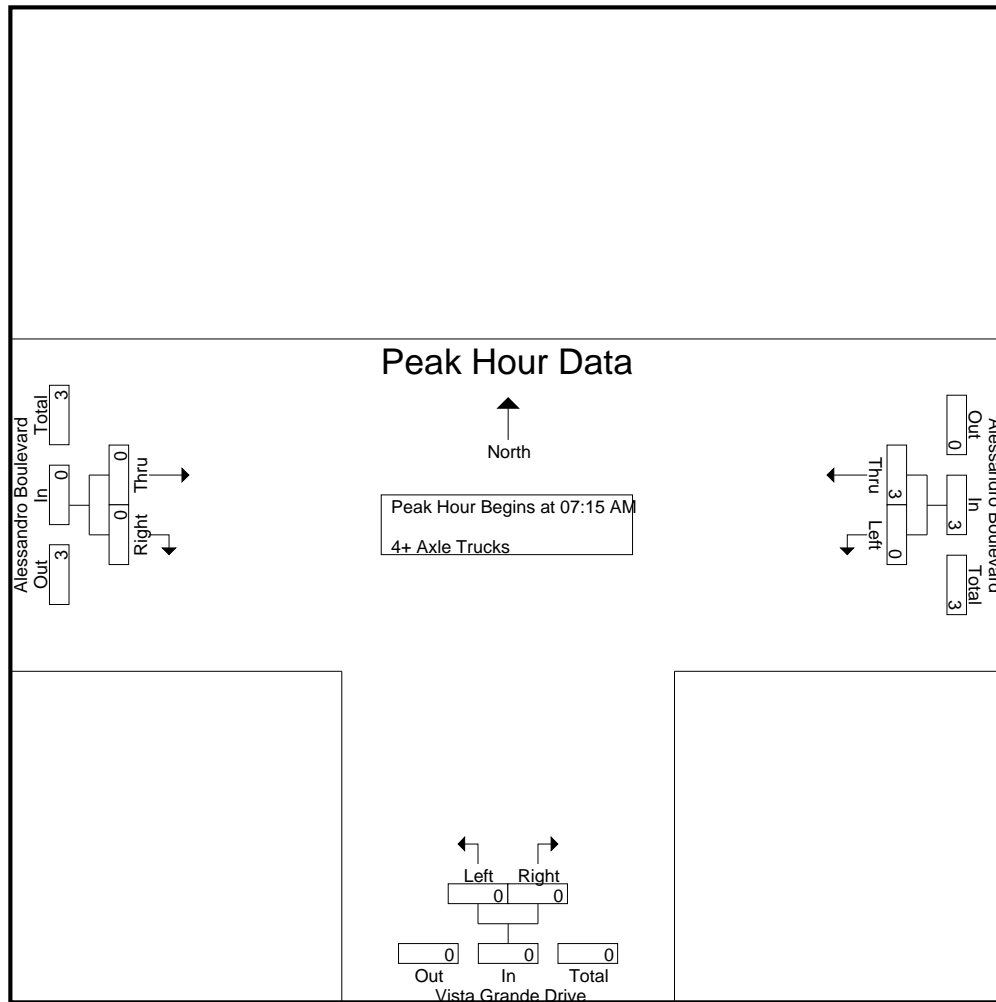
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	1	1	0	0	0	0	0	0	1
Total	0	2	2	0	0	0	0	0	0	2
08:00 AM	0	1	1	0	0	0	0	0	0	1
08:15 AM	0	1	1	0	0	0	1	0	1	2
08:30 AM	0	3	3	0	0	0	1	0	1	4
08:45 AM	0	2	2	0	0	0	2	0	2	4
Total	0	7	7	0	0	0	4	0	4	11
Grand Total	0	9	9	0	0	0	4	0	4	13
Apprch %	0	100		0	0		100	0		
Total %	0	69.2	69.2	0	0	0	30.8	0	30.8	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	3	3	0	0	0	0	0	0	3
% App. Total	0	100		0	0		0	0		
PHF	.000	.750	.750	.000	.000	.000	.000	.000	.000	.750



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro AM  
Site Code : 05118807  
Start Date : 10/25/2018  
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	0	0	0	0	0	0
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	3	3	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.750	.750	.000	.000	.000	.000	.000	.000



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

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

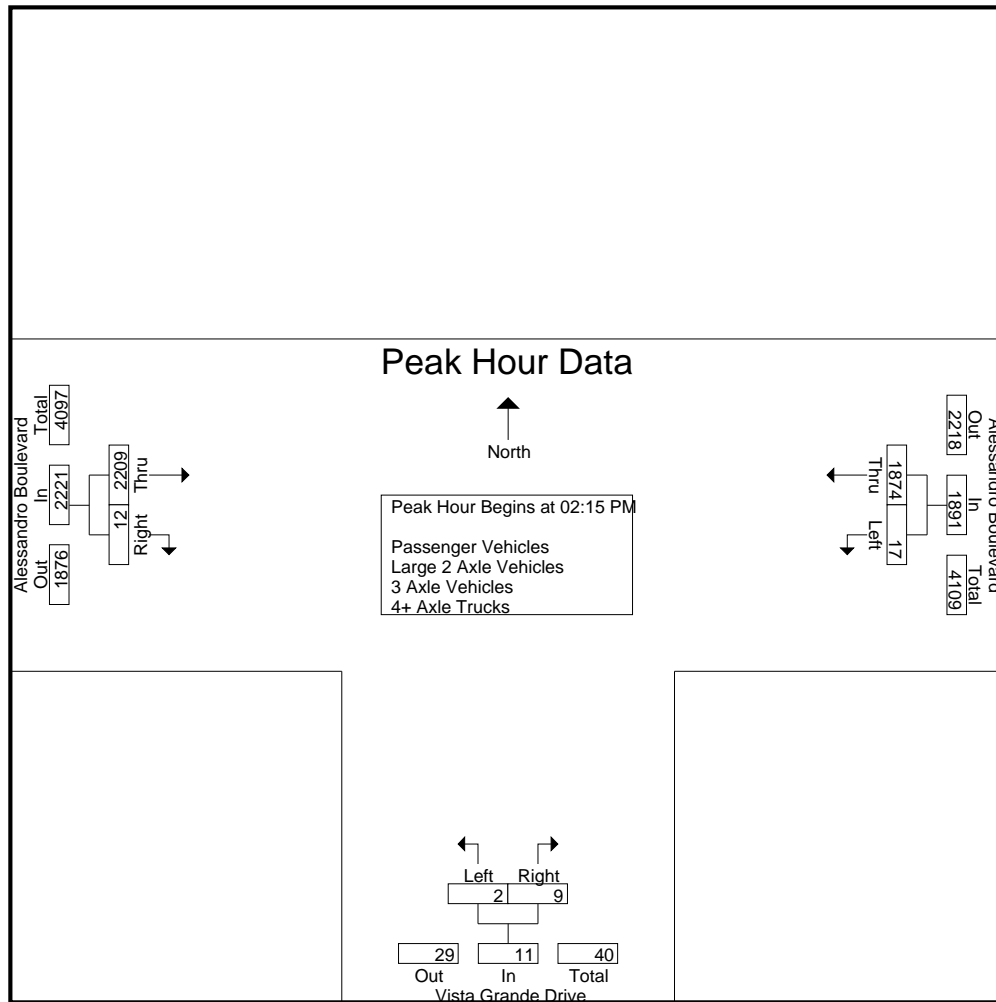
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	10	513	523	0	3	3	429	1	430	956
02:15 PM	5	494	499	0	3	3	532	4	536	1038
02:30 PM	4	466	470	1	2	3	611	2	613	1086
02:45 PM	2	439	441	1	2	3	486	2	488	932
Total	21	1912	1933	2	10	12	2058	9	2067	4012
03:00 PM	6	475	481	0	2	2	580	4	584	1067
03:15 PM	9	457	466	0	0	0	559	5	564	1030
03:30 PM	2	424	426	0	1	1	487	7	494	921
03:45 PM	6	387	393	0	0	0	615	2	617	1010
Total	23	1743	1766	0	3	3	2241	18	2259	4028
Grand Total	44	3655	3699	2	13	15	4299	27	4326	8040
Apprch %	1.2	98.8		13.3	86.7		99.4	0.6		
Total %	0.5	45.5	46	0	0.2	0.2	53.5	0.3	53.8	
Passenger Vehicles	44	3615	3659	2	13	15	4244	25	4269	7943
% Passenger Vehicles	100	98.9	98.9	100	100	100	98.7	92.6	98.7	98.8
Large 2 Axle Vehicles	0	30	30	0	0	0	43	2	45	75
% Large 2 Axle Vehicles	0	0.8	0.8	0	0	0	1	7.4	1	0.9
3 Axle Vehicles	0	6	6	0	0	0	8	0	8	14
% 3 Axle Vehicles	0	0.2	0.2	0	0	0	0.2	0	0.2	0.2
4+ Axle Trucks	0	4	4	0	0	0	4	0	4	8
% 4+ Axle Trucks	0	0.1	0.1	0	0	0	0.1	0	0.1	0.1

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	5	<b>494</b>	<b>499</b>	0	<b>3</b>	<b>3</b>	532	<b>4</b>	536	1038
02:30 PM	4	466	470	1	2	3	<b>611</b>	2	<b>613</b>	<b>1086</b>
02:45 PM	2	439	441	1	2	3	486	2	488	932
03:00 PM	<b>6</b>	475	481	0	2	2	580	4	584	1067
Total Volume	17	1874	1891	2	9	11	2209	12	2221	4123
% App. Total	0.9	99.1		18.2	81.8		99.5	0.5		
PHF	.708	.948	.947	.500	.750	.917	.904	.750	.906	.949



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	02:00 PM			02:00 PM			03:00 PM		
+0 mins.	10	513	523	0	3	3	580	4	584
+15 mins.	5	494	499	0	3	3	559	5	564
+30 mins.	4	466	470	1	2	3	487	7	494
+45 mins.	2	439	441	1	2	3	615	2	617
Total Volume	21	1912	1933	2	10	12	2241	18	2259
% App. Total	1.1	98.9		16.7	83.3		99.2	0.8	
PHF	.525	.932	.924	.500	.833	1.000	.911	.643	.915



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- Passenger Vehicles

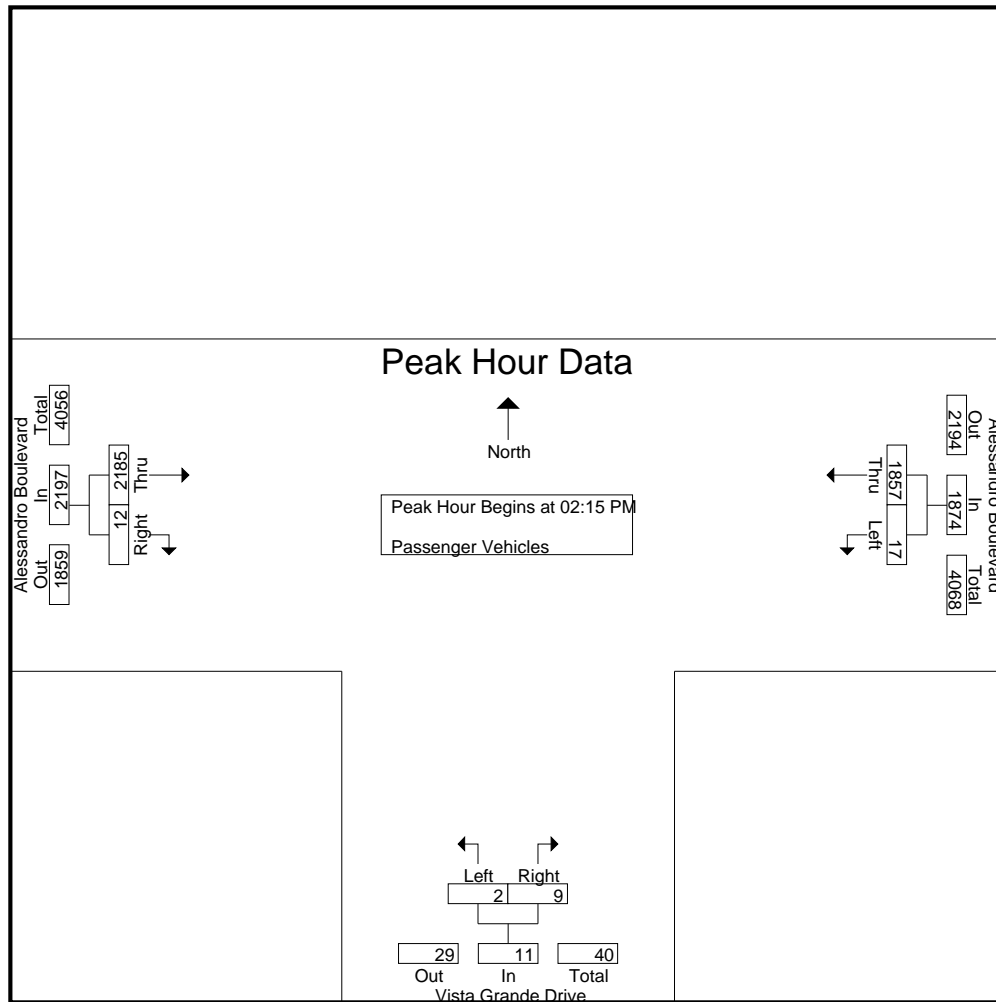
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	10	503	513	0	3	3	422	0	422	938
02:15 PM	5	487	492	0	3	3	527	4	531	1026
02:30 PM	4	462	466	1	2	3	601	2	603	1072
02:45 PM	2	437	439	1	2	3	480	2	482	924
Total	21	1889	1910	2	10	12	2030	8	2038	3960
03:00 PM	6	471	477	0	2	2	577	4	581	1060
03:15 PM	9	454	463	0	0	0	548	5	553	1016
03:30 PM	2	418	420	0	1	1	481	7	488	909
03:45 PM	6	383	389	0	0	0	608	1	609	998
Total	23	1726	1749	0	3	3	2214	17	2231	3983
Grand Total	44	3615	3659	2	13	15	4244	25	4269	7943
Apprch %	1.2	98.8		13.3	86.7		99.4	0.6		
Total %	0.6	45.5	46.1	0	0.2	0.2	53.4	0.3	53.7	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	5	<b>487</b>	<b>492</b>	0	<b>3</b>	<b>3</b>	527	<b>4</b>	531	1026
02:30 PM	4	462	466	<b>1</b>	2	3	<b>601</b>	2	<b>603</b>	<b>1072</b>
02:45 PM	2	437	439	1	2	3	480	2	482	924
03:00 PM	<b>6</b>	471	477	0	2	2	577	4	581	1060
Total Volume	17	1857	1874	2	9	11	2185	12	2197	4082
% App. Total	0.9	99.1		18.2	81.8		99.5	0.5		
PHF	.708	.953	.952	.500	.750	.917	.909	.750	.911	.952



