TRAFFIC IMPACT STUDY
FOR THE PROPOSED
RIVERSIDE AVENUE STORAGE LOT
IN THE CITY OF RIALTO

Prepared by:

Kimley-Horn and Associates, Inc.
765 The City Drive, Suite 200
Orange, California 92868

December, 2020

TABLE OF CONTENTS

Page

I. INTRODUCTION 1
A. Purpose of the TIA and Study Objectives 1
B. Site Plan Location and Study Area 1
C. Development Project Identification 3
D. Development Project Description 3
E. Analysis Methodology 5
1. Intersection Analysis – HCM Methodology 5
2. Level of Service Standards and Measure of Significance 5
II. AREA CONDITIONS 8
A. Identify Study Area and Intersections 8
B. Description of Existing Roads, Traffic Controls and Intersection Geometrics 9
C. Existing Traffic Volumes 11
D. Existing Delay and Level of Service 13
E. General Plan Circulation Element 13
F. Transit Service 13
III. PROJECTED FUTURE TRAFFIC 18
A. Project Traffic 18
1. Project Trip Generation 18
2. Trip Distribution and Assignment 18
B. Existing Plus Growth (Opening Year 2019) 26
1. Ambient Growth Rate 26
2. Opening Year 2019 Existing Plus Growth 26
3. Opening Year 2019 Existing Plus Growth Plus Project 32
C. Cumulative Conditions (Existing Plus Growth Plus Cumulative Projects) 35
1. Cumulative Projects 35
2. Background Growth Rate 35
3. Cumulative Projects Trip Generation 35
4. Cumulative Projects Trip Distribution and Assignment 35
5. Opening Year 2019 Cumulative Without Project Conditions 39
6. Opening Year 2019 Cumulative Plus Project Conditions 43
IV. MITIGATION MEASURES 48
A. Intersection Improvements 48
B. Roadway Improvements 50
C. Significant Impacts – Other Improvements 50
V. CEQA VEHICLE MILES TRAVELED (VMT) ASSESSMENT 53
A. Transit Priority Area (TPA) Screening 53
B. Low VMT Area Screening 53
C. Project Type Screening 54
VI. FINDINGS AND RECOMMENDATIONS 55
A. Improvements 55
B. Traffic Signal Warrant Analysis 55
C. Site Circulation 56
D. Safety and Operational Improvements 56

E. Fair Share Calculations....56
F. Specific Plan Signalization....56
G. General Plan Conformance....56
H. Regional Funding Mechanisms....56

APPENDICES

APPENDIX A: APPROVED SCOPING AGREEMENT
APPENDIX B: TRAFFIC COUNT DATA SHEETS
APPENDIX C: PCE WORKSHEETS
APPENDIX D: INTERSECTION ANALYSIS WORKSHEETS
APPENDIX E: CUMULATIVE PROJECTS INFORMATION
APPENDIX F: SBTAM VMT SCREEN TOOL RESULTS

LIST OF FIGURES

Page
Figure 1 – Vicinity Map 2
Figure 2 – Project Site Plan 4
Figure 3 – Existing Lane Configuration and Traffic Control 10
Figure 4 – Existing Daily and Peak Hour Traffic Volumes 12
Figure 5 – General Plan Street Classifications 16
Figure 6 – General Plan Truck Routes 17
Figure 7A – Project Trip Distribution and Assignment – Scenario A 21
Figure 7B – Project Trip Distribution and Assignment – Scenario B 22
Figure 7C – Side-by-Side Comparison of Project Trip Assignment 23
Figure 8A – Project-Related Traffic Volumes – Scenario A 24
Figure 8B – Project-Related Traffic Volumes 25
Figure 9 – Opening Year 2019 – Existing Plus Growth Traffic Volumes 27
Figure 10A – Opening Year 2019 – Existing Plus Growth Plus Project Traffic Volumes – Scenario A 28
Figure 10B – Opening Year 2019 – Existing Plus Growth Plus Project Traffic Volumes – Scenario B 29
Figure 11 – Location of Cumulative Projects 37
Figure 12 – Cumulative Projects Traffic Volumes 38
Figure 13 – Opening Year 2019 Cumulative Without Project Traffic Volumes 40
Figure 14A – Opening Year 2019 Cumulative Plus Project Traffic Volumes 44
Figure 14B – Opening Year 2019 Cumulative Plus Project Traffic Volumes 45