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 2



Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	02:15 PM			02:15 PM			02:15 PM		
+0 mins.	5	<b>487</b>	<b>492</b>	0	<b>3</b>	<b>3</b>	527	<b>4</b>	531
+15 mins.	4	462	466	<b>1</b>	2	<b>3</b>	<b>601</b>	2	<b>603</b>
+30 mins.	2	437	439	1	2	3	480	2	482
+45 mins.	<b>6</b>	471	477	0	2	2	577	4	581
Total Volume	17	1857	1874	2	9	11	2185	12	2197
% App. Total	0.9	99.1		18.2	81.8		99.5	0.5	
PHF	.708	.953	.952	.500	.750	.917	.909	.750	.911



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- Large 2 Axle Vehicles

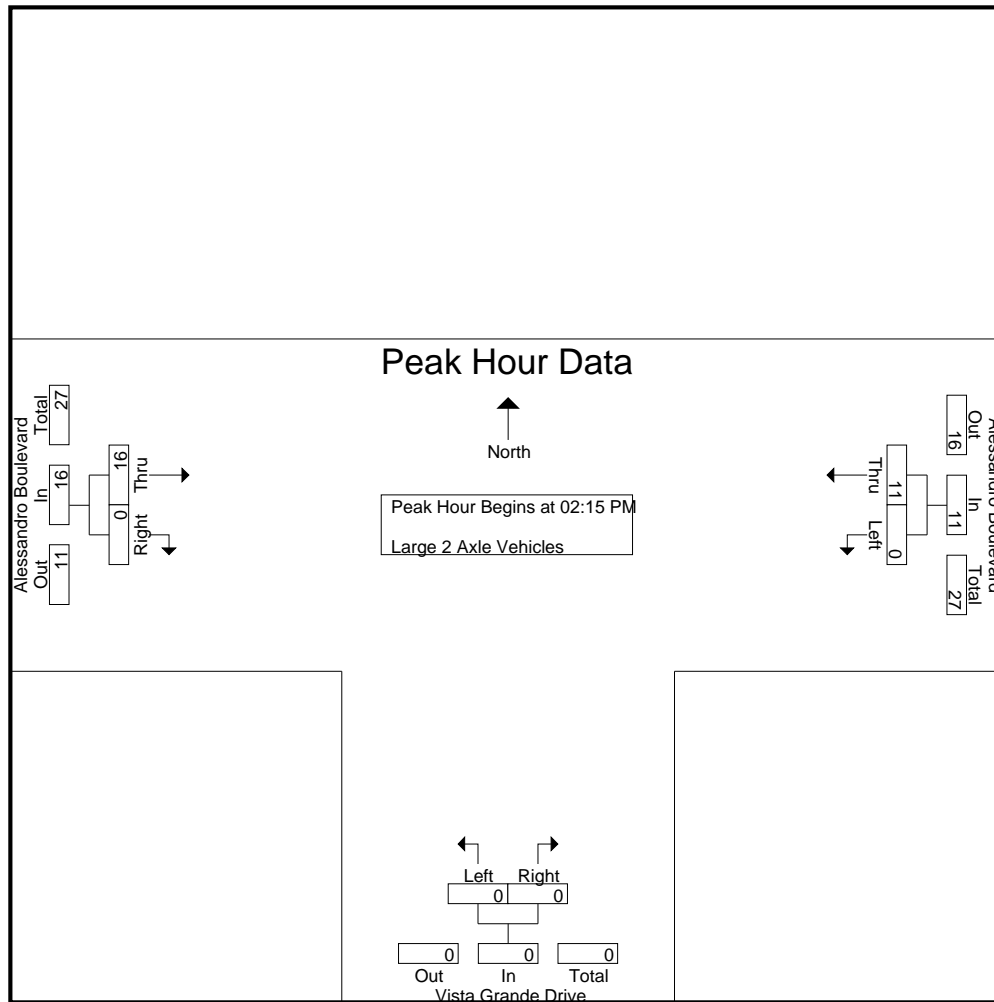
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	0	8	8	0	0	0	6	1	7	15
02:15 PM	0	4	4	0	0	0	3	0	3	7
02:30 PM	0	3	3	0	0	0	7	0	7	10
02:45 PM	0	2	2	0	0	0	3	0	3	5
Total	0	17	17	0	0	0	19	1	20	37
03:00 PM	0	2	2	0	0	0	3	0	3	5
03:15 PM	0	3	3	0	0	0	9	0	9	12
03:30 PM	0	5	5	0	0	0	5	0	5	10
03:45 PM	0	3	3	0	0	0	7	1	8	11
Total	0	13	13	0	0	0	24	1	25	38
Grand Total	0	30	30	0	0	0	43	2	45	75
Apprch %	0	100		0	0		95.6	4.4		
Total %	0	40	40	0	0	0	57.3	2.7	60	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	0	4	4	0	0	0	3	0	3	7
02:30 PM	0	3	3	0	0	0	7	0	7	10
02:45 PM	0	2	2	0	0	0	3	0	3	5
03:00 PM	0	2	2	0	0	0	3	0	3	5
Total Volume	0	11	11	0	0	0	16	0	16	27
% App. Total	0	100		0	0		100	0		
PHF	.000	.688	.688	.000	.000	.000	.571	.000	.571	.675



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 2



Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	02:15 PM			02:15 PM			02:15 PM		
+0 mins.	0	4	4	0	0	0	3	0	3
+15 mins.	0	3	3	0	0	0	7	0	7
+30 mins.	0	2	2	0	0	0	3	0	3
+45 mins.	0	2	2	0	0	0	3	0	3
Total Volume	0	11	11	0	0	0	16	0	16
% App. Total	0	100		0	0		100	0	
PHF	.000	.688	.688	.000	.000	.000	.571	.000	.571



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- 3 Axle Vehicles

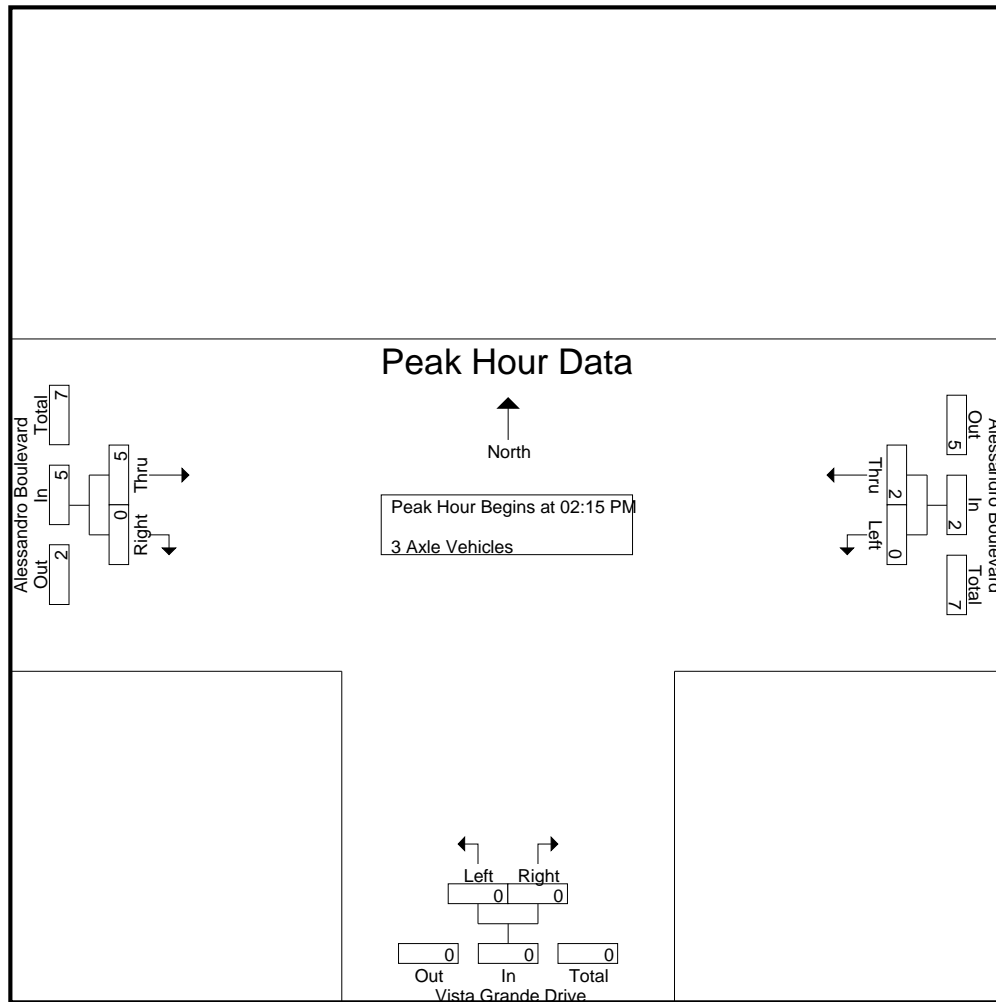
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	0	2	2	0	0	0	0	0	0	2
02:15 PM	0	1	1	0	0	0	1	0	1	2
02:30 PM	0	0	0	0	0	0	1	0	1	1
02:45 PM	0	0	0	0	0	0	3	0	3	3
Total	0	3	3	0	0	0	5	0	5	8
03:00 PM	0	1	1	0	0	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	2	0	2	2
03:30 PM	0	1	1	0	0	0	1	0	1	2
03:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	3	3	0	0	0	3	0	3	6
Grand Total	0	6	6	0	0	0	8	0	8	14
Apprch %	0	100		0	0		100	0		
Total %	0	42.9	42.9	0	0	0	57.1	0	57.1	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	0	1	1	0	0	0	1	0	1	2
02:30 PM	0	0	0	0	0	0	1	0	1	1
02:45 PM	0	0	0	0	0	0	3	0	3	3
03:00 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	2	2	0	0	0	5	0	5	7
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.417	.000	.417	.583



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 2



Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	02:15 PM			02:15 PM			02:15 PM		
+0 mins.	0	1	1	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	3	0	3
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	5	0	5
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.417	.000	.417



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 1

Groups Printed- 4+ Axle Trucks

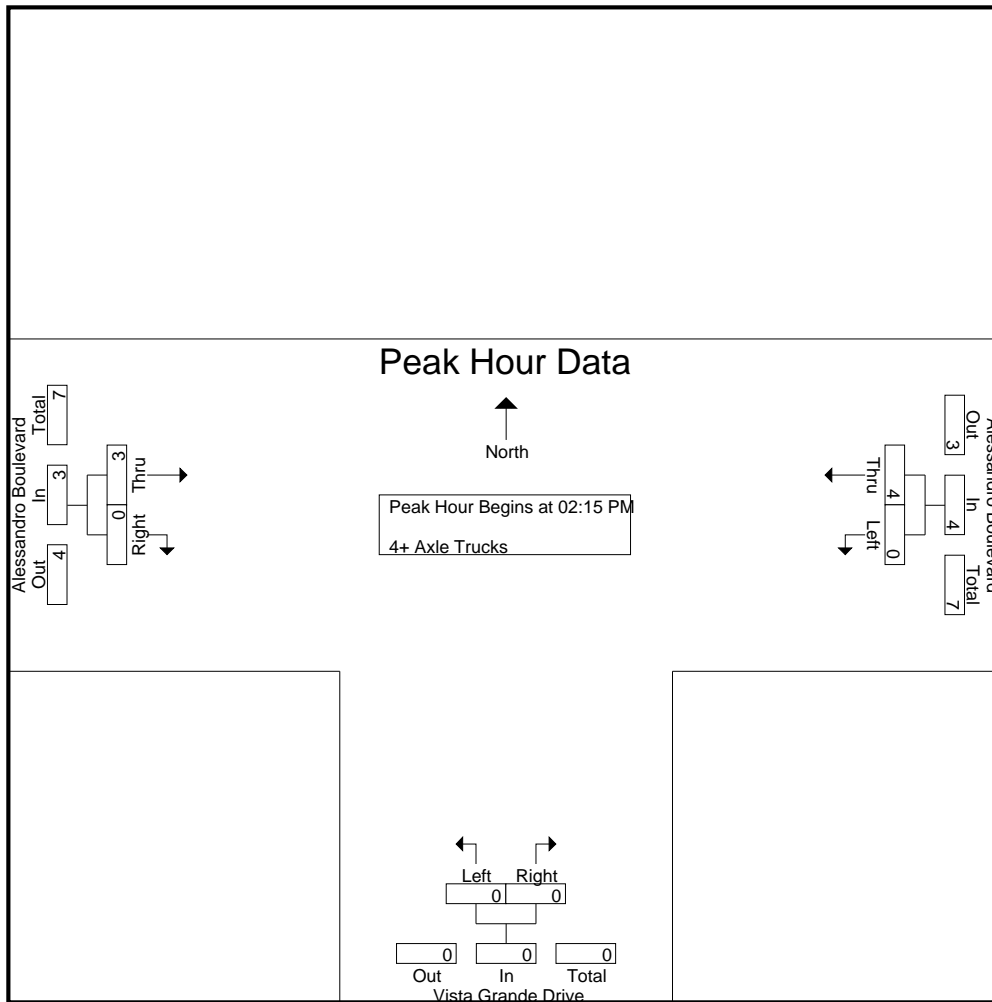
	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	1	0	1	1
02:15 PM	0	2	2	0	0	0	1	0	1	3
02:30 PM	0	1	1	0	0	0	2	0	2	3
02:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	3	3	0	0	0	4	0	4	7
03:00 PM	0	1	1	0	0	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
Grand Total	0	4	4	0	0	0	4	0	4	8
Apprch %	0	100		0	0		100	0		
Total %	0	50	50	0	0	0	50	0	50	

	Alessandro Boulevard Westbound			Vista Grande Drive Northbound			Alessandro Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	0	2	2	0	0	0	1	0	1	3
02:30 PM	0	1	1	0	0	0	2	0	2	3
02:45 PM	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	4	4	0	0	0	3	0	3	7
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.375	.000	.375	.583



City of Riverside  
N/S: Vista Grande Drive  
E/W: Alessandro Boulevard  
Weather: Clear

File Name : 03\_RIV\_Vista Grande\_Alessandro PM  
Site Code : 05118807  
Start Date : 10/25/2018  
Page No : 2



Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	02:15 PM			02:15 PM			02:15 PM		
+0 mins.	0	2	2	0	0	0	1	0	1
+15 mins.	0	1	1	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	4	4	0	0	0	3	0	3
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.375	.000	.375



Location: Riverside  
 N/S: Vista Grande Drive  
 E/W: Alessandro Boulevard



Date: 10/25/2018  
 Day: Thursday

**PEDESTRIANS**

	North Leg Dead End	East Leg Alessandro Boulevard	South Leg Vista Grande Drive	West Leg Alessandro Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Dead End	East Leg Alessandro Boulevard	South Leg Vista Grande Drive	West Leg Alessandro Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
2:00 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0
2:45 PM	0	1	0	0	1
3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1



Location: Riverside  
 N/S: Vista Grande Drive  
 E/W: Alessandro Boulevard



Date: 10/25/2018  
 Day: Thursday

BICYCLES

	Southbound Dead End			Westbound Alessandro Boulevard			Northbound Vista Grande Drive			Eastbound Alessandro Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound Dead End			Westbound Alessandro Boulevard			Northbound Vista Grande Drive			Eastbound Alessandro Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2:00 PM	0	0	0	0	0	0	1	0	0	0	1	1	3
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	0	0	1	0	0	0	3	1	5



INTERSECTION TURNING MOVEMENT COUNTS

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

T816

DATE:  
Wed, May 23, 18

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
San Gorgonio  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
5  
SIGNAL

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

▲  
N  
◀ W  
S  
▼

E ▶

☐ Add U-Turns to Left Turns

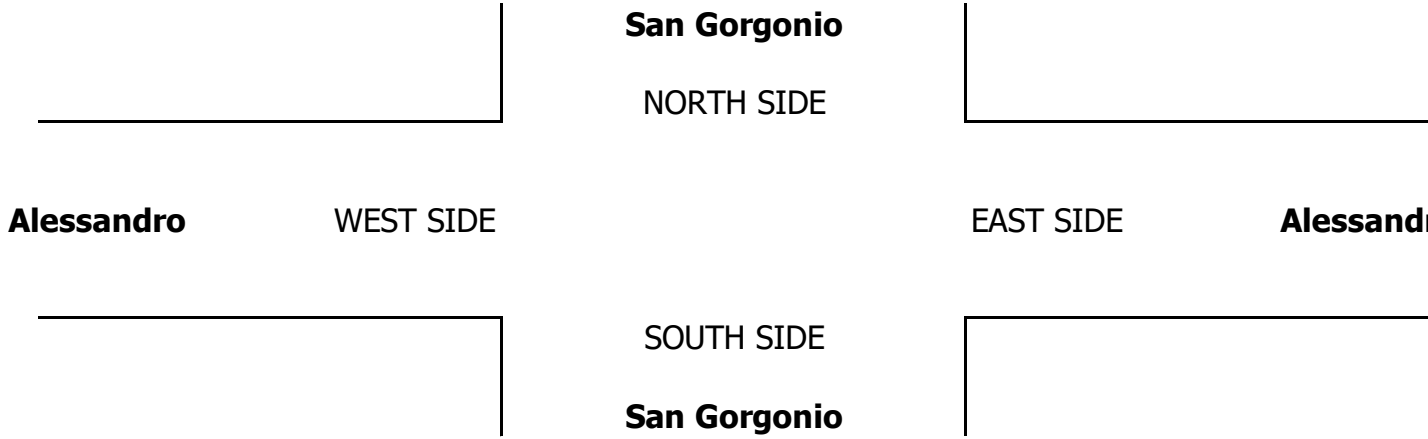
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	San Gorgonio			San Gorgonio			Alessandro			Alessandro			
LANES:	NL X	NT X	NR X	SL 2	ST X	SR 1	EL 1	ET 3	ER X	WL X	WT 3	WR 1	TOTAL

AM	7:00 AM	0	0	0	2	0	2	2	224	0	0	667	7	904
	7:15 AM	0	0	0	2	0	5	1	277	0	0	713	6	1,004
	7:30 AM	0	0	0	5	0	2	4	306	0	0	525	10	852
	7:45 AM	0	0	0	3	0	5	4	351	0	0	586	3	952
	8:00 AM	0	0	0	6	0	1	4	260	0	0	591	5	867
	8:15 AM	0	0	0	6	0	5	6	272	0	0	493	1	783
	8:30 AM	0	0	0	1	0	4	3	255	0	0	431	7	701
	8:45 AM	0	0	0	5	0	3	9	234	0	0	353	4	608
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

APPROACH %	0%	0%	0%	53%	0%	47%	1%	98%	0%	0%	99%	1%	
APP/DEPART	0	/	76	57	/	0	2,216	/	2,209	4,402	/	4,390	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	12	0	14	11	1,158	0	0	2,491	26	3,715
APPROACH %	0%	0%	0%	46%	0%	54%	1%	99%	0%	0%	99%	1%	
PEAK HR FACTOR	0.000			0.813			0.823			0.875			0.924
APP/DEPART	0	/	37	26	/	0	1,172	/	1,170	2,517	/	2,508	0

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	27	0	13	6	495	0	0	423	7	971
4:15 PM	0	0	0	14	0	5	2	486	0	0	473	3	983
4:30 PM	0	0	0	7	0	1	1	514	0	0	501	2	1,026
4:45 PM	0	0	0	8	0	6	1	522	0	0	431	4	972
5:00 PM	0	0	0	2	0	3	2	555	0	0	534	3	1,099
5:15 PM	0	0	0	3	0	3	5	568	0	0	444	1	1,024
5:30 PM	0	0	0	7	0	3	6	675	0	0	484	5	1,180
5:45 PM	0	0	0	5	0	2	13	471	0	0	405	3	899

APPROACH %	0%	0%	0%	67%	0%	33%	1%	99%	0%	0%	99%	1%	
APP/DEPART	0	/	64	109	/	0	4,335	/	4,360	3,724	/	3,744	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	0	0	0	20	0	15	14	2,320	0	0	1,893	13	4,278
APPROACH %	0%	0%	0%	57%	0%	43%	1%	99%	0%	0%	99%	1%	
PEAK HR FACTOR	0.000			0.625			0.856			0.888			0.906
APP/DEPART	0	/	27	35	/	0	2,336	/	2,341	1,907	/	1,910	0



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

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0

0	1	0	3
0	2	0	0
0	0	0	0
0	1	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	1	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	5	0	6

0	4	0	3
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	3	0	3
0	0	6	0	6
0	0	1	0	1
0	0	0	1	1
0	0	1	0	1
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	13	1	14

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

0	0	0	1
---	---	---	---

AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	9:00 AM	
	9:15 AM	
	9:30 AM	
	9:45 AM	
	TOTAL	

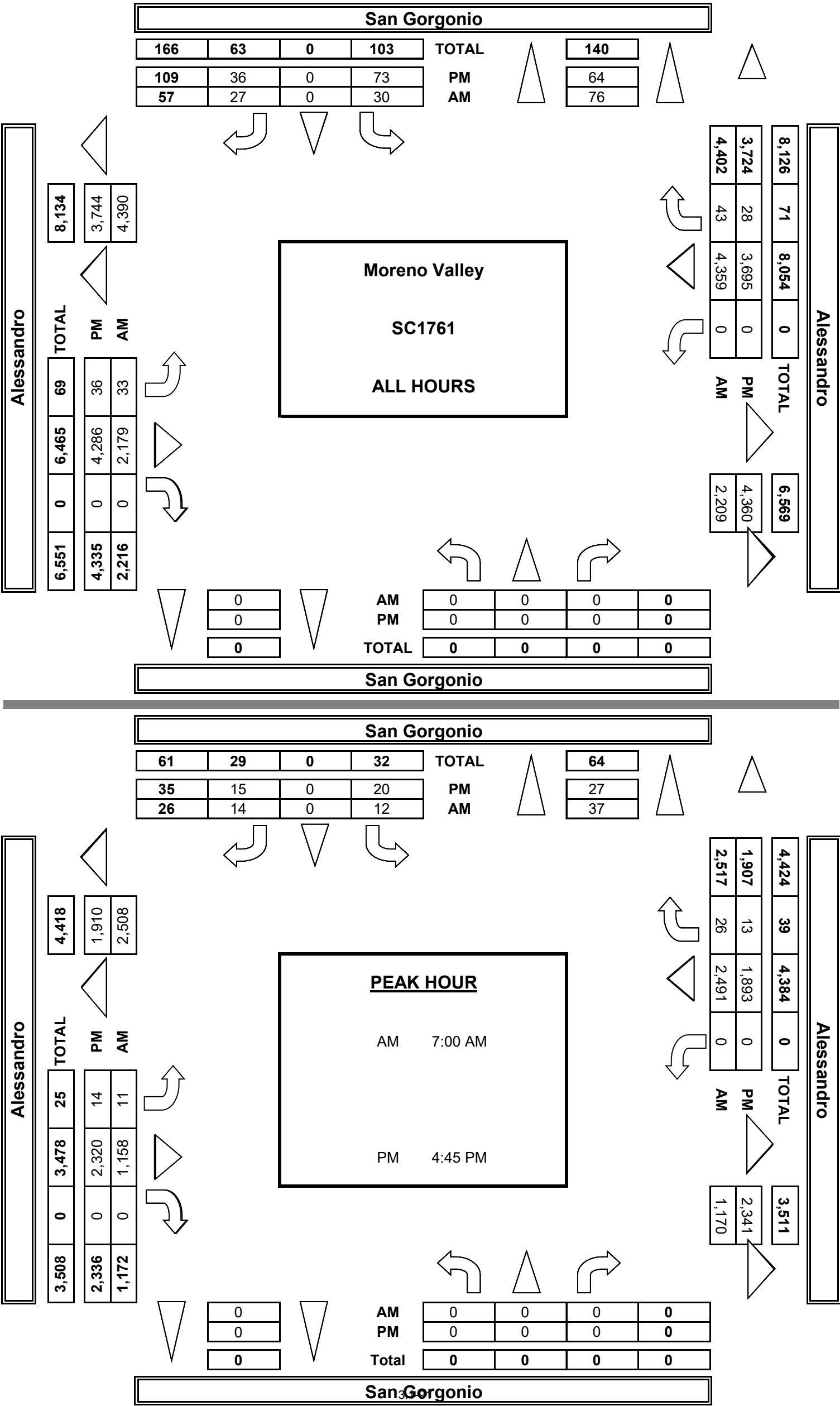
ALL PED AND BIKE				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	1	3	4

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

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	1	3	4



AimTD LLC  
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/23/18 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Moreno Valley San Gorgonio Alessandro	PROJECT #: LOCATION #: CONTROL:	SC1761 5 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER		▲ N  S ▼	
			◀ W		E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	San Gorgonio			San Gorgonio			Alessandro			Alessandro			
LANES:	NL X	NT X	NR X	SL 2	ST X	SR 1	EL 1	ET 3	ER X	WL X	WT 3	WR 1	TOTAL