LIST OF TABLES

Page
Table 1 – Summary of Intersection Operation – Existing Conditions 14
Table 2 – Summary of Roadway Analysis – Existing Conditions 15
Table 3 – Summary of Project Trip Generation 19
Table 4 – Summary of Intersection Operation – Opening Year 2019 – Existing Plus Growth 30
Table 5 – Summary of Roadway Analysis – Opening Year 2019 – Existing Plus Growth 31
Table 6 – Summary of Intersection Operation – Opening Year 2019 – Existing + Growth + Project 33
Table 7 – Summary of Roadway Analysis – Opening Year 2019 – Existing + Growth + Project 34
Table 8 – Summary of Cumulative Projects 36
Table 9 – Summary of Intersection Operation – Opening Year 2019 Cumulative Without Project 41
Table 10 – Summary of Roadway Analysis – Opening Year 2019 Cumulative Without Project 42
Table 11 – Summary of Intersection Operation – Opening Year 2019 Cumulative Plus Project 46
Table 12 – Summary of Roadway Analysis – Opening Year 2019 Cumulative Plus Project 47
Table 13 – Summary of Intersection Operation With Proposed Mitigation Measures 49
Table 14 – Summary of Roadway Analysis With Proposed Mitigation Measures 51
Table 15 – Traffic Impact Mitigation Fair Share Costs 52

TRAFFIC IMPACT STUDY
FOR THE PROPOSED
RIVERSIDE AVENUE STORAGE LOT
IN THE CITY OF RIALTO

I. INTRODUCTION

A. Purpose of the TIA and Study Objectives

This Traffic Impact Study has been prepared to address the traffic-related impacts of the proposed Riverside Avenue Storage Lot project in the City of Rialto.

This traffic study has been conducted in accordance with the traffic study requirements of the City of Rialto, based on the City's *Traffic Impact Analysis Report Guidelines and Requirements* (December 2013), and in accordance with the San Bernardino Association of Governments (SANBAG) Congestion Management Program (CMP) requirements.

This report includes a description of existing traffic conditions in the surrounding area, estimated project trip generation and distribution, future traffic growth, and an assessment of project-related impacts on the roadway system. Where necessary, circulation system improvements have been identified to achieve acceptable intersection operation in the vicinity of the project.

The project will be evaluated for the following conditions:

- Existing Conditions
- Opening Year 2019 – Existing Plus Growth
- Opening Year 2019 – Existing Plus Growth Plus Project
- Opening Year 2019 Cumulative – Without and With Project

B. Site Plan Location and Study Area

The project is located in the southern area of the City of Rialto, and is shown in its regional setting on a vicinity map on **Figure 1.** The project site is located on the west side of Riverside Avenue, approximately 1,450 feet south of Santa Ana Avenue, and approximately 280 feet north of Industrial Drive.