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

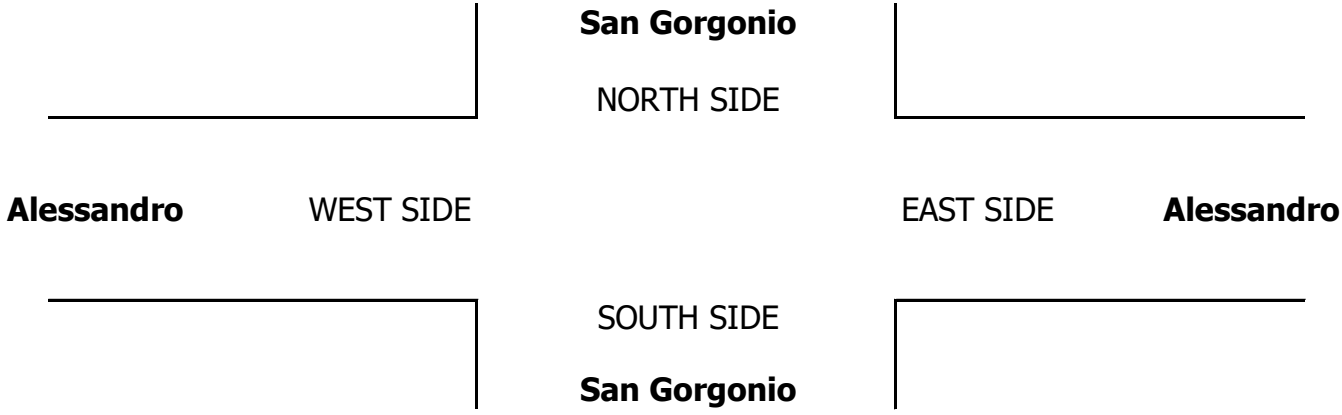
RTOR			
NRR 0	SRR 0	ERR 0	WRR 0
0	1	0	1

AM	7:00 AM	0	0	0	0	0	2	2	204	0	0	640	4	852
	7:15 AM	0	0	0	2	0	5	1	254	0	0	673	4	939
	7:30 AM	0	0	0	2	0	2	4	282	0	0	486	9	785
	7:45 AM	0	0	0	2	0	5	4	333	0	0	549	1	894
	8:00 AM	0	0	0	6	0	1	4	244	0	0	565	2	822
	8:15 AM	0	0	0	4	0	4	6	250	0	0	470	1	735
	8:30 AM	0	0	0	1	0	4	3	229	0	0	403	4	644
	8:45 AM	0	0	0	3	0	2	8	207	0	0	322	2	544
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	20	0	25	32	2,003	0	0	4,108	27	6,218
	APPROACH %	0%	0%	0%	44%	0%	56%	2%	98%	0%	0%	99%	1%	
	APP/DEPART	0	/	59	45	/	0	2,038	/	2,023	4,135	/	4,136	0
PM	BEGIN PEAK HR	7:00 AM												
	VOLUMES	0	0	0	6	0	14	11	1,073	0	0	2,348	18	3,472
	APPROACH %	0%	0%	0%	30%	0%	70%	1%	99%	0%	0%	99%	1%	
	PEAK HR FACTOR	0.000			0.714			0.803			0.874			0.923
	APP/DEPART	0	/	29	20	/	0	1,086	/	1,079	2,366	/	2,364	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	23	0	12	6	459	0	0	403	4	907
	4:15 PM	0	0	0	13	0	4	1	466	0	0	452	3	939
	4:30 PM	0	0	0	6	0	1	1	489	0	0	483	1	981
	4:45 PM	0	0	0	6	0	6	1	501	0	0	411	1	926
	5:00 PM	0	0	0	1	0	2	2	540	0	0	510	1	1,056
	5:15 PM	0	0	0	3	0	2	5	544	0	0	429	1	984
	5:30 PM	0	0	0	4	0	3	6	655	0	0	471	5	1,144
	5:45 PM	0	0	0	5	0	2	13	455	0	0	388	2	865
	VOLUMES	0	0	0	61	0	32	35	4,109	0	0	3,547	18	7,816
	APPROACH %	0%	0%	0%	66%	0%	34%	1%	99%	0%	0%	99%	1%	
	APP/DEPART	0	/	53	93	/	0	4,157	/	4,171	3,566	/	3,592	0
	BEGIN PEAK HR	4:45 PM												
	VOLUMES	0	0	0	14	0	13	14	2,240	0	0	1,821	8	4,113
	APPROACH %	0%	0%	0%	52%	0%	48%	1%	99%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.563			0.852			0.895			0.898
	APP/DEPART	0	/	22	27	/	0	2,256	/	2,255	1,830	/	1,836	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	3	0	3
0	0	6	0	6
0	0	1	0	1
0	0	0	1	1
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	13	1	14

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	2

0	0	0	1
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
San Gorgonio  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
5  
SIGNAL

CLASS 2:  
2-AXLE  
WORK  
VEHICLES/  
TRUCKS

NOTES:

AM  
PM  
MD  
OTHER

▲  
N  
S  
▼

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E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	San Gorgonio			San Gorgonio			Alessandro			Alessandro			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	X	X	2	X	1	1	3	X	X	3	1	

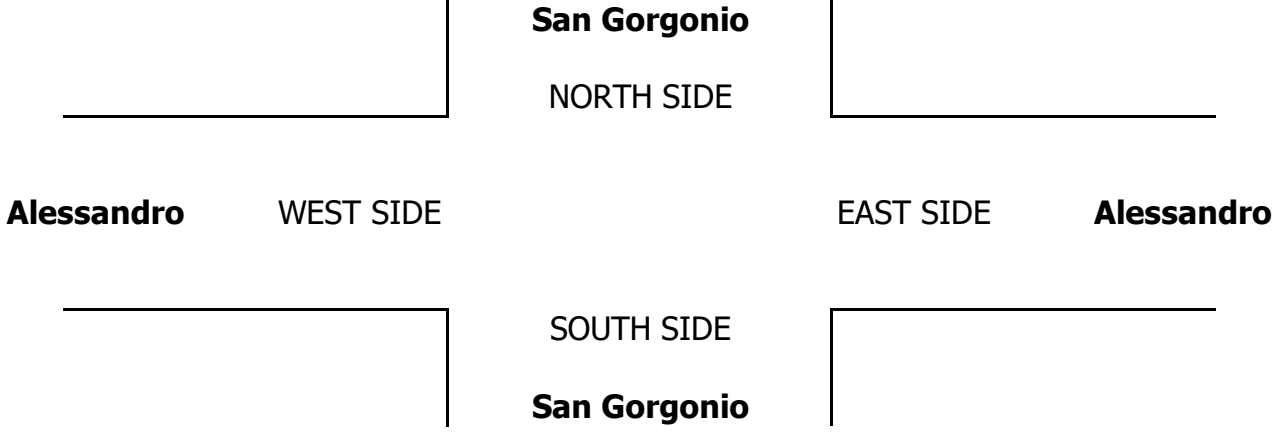
U-TURNS				
NB	SB	EB	WB	TTL
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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

AM	7:00 AM	0	0	0	0	0	0	0	16	0	0	19	1	36
	7:15 AM	0	0	0	0	0	0	0	14	0	0	29	0	43
	7:30 AM	0	0	0	1	0	0	0	19	0	0	27	0	47
	7:45 AM	0	0	0	1	0	0	0	13	0	0	26	2	42
	8:00 AM	0	0	0	0	0	0	0	12	0	0	19	1	32
	8:15 AM	0	0	0	1	0	1	0	18	0	0	12	0	32
	8:30 AM	0	0	0	0	0	0	0	23	0	0	17	2	42
	8:45 AM	0	0	0	2	0	1	1	20	0	0	24	0	48
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	5	0	2	1	135	0	0	173	6	322
	APPROACH %	0%	0%	0%	71%	0%	29%	1%	99%	0%	0%	97%	3%	
	APP/DEPART	0	/	7	7	/	0	136	/	140	179	/	175	0
BEGIN PEAK HR	7:00 AM													
VOLUMES	0	0	0	2	0	0	0	62	0	0	101	3	168	
APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	97%	3%		
PEAK HR FACTOR	0.000			0.500			0.816			0.897			0.894	
APP/DEPART	0	/	3	2	/	0	62	/	64	104	/	101	0	
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	2	0	1	0	24	0	0	14	1	42
	4:15 PM	0	0	0	0	0	1	1	18	0	0	17	0	37
	4:30 PM	0	0	0	1	0	0	0	17	0	0	13	1	32
	4:45 PM	0	0	0	2	0	0	0	14	0	0	16	2	34
	5:00 PM	0	0	0	0	0	1	0	12	0	0	18	0	31
	5:15 PM	0	0	0	0	0	1	0	22	0	0	11	0	34
	5:30 PM	0	0	0	1	0	0	0	17	0	0	9	0	27
	5:45 PM	0	0	0	0	0	0	0	11	0	0	14	0	25
	VOLUMES	0	0	0	6	0	4	1	135	0	0	112	4	262
	APPROACH %	0%	0%	0%	60%	0%	40%	1%	99%	0%	0%	97%	3%	
	APP/DEPART	0	/	5	10	/	0	136	/	141	116	/	116	0
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	0	0	5	0	2	1	73	0	0	60	4	145	
APPROACH %	0%	0%	0%	71%	0%	29%	1%	99%	0%	0%	94%	6%		
PEAK HR FACTOR	0.000			0.583			0.771			0.889			0.863	
APP/DEPART	0	/	5	7	/	0	74	/	78	64	/	62	0	

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

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



0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
San Gorgonio  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
5  
SIGNAL

CLASS 3:  
3-AXLE  
TRUCKS

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

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◀ W  
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E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	San Gorgonio			San Gorgonio			Alessandro			Alessandro			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	X	X	2	X	1	1	3	X	X	3	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	2
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	2

AM	7:00 AM	0	0	0	1	0	0	0	2	0	0	3	2	8
	7:15 AM	0	0	0	0	0	0	0	4	0	0	4	0	8
	7:30 AM	0	0	0	0	0	0	1	0	0	3	1	5	
	7:45 AM	0	0	0	0	0	0	3	0	0	5	0	8	
	8:00 AM	0	0	0	0	0	0	1	0	0	3	0	4	
	8:15 AM	0	0	0	0	0	0	1	0	0	5	0	6	
	8:30 AM	0	0	0	0	0	0	2	0	0	1	0	3	
	8:45 AM	0	0	0	0	0	0	3	0	0	3	1	7	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	VOLUMES	0	0	0	1	0	0	17	0	0	27	4	50	
	APPROACH %	0%	0%	0%	100%	0%	0%	94%	0%	0%	87%	13%		
	APP/DEPART	0	/	4	1	/	0	18	/	18	31	/	28	0
PM	BEGIN PEAK HR	7:00 AM												
	VOLUMES	0	0	0	1	0	0	10	0	0	15	3	30	
	APPROACH %	0%	0%	0%	100%	0%	0%	91%	0%	0%	83%	17%		
	PEAK HR FACTOR	0.000			0.250			0.688			0.900			0.938
	APP/DEPART	0	/	3	1	/	0	11	/	11	18	/	16	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	0	0	0	1	0	0	5	0	0	2	0	8	
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	4:30 PM	0	0	0	0	0	0	2	0	0	2	0	4	
	4:45 PM	0	0	0	0	0	0	3	0	0	1	0	4	
	5:00 PM	0	0	0	1	0	0	0	0	0	1	0	2	
	5:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	
	5:30 PM	0	0	0	0	0	0	1	0	0	2	0	3	
	5:45 PM	0	0	0	0	0	0	1	0	0	2	0	3	
	VOLUMES	0	0	0	2	0	0	13	0	0	10	0	25	
	APPROACH %	0%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%		
	APP/DEPART	0	/	0	2	/	0	13	/	15	10	/	10	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	0	0	1	0	0	10	0	0	5	0	16	
	APPROACH %	0%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%		
	PEAK HR FACTOR	0.000			0.250			0.500			0.625			0.500
	APP/DEPART	0	/	0	1	/	0	10	/	11	5	/	5	0

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

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



0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/23/18 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Moreno Valley San Gorgonio Alessandro	PROJECT #: LOCATION #: CONTROL:	SC1761 5 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	<div>▲ N ◀ W S ▼</div>	<div>E ▶</div>
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	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	San Gorgonio			San Gorgonio			Alessandro			Alessandro			
LANES:	NL X	NT X	NR X	SL 2	ST X	SR 1	EL 1	ET 3	ER X	WL X	WT 3	WR 1	TOTAL

AM	7:00 AM	0	0	0	1	0	0	0	2	0	0	3	0	6
	7:15 AM	0	0	0	0	0	0	0	3	0	0	4	2	9
	7:30 AM	0	0	0	2	0	0	0	2	0	0	6	0	10
	7:45 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
	8:00 AM	0	0	0	0	0	0	0	2	0	0	3	2	7
	8:15 AM	0	0	0	1	0	0	0	1	0	0	5	0	7
	8:30 AM	0	0	0	0	0	0	0	1	0	0	7	1	9
	8:45 AM	0	0	0	0	0	0	0	3	0	0	4	1	8
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	4	0	0	0	15	0	0	36	6	61
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	86%	14%	
PM	APP/DEPART	0	/	6	4	/	0	15	/	19	42	/	36	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	0	0	1	0	0	0	7	0	0	19	4	31
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	83%	17%	
	PEAK HR FACTOR	0.000			0.125			0.583			0.719			0.775
	APP/DEPART	0	/	4	1	/	0	7	/	8	23	/	19	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	1	0	0	0	6	0	0	2	1	10
	4:15 PM	0	0	0	1	0	0	0	2	0	0	3	0	6
	4:30 PM	0	0	0	0	0	0	0	5	0	0	2	0	7
	4:45 PM	0	0	0	0	0	0	0	4	0	0	1	1	6
	5:00 PM	0	0	0	0	0	0	0	1	0	0	4	2	7
	5:15 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
	5:30 PM	0	0	0	2	0	0	0	2	0	0	2	0	6
	5:45 PM	0	0	0	0	0	0	0	1	0	0	1	1	3
	VOLUMES	0	0	0	4	0	0	0	22	0	0	18	5	49
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	78%	22%	
	APP/DEPART	0	/	5	4	/	0	22	/	26	23	/	18	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	0	0	2	0	0	0	17	0	0	8	2	29
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	80%	20%	
	PEAK HR FACTOR	0.000			0.500			0.708			0.833			0.725
	APP/DEPART	0	/	2	2	/	0	17	/	19	10	/	8	0

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

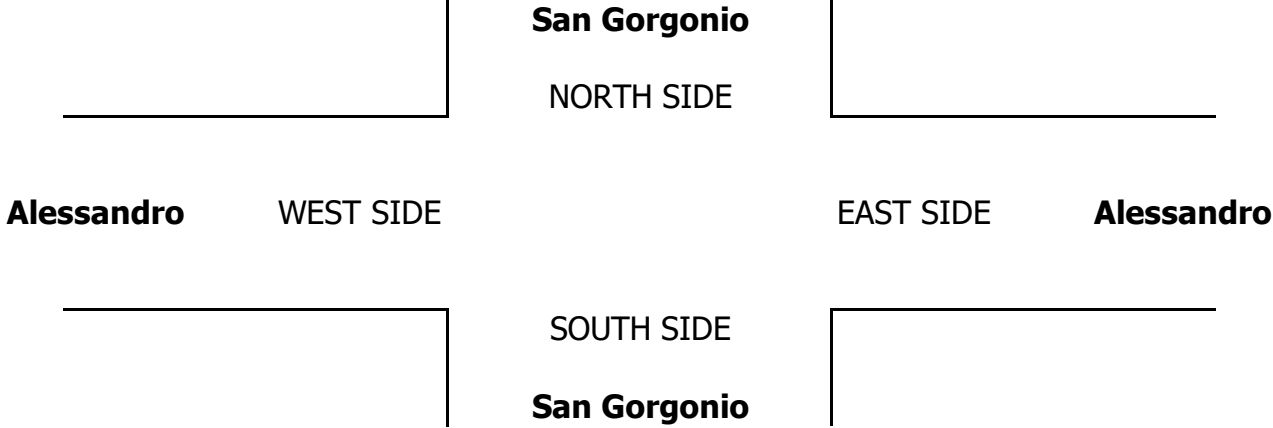
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1

0	0	0	1
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1

0	0	0	1
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
San Gorgonio  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
5  
SIGNAL

CLASS 5:

RV

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

▲  
N  
◀ W  
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E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	San Gorgonio			San Gorgonio			Alessandro			Alessandro			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	X	X	2	X	1	1	3	X	X	3	1	

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	1	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	1	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	0
PM	BEGIN PEAK HR	7:15 AM											
	VOLUMES	0	0	0	0	0	0	1	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.000			0.250			0.250		
	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	1	1	2
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	1	1	2
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	
	APP/DEPART	0	/	1	0	/	0	0	/	0	2	/	0
	BEGIN PEAK HR	3:15 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	1	1	2
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	
	PEAK HR FACTOR	0.000			0.000			0.000			0.250		
	APP/DEPART	0	/	1	0	/	0	0	/	0	2	/	0

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

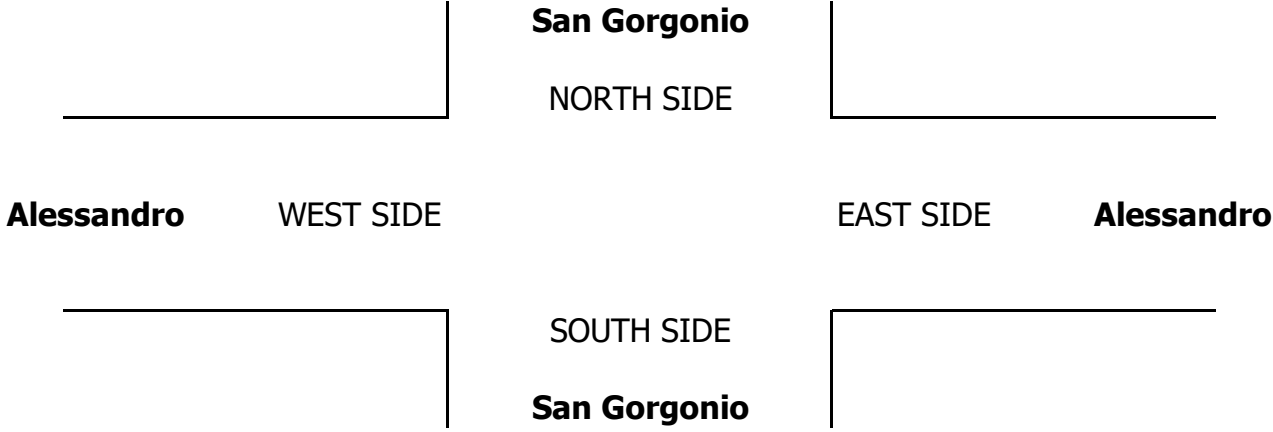
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

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

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/23/18 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Moreno Valley San Gorgonio Alessandro	PROJECT #: LOCATION #: CONTROL:	SC1761 5 SIGNAL
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CLASS 6:	NOTES:	AM		▲	
BUSES		PM		N	
		MD	◄ W		E ►
		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	San Gorgonio			San Gorgonio			Alessandro			Alessandro			
LANES:	NL X	NT X	NR X	SL 2	ST X	SR 1	EL 1	ET 3	ER X	WL X	WT 3	WR 1	TOTAL

AM	7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	
	7:15 AM	0	0	0	0	0	0	0	1	0	3	0	4	
	7:30 AM	0	0	0	0	0	0	0	2	0	3	0	5	
	7:45 AM	0	0	0	0	0	0	0	1	0	2	0	3	
	8:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	
	8:15 AM	0	0	0	0	0	0	0	2	0	0	1	3	
	8:30 AM	0	0	0	0	0	0	0	0	0	3	0	3	
	8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	VOLUMES	0	0	0	0	0	0	8	0	0	14	0	22	
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%		
APP/DEPART	0	/	0	0	/	0	8	/	8	14	/	14	0	
AM	BEGIN PEAK HR	7:00 AM												
	VOLUMES	0	0	0	0	0	0	4	0	0	10	0	14	
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%		
	PEAK HR FACTOR	0.000			0.000			0.500			0.833			0.700
	APP/DEPART	0	/	0	0	/	0	4	/	4	10	/	10	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	0	0	0	0	0	0	0	1	0	0	1	2	
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	
	4:30 PM	0	0	0	0	0	0	0	1	0	0	1	2	
	4:45 PM	0	0	0	0	0	0	0	0	0	0	2	2	
	5:00 PM	0	0	0	0	0	0	0	2	0	0	1	3	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	3	0	0	0	3	
	VOLUMES	0	0	0	0	0	0	7	0	0	7	0	14	
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%		
	APP/DEPART	0	/	0	0	/	0	7	/	7	7	/	7	0
	PM	BEGIN PEAK HR	4:15 PM											
VOLUMES		0	0	0	0	0	0	3	0	0	5	0	8	
APPROACH %		0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%		
PEAK HR FACTOR		0.000			0.000			0.375			0.625			0.667
APP/DEPART		0	/	0	0	/	0	3	/	3	5	/	5	0

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

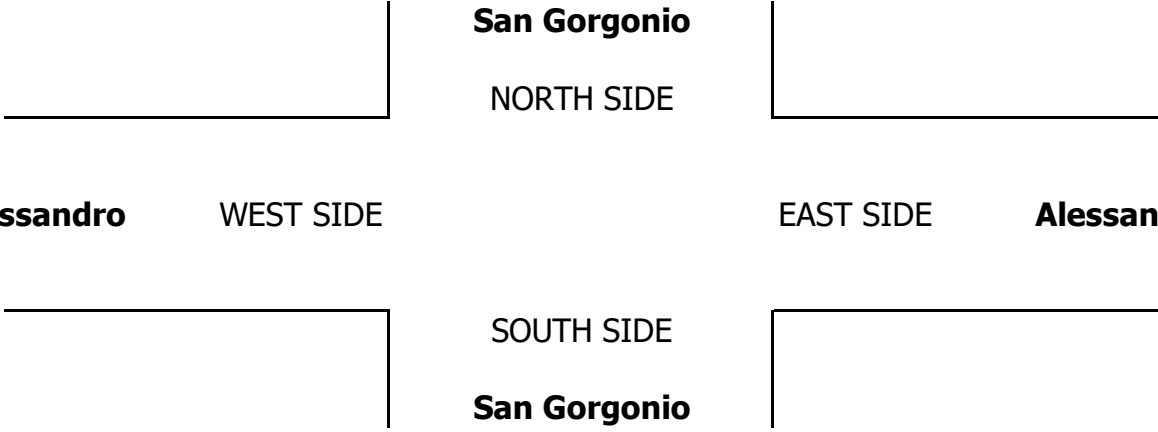
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

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

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

T816

DATE:  
Wed, May 23, 18

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
Meridian  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
6  
SIGNAL

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

▲  
N  
◀ W  
S  
▼

E ▶

☒ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Meridian			Meridian			Alessandro			Alessandro			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	2	2	2	2	2	1	1	3	1	2	3	1	

AM	7:00 AM	139	154	8	20	27	17	22	164	57	14	488	95	1,205
	7:15 AM	149	170	12	16	22	30	29	197	48	20	521	107	1,321
	7:30 AM	113	156	16	21	12	19	31	216	51	24	423	127	1,209
	7:45 AM	93	143	8	30	20	30	38	217	51	30	455	124	1,239
	8:00 AM	137	157	22	30	16	23	32	206	51	23	464	111	1,272
	8:15 AM	98	121	9	15	19	20	33	204	33	22	409	104	1,087
	8:30 AM	102	90	9	19	11	23	36	209	30	20	348	111	1,008
	8:45 AM	107	72	10	17	12	18	29	188	28	12	268	81	842
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	938	1,063	94	168	139	180	250	1,601	349	165	3,376	860	9,183
	APPROACH %	45%	51%	4%	34%	29%	37%	11%	73%	16%	4%	77%	20%	

	APP/DEPART	2,095	/	2,188	487	/	650	2,200	/	1,836	4,401	/	4,509	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	492	626	58	97	70	102	130	836	201	97	1,863	469	5,041
	APPROACH %	42%	53%	5%	36%	26%	38%	11%	72%	17%	4%	77%	19%	
	PEAK HR FACTOR	0.888			0.841			0.953			0.937			0.954
	APP/DEPART	1,176	/	1,234	269	/	365	1,167	/	978	2,429	/	2,464	0

PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	84	73	26	33	64	53	47	377	93	29	324	88	1,291
	4:15 PM	68	51	31	39	111	64	39	393	100	50	340	57	1,343
	4:30 PM	87	75	31	45	142	70	44	363	110	49	330	47	1,393
	4:45 PM	63	50	28	33	144	50	29	354	116	32	297	25	1,221
	5:00 PM	89	75	60	50	163	95	28	431	142	31	340	30	1,534
	5:15 PM	98	63	33	45	156	78	31	394	130	31	306	27	1,392
	5:30 PM	69	55	28	27	122	49	21	398	135	27	315	31	1,277
	5:45 PM	50	28	19	24	83	45	28	435	123	38	305	25	1,203
	VOLUMES	608	470	256	296	985	504	267	3,145	949	287	2,557	330	10,654
	APPROACH %	46%	35%	19%	17%	55%	28%	6%	72%	22%	9%	81%	10%	

	APP/DEPART	1,334	/	1,074	1,785	/	2,223	4,361	/	3,673	3,174	/	3,684	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	337	263	152	173	605	293	132	1,542	498	143	1,273	129	5,540
	APPROACH %	45%	35%	20%	16%	56%	27%	6%	71%	23%	9%	82%	8%	
	PEAK HR FACTOR	0.839			0.869			0.903			0.907			0.903
	APP/DEPART	752	/	528	1,071	/	1,248	2,172	/	1,856	1,545	/	1,908	0



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

0	1	5	0	6
0	2	1	0	3
0	4	1	2	7
0	4	3	0	7
0	6	2	1	9
0	6	3	0	9
0	3	0	0	3
0	4	0	0	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	30	15	3	48

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0

7	11	28	19
7	12	25	21
7	14	22	25
1	12	18	30
11	5	23	35
7	12	15	22
3	11	7	32
7	11	11	27
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
50	88	149	211

26	43	88	111
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	5	4	0	9
0	1	0	0	1
1	5	2	0	8
0	0	1	0	1
0	1	1	0	2
1	5	3	0	9
0	4	1	0	5
0	3	5	0	8
2	24	17	0	43

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
18	27	27	26
22	28	9	28
16	26	15	25
21	22	38	8
21	39	17	12
13	27	23	10
12	20	33	12
10	27	16	11
133	216	178	132

71	114	93	55
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AM	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
	9:00 AM
	9:15 AM
	9:30 AM
	9:45 AM
	TOTAL

PM	3:00 PM
	3:15 PM
	3:30 PM
	3:45 PM
	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