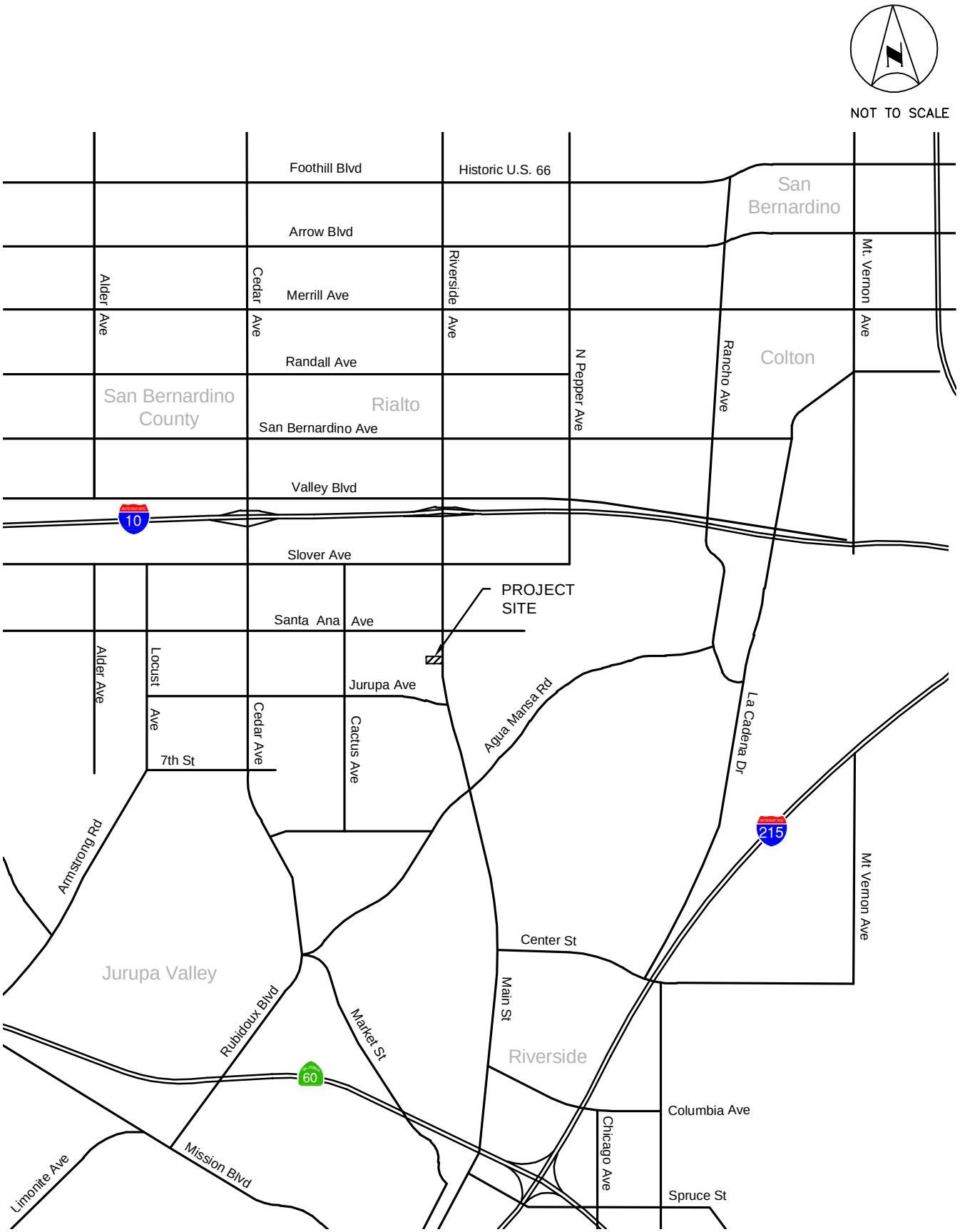


FIGURE 1
VICINITY MAP

C. Development Project Identification

Pending

D. Development Project Description

The Riverside Avenue Storage Lot Project consists of an approximately 3.3-acre overflow truck trailer parking facility. The project site is located within the Agua Mansa Specific Plan, which is generally bounded by Interstate 10 to the north, Market Street to the south, Rancho Avenue and the Santa Ana River to the east, and Cedar Avenue and residential uses to the west. The Agua Mansa Specific Plan area covers 4,285 acres, with 12 separate Planning Areas, and is approved for a variety of land uses, including residential, agricultural, and industrial uses.

The site is located within Sub-Area 2 of the Agua Mansa Specific Plan. The City's General Plan land use designation for the Project site is the Heavy Industrial (H-IND) zone of the Agua Mansa Industrial Corridor Specific Plan (Specific Plan).

A copy of the project site plan is provided on **Figure 2**. The project will include a trailer yard with space for approximately 101 parked trailers, each 53 feet in length. The site would be used as an overflow truck trailer parking and storage facility and would not include the construction of any buildings. The storage facility would not have any on-site employees, and would be available for use 24 hours a day, seven days a week.

The site is currently being used in the manner described above on an informal basis. Truck movements to and from the site are generally oriented either to and from the I-10 freeway (approximately 1 mile to the north), or to and from an existing distribution facility located directly across the street on the east side of Riverside Avenue. Vehicular access for the project site currently consists of one full-movement, unsignalized driveway on Riverside Avenue. This driveway is slightly offset by approximately 130 feet from the driveway for the distribution facility across the street.

The anticipated opening year for the project is Year 2019. The project will be developed in a single project phase. The project site is located approximately 1-mile from the City of Colton and ¾-mile from the County of San Bernardino.