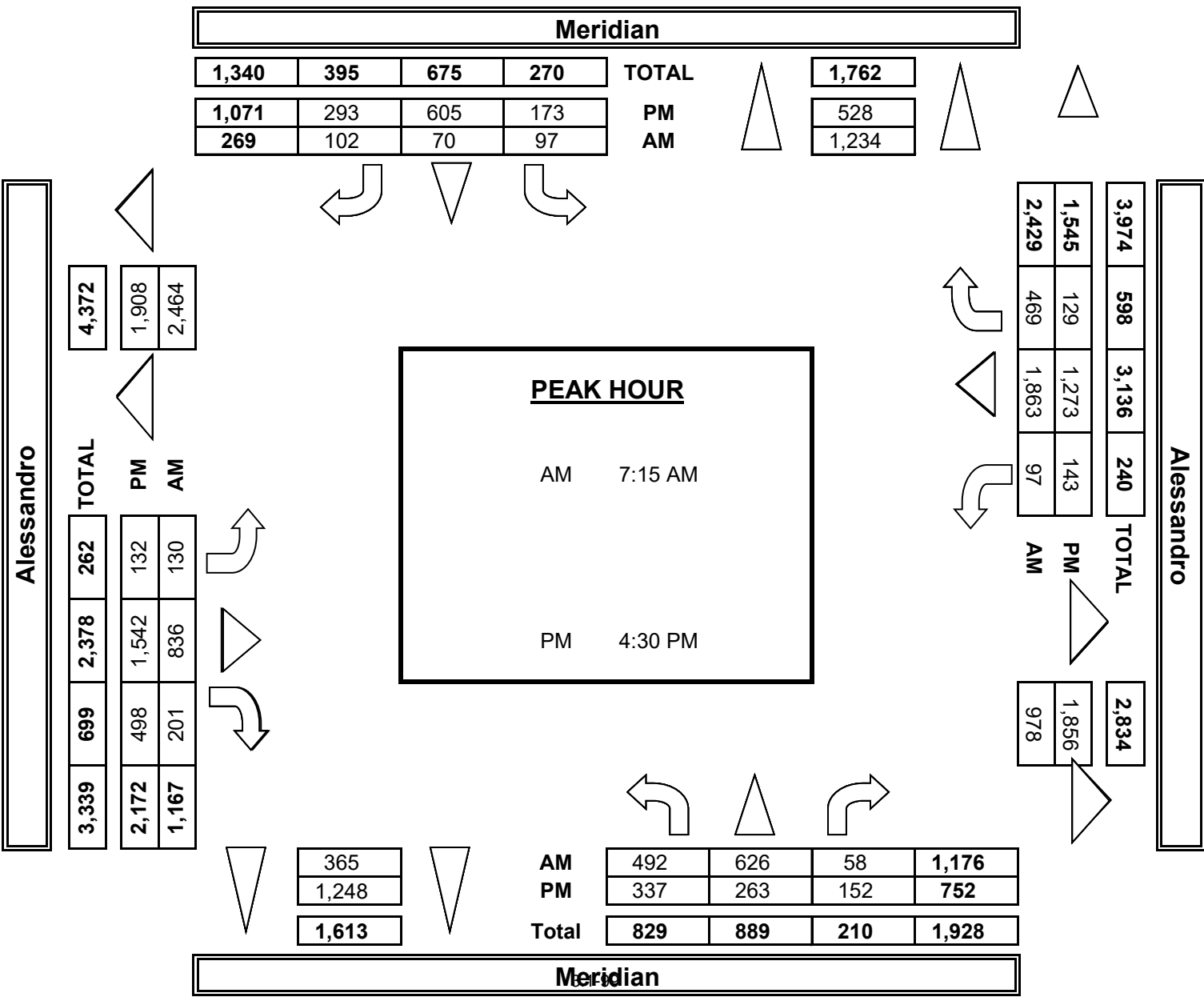
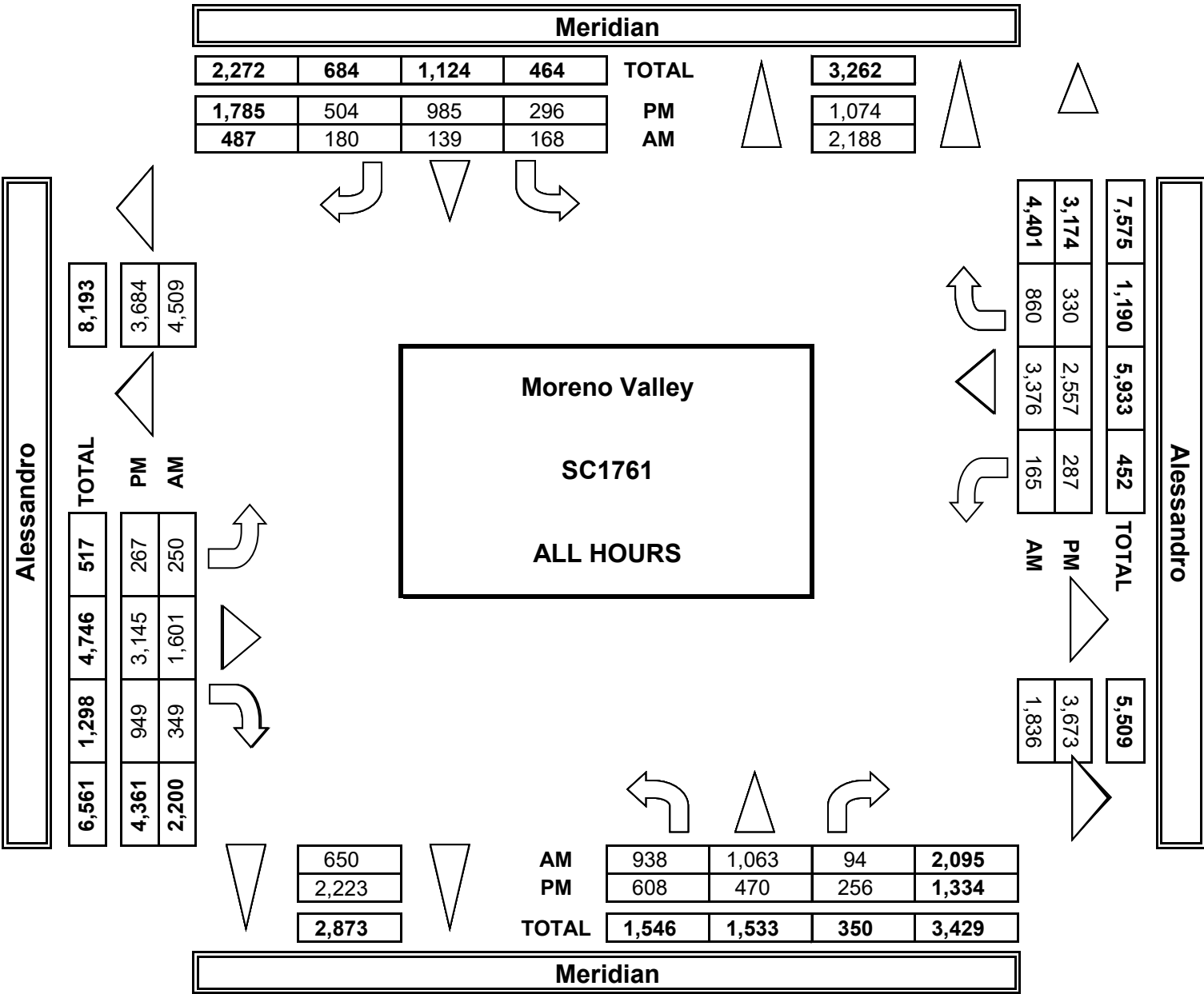
ALL PED AND BIKE				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	0	0	0	1
0	0	2	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	1	0	1	2
1	0	0	0	1
1	2	2	0	5
0	9	0	1	10
0	2	0	0	2
2	14	3	2	21

PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	0	0	0	1
0	0	2	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	1	0	1	2
1	0	0	0	1
1	2	2	0	5
0	9	0	1	10
0	2	0	0	2
2	14	3	2	21



AimTD LLC  
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
Meridian  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
6  
SIGNAL

CLASS 1:  
PASSENGER  
VEHICLES

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

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N  
◀ W  
S  
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E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Meridian			Meridian			Alessandro			Alessandro			
LANES:	NL 2	NT 2	NR 2	SL 2	ST 2	SR 1	EL 1	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	133	146	4	18	25	16	16	148	52	12	471	80	1,121
	7:15 AM	140	166	10	14	20	27	24	179	48	16	494	102	1,240
	7:30 AM	104	142	15	17	9	17	27	197	49	23	388	115	1,103
	7:45 AM	88	135	6	24	17	27	37	203	49	27	425	114	1,152
	8:00 AM	127	149	20	27	15	20	29	188	49	21	437	100	1,182
	8:15 AM	94	116	8	12	16	16	31	189	27	20	387	91	1,007
	8:30 AM	96	81	7	14	10	17	28	194	27	20	325	103	922
	8:45 AM	100	61	9	14	9	16	24	169	26	11	248	74	761
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	882	996	79	140	121	156	216	1,467	327	150	3,175	779	8,488
	APPROACH %	45%	51%	4%	34%	29%	37%	11%	73%	16%	4%	77%	19%	
PM	APP/DEPART	1,957	/	2,004	417	/	596	2,010	/	1,662	4,104	/	4,226	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	459	592	51	68	61	91	110	767	195	85	1,744	431	4,677
	APPROACH %	42%	54%	5%	29%	26%	39%	10%	71%	18%	4%	77%	19%	
	PEAK HR FACTOR	0.872			0.860			0.933			0.924			0.943
	APP/DEPART	1,102	/	1,147	234	/	341	1,079	/	888	2,262	/	2,301	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	79	65	25	30	62	51	40	357	83	28	301	79	1,200
	4:15 PM	65	47	29	34	100	63	37	380	92	45	328	53	1,273
	4:30 PM	86	70	31	43	133	66	39	346	104	42	319	43	1,322
	4:45 PM	61	48	27	32	137	48	25	337	114	29	290	20	1,168
	5:00 PM	87	74	58	43	155	91	26	424	138	30	318	25	1,469
	5:15 PM	96	61	32	39	138	76	29	381	124	27	297	24	1,324
	5:30 PM	66	53	27	25	112	48	18	383	130	26	305	29	1,222
	5:45 PM	48	27	18	23	81	42	26	425	117	37	298	22	1,164
	VOLUMES	588	445	247	269	918	485	240	3,033	902	264	2,456	295	10,142
	APPROACH %	46%	35%	19%	16%	55%	29%	6%	73%	22%	9%	81%	10%	
	APP/DEPART	1,280	/	984	1,672	/	2,086	4,175	/	3,529	3,015	/	3,543	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	328	253	148	149	563	281	113	1,488	480	128	1,224	112	5,283
	APPROACH %	45%	35%	20%	15%	56%	28%	5%	71%	23%	9%	84%	8%	
	PEAK HR FACTOR	0.834			0.866			0.887			0.906			0.899
	APP/DEPART	731	/	486	1,001	/	1,173	2,087	/	1,785	1,464	/	1,839	0

0	1	3	0	4
0	2	1	0	3
0	3	1	2	6
0	3	3	0	6
0	6	2	0	8
0	5	3	0	8
0	2	0	0	2
0	4	0	0	4
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	26	13	2	41

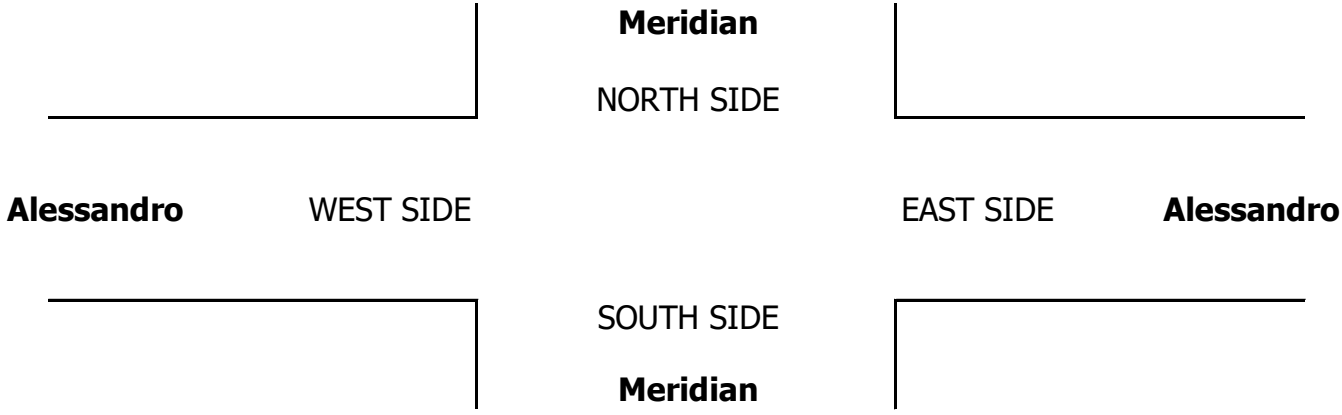
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7	13	22	21
1	10	18	27
10	5	21	34
7	11	14	20
2	8	7	28
6	9	10	26
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
43	79	143	192

24	40	86	102
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	4	4	0	8
0	1	0	0	1
1	4	2	0	7
0	0	1	0	1
0	0	1	0	1
1	4	2	0	7
0	4	1	0	5
0	3	5	0	8
2	20	16	0	38

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
18	27	24	24
21	27	9	27
16	26	15	23
20	22	38	7
21	38	16	10
13	27	22	9
12	20	32	11
10	26	16	10
131	213	172	121

70	113	91	49
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
Meridian  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
6  
SIGNAL

CLASS 2:  
2-AXLE  
WORK  
VEHICLES/  
TRUCKS

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

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	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Meridian			Meridian			Alessandro			Alessandro			
LANES:	NL 2	NT 2	NR 2	SL 2	ST 2	SR 1	EL 1	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL

AM	7:00 AM	4	6	1	1	1	0	4	13	5	0	11	8	54
	7:15 AM	7	4	0	1	2	1	2	12	0	2	17	1	49
	7:30 AM	7	5	0	1	1	1	2	16	0	0	22	5	60
	7:45 AM	4	4	1	2	0	0	1	10	1	1	21	7	52
	8:00 AM	8	3	0	1	0	2	3	13	2	2	19	6	59
	8:15 AM	3	3	1	1	0	2	2	13	4	2	14	3	48
	8:30 AM	3	7	0	2	0	3	6	11	2	0	16	5	55
	8:45 AM	6	4	0	2	2	2	5	15	2	1	12	3	54
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	42	36	3	11	6	11	25	103	16	8	132	38	431
	APPROACH %	52%	44%	4%	39%	21%	39%	17%	72%	11%	4%	74%	21%	
	APP/DEPART	81	/	100	28	/	29	144	/	116	178	/	186	0
PM	BEGIN PEAK HR	7:15 AM												
	VOLUMES	26	16	1	5	3	4	8	51	3	4	79	19	220
	APPROACH %	60%	37%	2%	42%	25%	33%	13%	82%	5%	4%	77%	18%	
	PEAK HR FACTOR	0.896			0.750			0.861			0.888			0.917
	APP/DEPART	43	/	43	12	/	10	62	/	58	103	/	109	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	5	4	1	2	1	0	5	14	7	1	19	5	64
	4:15 PM	2	2	1	5	8	0	1	10	6	5	9	2	51
	4:30 PM	0	3	0	2	8	1	2	12	4	5	10	1	48
	4:45 PM	1	0	1	1	4	2	3	13	2	1	5	4	37
	5:00 PM	1	1	1	5	5	3	1	5	3	1	17	4	47
	5:15 PM	0	1	0	3	9	2	2	11	5	3	6	3	45
	5:30 PM	2	1	1	1	9	1	1	13	4	1	7	0	41
	5:45 PM	1	0	0	1	2	3	1	9	5	0	5	0	27
	VOLUMES	12	12	5	20	46	12	16	87	36	17	78	19	360
	APPROACH %	41%	41%	17%	26%	59%	15%	12%	63%	26%	15%	68%	17%	
	APP/DEPART	29	/	50	78	/	99	139	/	108	114	/	103	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	8	9	3	8	21	3	11	49	19	12	43	12	200
	APPROACH %	40%	45%	15%	24%	62%	9%	14%	62%	24%	18%	64%	18%	
	PEAK HR FACTOR	0.500			0.654			0.760			0.670			0.781
	APP/DEPART	20	/	34	34	/	52	79	/	60	67	/	54	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	1	1	4

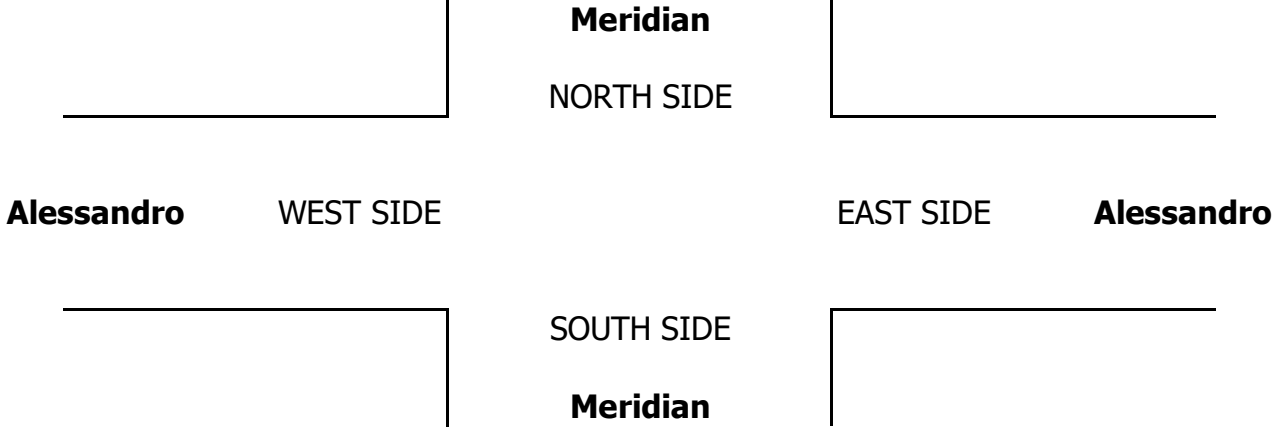
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
1	0	2	1
0	0	0	0
0	1	0	1
0	0	0	1
0	0	2	1
0	0	0	0
0	2	0	4
0	2	1	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	5	5	9

0	1	2	3
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	1	0	0	1
0	1	1	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	4	1	0	5

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	3	2
1	0	0	0
0	0	0	0
1	0	0	1
0	1	1	1
0	0	1	1
0	0	1	0
0	1	0	0
2	2	6	5

2	0	3	3
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## INTERSECTION TURNING MOVEMENT COUNTS

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

<u>DATE:</u> 5/23/18 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Moreno Valley Meridian Alessandro	PROJECT #: LOCATION #: CONTROL:	SC1761 6 SIGNAL
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<b>CLASS 3:</b>	<b>NOTES:</b>	AM		▲	
3-AXLE TRUCKS		PM		N	
		MD	◀ W		E ▶
		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Meridian			Meridian			Alessandro			Alessandro			
LANES:	NL 2	NT 2	NR 2	SL 2	ST 2	SR 1	EL 1	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	0	0	1	0	0	2	0	0	1	2	1	7
	7:15 AM	1	0	1	0	0	2	2	3	0	0	3	2	14
	7:30 AM	1	2	0	0	0	1	1	0	0	0	4	2	11
	7:45 AM	0	1	0	0	0	2	0	1	1	1	2	1	9
	8:00 AM	1	0	2	0	0	0	0	1	0	0	2	0	6
	8:15 AM	0	1	0	0	0	1	0	0	0	0	4	2	8
	8:30 AM	0	0	0	1	0	0	2	3	1	0	2	0	9
	8:45 AM	0	1	0	0	0	0	0	1	0	0	2	0	4
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	3	5	3	2	0	6	7	9	2	2	21	8	68
	APPROACH %	27%	45%	27%	25%	0%	75%	39%	50%	11%	6%	68%	26%	
APP/DEPART	11	/	19	8	/	4	18	/	14	31	/	31	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	2	3	1	1	0	5	4	4	1	2	11	6	41	
APPROACH %	33%	50%	17%	17%	0%	83%	40%	40%	10%	11%	58%	32%		
PEAK HR FACTOR	0.500			0.750			0.500			0.792			0.732	
APP/DEPART	6	/	13	6	/	3	10	/	6	19	/	19	0	
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	1	0	0	0	0	1	1	2	0	1	1	7
	4:15 PM	0	0	0	0	1	0	0	2	0	0	1	0	4
	4:30 PM	0	0	0	0	1	1	0	2	1	0	0	1	6
	4:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	2
	5:00 PM	0	0	0	1	0	0	1	0	0	0	1	1	4
	5:15 PM	0	0	0	2	4	0	0	1	0	0	1	0	8
	5:30 PM	0	0	0	1	1	0	1	1	0	0	2	0	6
	5:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	2
	VOLUMES	0	1	0	4	7	1	3	8	3	1	7	4	39
	APPROACH %	0%	100%	0%	33%	58%	8%	21%	57%	21%	8%	58%	33%	
APP/DEPART	1	/	8	12	/	11	14	/	12	12	/	8	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	0	0	0	4	5	0	2	2	0	0	5	2	20	
APPROACH %	0%	0%	0%	44%	56%	0%	50%	50%	0%	0%	71%	29%		
PEAK HR FACTOR	0.000			0.375			0.333			0.875			0.625	
APP/DEPART	0	/	4	9	/	5	4	/	6	7	/	5	0	

[illegible][illegible]

0	1	0	2
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[illegible]

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1

0	0	0	1
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## INTERSECTION TURNING MOVEMENT COUNTS

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

<u>DATE:</u> 5/23/18 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Moreno Valley Meridian Alessandro	PROJECT #: LOCATION #: CONTROL:	SC1761 6 SIGNAL
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<b>CLASS 4:</b>	<b>NOTES:</b>	AM		▲	
4 OR MORE AXLE TRUCKS		PM		N	
		MD	◀ W		E ▶
		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Meridian			Meridian			Alessandro			Alessandro			
LANES:	NL 2	NT 2	NR 2	SL 2	ST 2	SR 1	EL 1	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	1	3	0	1	1	0	3	0	0	4	4	17
	7:15 AM	0	0	1	1	0	0	0	3	0	2	5	2	14
	7:30 AM	1	7	1	3	2	0	1	2	0	1	7	5	30
	7:45 AM	0	2	0	4	2	1	0	2	0	1	5	2	19
	8:00 AM	1	5	0	2	1	1	0	2	0	0	5	5	22
	8:15 AM	1	1	0	2	2	1	0	2	0	0	3	7	19
	8:30 AM	0	1	1	2	1	3	0	1	0	0	5	3	17
	8:45 AM	1	6	1	1	1	0	0	3	0	0	6	4	23
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	4	23	7	15	10	7	1	18	0	4	40	32	161
	APPROACH %	12%	68%	21%	47%	31%	22%	5%	95%	0%	5%	53%	42%	
APP/DEPART	34	/	58	32	/	14	19	/	38	76	/	51	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	3	15	1	9	7	3	1	8	0	2	20	19	90	
APPROACH %	16%	79%	5%	43%	33%	14%	11%	89%	0%	5%	49%	46%		
PEAK HR FACTOR	0.528			0.750			0.750			0.788			0.750	
APP/DEPART	19	/	37	21	/	9	9	/	18	41	/	26	0	
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	2	0	1	0	0	1	5	1	0	2	3	15
	4:15 PM	0	2	0	0	2	1	1	1	1	0	2	1	11
	4:30 PM	0	2	0	0	0	2	3	2	0	1	1	2	13
	4:45 PM	0	1	0	0	2	0	1	3	0	1	1	1	10
	5:00 PM	1	0	1	1	3	1	0	1	0	0	3	0	11
	5:15 PM	1	1	0	1	4	0	0	1	0	0	2	0	10
	5:30 PM	1	0	0	0	0	0	1	1	1	0	1	2	7
	5:45 PM	1	1	0	0	0	0	1	1	0	1	1	2	8
	VOLUMES	4	9	1	3	11	4	8	15	3	3	13	11	85
	APPROACH %	29%	64%	7%	17%	61%	22%	31%	58%	12%	11%	48%	41%	
APP/DEPART	14	/	28	18	/	17	26	/	19	27	/	21	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	7	0	1	4	3	6	11	2	2	6	7	49	
APPROACH %	0%	100%	0%	13%	50%	38%	32%	58%	11%	13%	40%	47%		
PEAK HR FACTOR	0.875			0.667			0.679			0.750			0.817	
APP/DEPART	7	/	20	8	/	8	19	/	12	15	/	9	0	

[illegible]

2	0	0	1
1	0	0	1
0	0	0	2
0	1	0	1
0	0	0	0
0	0	0	2
1	1	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
5	2	0	7

0	1	0	5
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[illegible]

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

0	1	0	2
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The diagram shows a square divided into four quadrants by a vertical line labeled **Meridian** and a horizontal line labeled **Alessandro**. The quadrants are labeled as follows:

- Top-left quadrant: NORTH SIDE
- Top-right quadrant: WEST SIDE
- Bottom-left quadrant: EAST SIDE
- Bottom-right quadrant: SOUTH SIDE



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
Meridian  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
6  
SIGNAL

CLASS 5:

RV

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

▲  
N  
◀ W  
S  
▼

E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Meridian			Meridian			Alessandro			Alessandro			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	2	2	2	2	2	1	1	3	1	2	3	1	

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	1	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	1	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
PM	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	0
	BEGIN PEAK HR	7:15 AM											
	VOLUMES	0	0	0	0	0	0	1	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.000			0.250			0.250		
	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	0
	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	1	0	0	0	1	0	2
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	1	0	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	1	/	0	0	/	0	1	/	0
PM	BEGIN PEAK HR	3:15 PM											
	VOLUMES	0	0	0	0	0	1	0	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.250			0.000			0.250		
	APP/DEPART	0	/	0	1	/	0	0	/	0	1	/	0

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

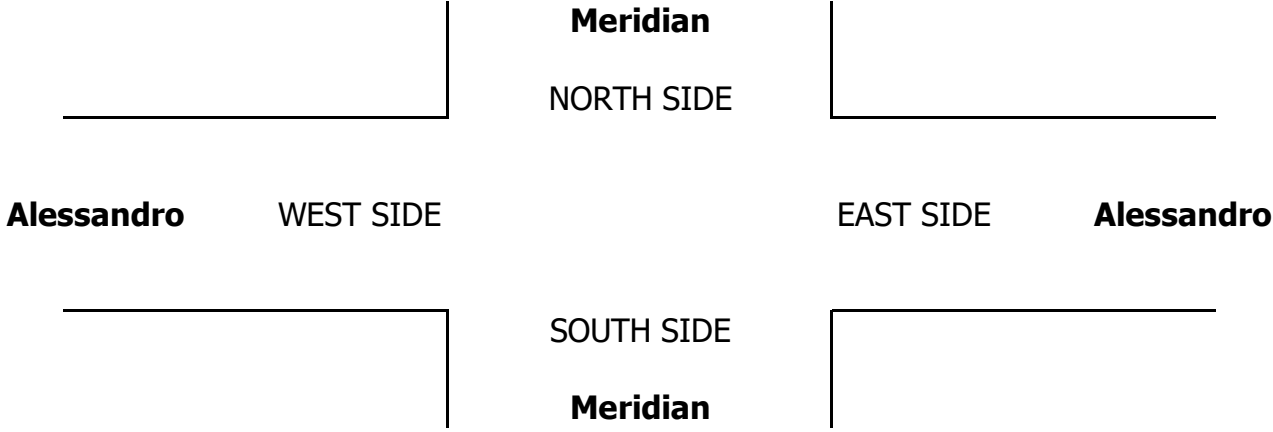
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

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

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

0	0	0	0
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PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

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

CLASS 6:	NOTES:	AM
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	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND	
--	------------	------------	-----------	-----------	--

7:00 AM	2	1	0	0	0	0	0	0	0	1	0	2	6
---------	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0
---	---	---	---	---

0	0	0	1
---	---	---	---

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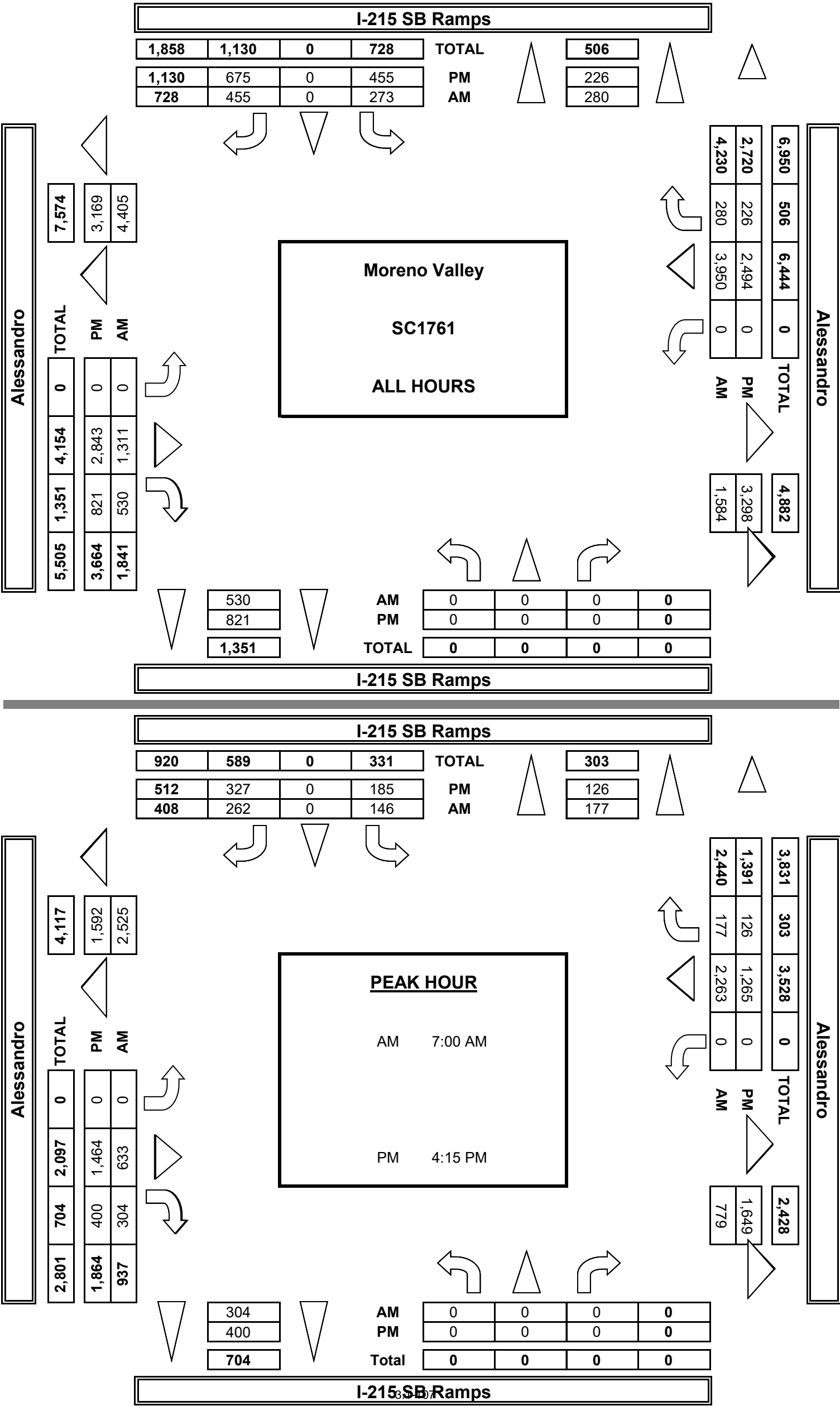
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AimTD LLC  
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
I-215 SB Ramps  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
12  
SIGNAL

CLASS 1:  
PASSENGER  
VEHICLES

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

▲  
N  
◀ W  
S  
▼

E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	I-215 SB Ramps			I-215 SB Ramps			Alessandro			Alessandro			
LANES:	NL X	NT X	NR X	SL 1.5	ST X	SR 1.5	EL X	ET 3	ER 1	WL X	WT 3	WR 1	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	0	0	18	0	44	0	110	58	0	560	39	829
	7:15 AM	0	0	0	22	0	55	0	126	68	0	569	38	878
	7:30 AM	0	0	0	33	0	53	0	155	92	0	516	36	885
	7:45 AM	0	0	0	32	0	73	0	169	68	0	488	36	866
	8:00 AM	0	0	0	27	0	53	0	169	59	0	490	22	820
	8:15 AM	0	0	0	32	0	59	0	167	46	0	415	20	739
	8:30 AM	0	0	0	35	0	54	0	149	53	0	381	24	696
	8:45 AM	0	0	0	0	0	1	0	139	39	0	302	17	498
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	199	0	392	0	1,184	483	0	3,721	232	6,211
	APPROACH %	0%	0%	0%	34%	0%	66%	0%	71%	29%	0%	94%	6%	
	APP/DEPART	0	/	232	591	/	483	1,667	/	1,383	3,953	/	4,113	0
PM	BEGIN PEAK HR	7:00 AM												
	VOLUMES	0	0	0	105	0	225	0	560	286	0	2,133	149	3,458
	APPROACH %	0%	0%	0%	32%	0%	68%	0%	66%	34%	0%	93%	7%	
	PEAK HR FACTOR	0.000			0.786			0.856			0.940			0.977
	APP/DEPART	0	/	149	330	/	286	846	/	665	2,282	/	2,358	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	69	0	80	0	293	102	0	364	22	930
	4:15 PM	0	0	0	36	0	81	0	369	84	0	311	22	903
	4:30 PM	0	0	0	41	0	76	0	318	111	0	328	28	902
	4:45 PM	0	0	0	43	0	49	0	336	79	0	284	26	817
	5:00 PM	0	0	0	44	0	94	0	386	109	0	278	47	958
	5:15 PM	0	0	0	50	0	73	0	352	101	0	272	30	878
	5:30 PM	0	0	0	45	0	99	0	348	106	0	293	19	910
	5:45 PM	0	0	0	74	0	81	0	334	94	0	245	24	852
	VOLUMES	0	0	0	402	0	633	0	2,736	786	0	2,375	218	7,150
	APPROACH %	0%	0%	0%	39%	0%	61%	0%	78%	22%	0%	92%	8%	
	APP/DEPART	0	/	218	1,035	/	786	3,522	/	3,138	2,593	/	3,008	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	0	0	0	213	0	347	0	1,420	410	0	1,088	120	3,598
	APPROACH %	0%	0%	0%	38%	0%	62%	0%	78%	22%	0%	90%	10%	
	PEAK HR FACTOR	0.000			0.903			0.924			0.929			0.939
	APP/DEPART	0	/	120	560	/	410	1,830	/	1,633	1,208	/	1,435	0

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

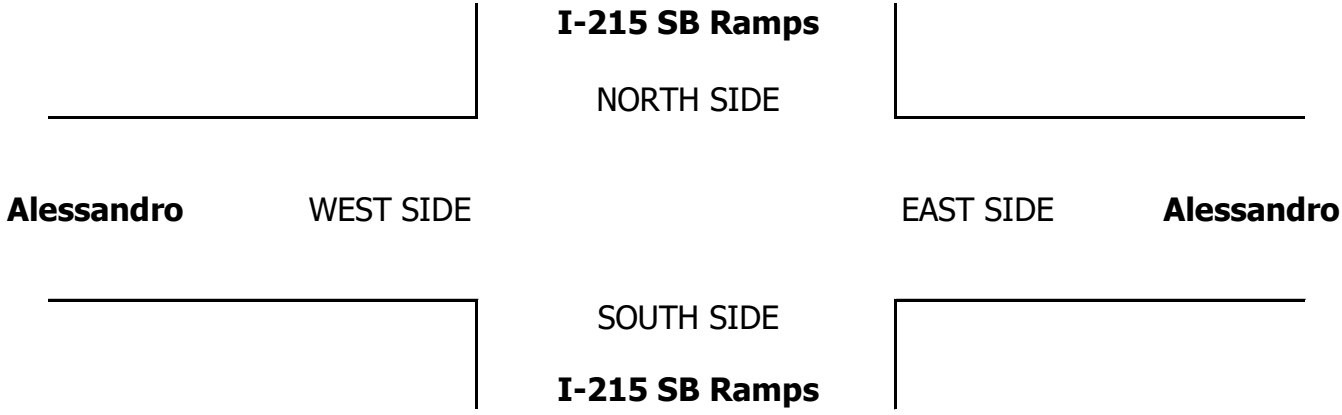
0	10	9	0
0	3	4	0
0	5	10	0
0	18	4	0
0	7	4	0
0	13	5	0
0	10	2	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	66	38	0

0	36	27	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	34	4	0
0	24	12	1
0	21	6	0
0	22	5	1
0	26	11	0
0	17	3	0
0	37	3	0
0	11	4	0
0	192	48	2

0	91	21	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/23/18 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Moreno Valley I-215 SB Ramps Alessandro	PROJECT #: LOCATION #: CONTROL:	SC1761 12 SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	<div>▲ N ◀ W S ▼</div>	E ▶
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	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	I-215 SB Ramps			I-215 SB Ramps			Alessandro			Alessandro			
LANES:	NL X	NT X	NR X	SL 1.5	ST X	SR 1.5	EL X	ET 3	ER 1	WL X	WT 3	WR 1	TOTAL

AM	7:00 AM	0	0	0	2	0	5	0	10	1	0	22	3	43
	7:15 AM	0	0	0	2	0	1	0	12	2	0	21	1	39
	7:30 AM	0	0	0	6	0	2	0	16	3	0	22	6	55
	7:45 AM	0	0	0	3	0	8	0	11	8	0	21	11	62
	8:00 AM	0	0	0	5	0	5	0	10	8	0	14	4	46
	8:15 AM	0	0	0	5	0	7	0	10	2	0	11	5	40
	8:30 AM	0	0	0	6	0	4	0	5	4	0	14	7	40
	8:45 AM	0	0	0	1	0	1	0	9	6	0	17	2	36
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	30	0	33	0	83	34	0	142	39	361
	APPROACH %	0%	0%	0%	48%	0%	52%	0%	71%	29%	0%	78%	22%	
	APP/DEPART	0	/	39	63	/	34	117	/	113	181	/	175	0
PM	BEGIN PEAK HR	7:30 AM												
	VOLUMES	0	0	0	19	0	22	0	47	21	0	68	26	203
	APPROACH %	0%	0%	0%	46%	0%	54%	0%	69%	31%	0%	72%	28%	
	PEAK HR FACTOR	0.000			0.854			0.895			0.734			0.819
	APP/DEPART	0	/	26	41	/	21	68	/	66	94	/	90	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	3	0	1	0	15	2	0	14	3	38
	4:15 PM	0	0	0	1	0	10	0	16	2	0	13	1	43
	4:30 PM	0	0	0	3	0	5	0	8	2	0	10	0	28
	4:45 PM	0	0	0	3	0	1	0	15	3	0	10	1	33
	5:00 PM	0	0	0	2	0	4	0	1	4	0	15	0	26
	5:15 PM	0	0	0	4	0	1	0	8	4	0	10	1	28
	5:30 PM	0	0	0	4	0	5	0	15	6	0	3	1	34
	5:45 PM	0	0	0	3	0	2	0	6	1	0	11	0	23
	VOLUMES	0	0	0	23	0	29	0	84	24	0	86	7	253
	APPROACH %	0%	0%	0%	44%	0%	56%	0%	78%	22%	0%	92%	8%	
	APP/DEPART	0	/	7	52	/	24	108	/	107	93	/	115	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	0	0	10	0	17	0	54	9	0	47	5	142
	APPROACH %	0%	0%	0%	37%	0%	63%	0%	86%	14%	0%	90%	10%	
	PEAK HR FACTOR	0.000			0.614			0.875			0.765			0.826
	APP/DEPART	0	/	5	27	/	9	63	/	64	52	/	64	0

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

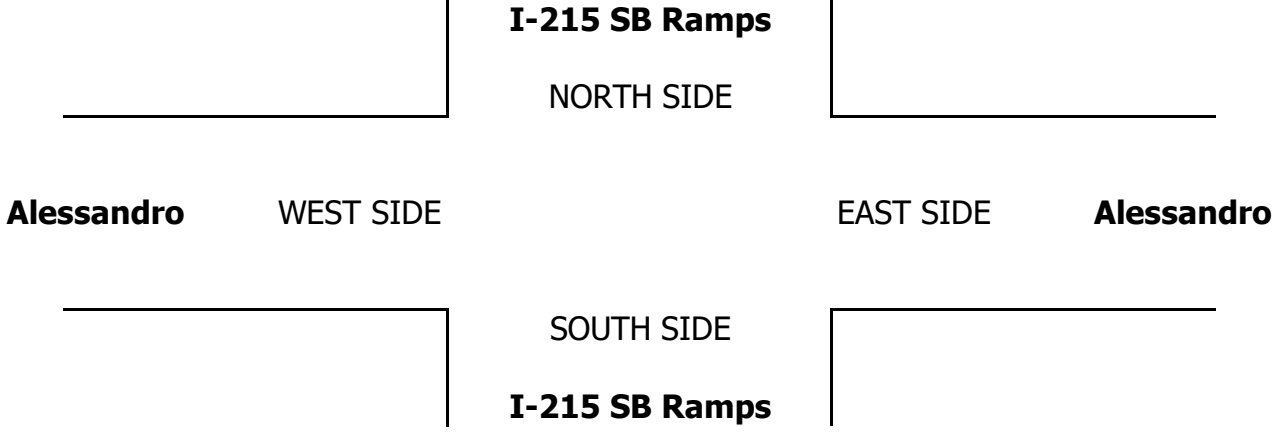
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	1	0	0
0	4	1	0
0	1	0	0
0	3	0	0
0	3	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	13	1	0

0	9	1	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	0
0	2	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	1	0	0
0	2	0	0
0	8	0	0

0	4	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:  
5/23/18  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Moreno Valley  
I-215 SB Ramps  
Alessandro

PROJECT #:  
LOCATION #:  
CONTROL:

SC1761  
12  
SIGNAL

CLASS 3:  
3-AXLE  
TRUCKS

NOTES:

AM  
PM  
MD  
OTHER  
OTHER

▲  
N  
◀ W  
S  
▼

E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	I-215 SB Ramps			I-215 SB Ramps			Alessandro			Alessandro			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	X	X	1.5	X	1.5	X	3	1	X	3	1	

AM	7:00 AM	0	0	0	0	0	1	0	0	0	3	0	5	
	7:15 AM	0	0	0	1	0	2	0	0	0	5	1	11	
	7:30 AM	0	0	0	1	0	2	0	1	0	3	1	8	
	7:45 AM	0	0	0	1	0	1	0	0	0	0	1	3	
	8:00 AM	0	0	0	1	0	1	0	2	1	0	2	7	
	8:15 AM	0	0	0	1	0	1	0	0	1	0	5	9	
	8:30 AM	0	0	0	0	0	0	0	3	1	0	1	5	
	8:45 AM	0	0	0	0	0	0	0	1	0	0	3	4	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	VOLUMES	0	0	0	5	0	8	0	9	4	0	22	4	52
	APPROACH %	0%	0%	0%	38%	0%	62%	0%	69%	31%	0%	85%	15%	
PM	APP/DEPART	0	/	4	13	/	4	13	/	14	26	/	30	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	0	0	4	0	6	0	4	2	0	10	3	29
	APPROACH %	0%	0%	0%	40%	0%	60%	0%	67%	33%	0%	77%	23%	
	PEAK HR FACTOR	0.000			0.833			0.500			0.542			0.659
	APP/DEPART	0	/	3	10	/	2	6	/	8	13	/	16	0
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	1	0	1	1	0	1	0	4
	4:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
	4:30 PM	0	0	0	0	0	1	0	0	1	0	1	0	3
	4:45 PM	0	0	0	1	0	0	0	0	1	0	1	0	3
	5:00 PM	0	0	0	1	0	0	0	1	0	0	3	0	5
	5:15 PM	0	0	0	0	0	0	0	2	1	0	0	0	3
	5:30 PM	0	0	0	0	0	0	0	1	1	0	3	0	5
	5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	VOLUMES	0	0	0	2	0	2	0	6	5	0	10	1	26
	APPROACH %	0%	0%	0%	50%	0%	50%	0%	55%	45%	0%	91%	9%	
	APP/DEPART	0	/	1	4	/	5	11	/	8	11	/	12	0
	BEGIN PEAK HR	4:45 PM												
	VOLUMES	0	0	0	2	0	0	0	4	3	0	7	0	16
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	57%	43%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.500			0.583			0.583			0.800
	APP/DEPART	0	/	0	2	/	3	7	/	6	7	/	7	0

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

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

0	1	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	1	1	0

0	0	1	0
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I-215 SB Ramps

NORTH SIDE

Alessandro

WEST SIDE

EAST SIDE

Alessandro

SOUTH SIDE

I-215 SB Ramps

3.1-110