NOT TO SCALE

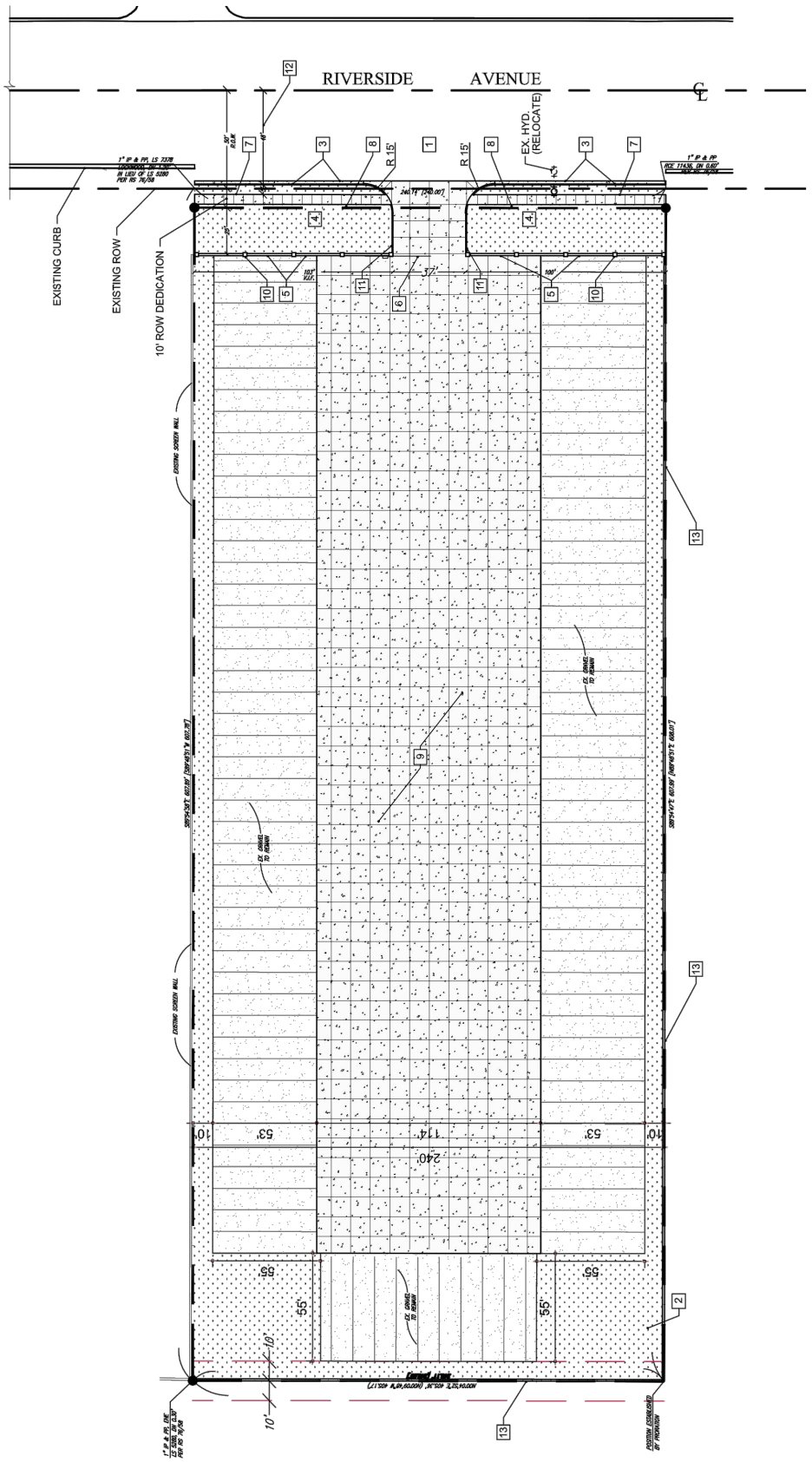


FIGURE 2
PROJECT SITE PLAN

E. Analysis Methodology

1. Intersection Analysis – HCM Methodology

Peak hour intersection operations at signalized and unsignalized intersections were evaluated using the methods prescribed in the Highway Capacity Manual (HCM) 2010, consistent with the requirements of the City of Rialto and the San Bernardino County CMP.

The City of Rialto guidelines require analysis of traffic operations to be based on the vehicular delay methodologies of the HCM (Transportation Research Board Special Report 209). The City does not designate a specific software to be used in the analysis, but allows the use of one of several software packages that are consistent with the HCM methodologies. The Vistro software program has been used for the intersection analysis, using the specified input parameters outlined in the City's *Traffic Impact Analysis Report Guidelines and Requirements*.

Per the HCM Methodology, Level of Service (LOS) for signalized intersections is defined in terms of average vehicle delay. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay. The charts on the following page provide a description of the operating characteristics of each Level of Service, which are defined in terms of average seconds of delay for signalized and unsignalized intersections.

2. Level of Service Standards and Measure of Significance

The City of Rialto, per the City of Rialto 2010 General Plan Update, establishes minimum Level of Service standards. Per Policy 4-1.20 of the General Plan document, the City requires that signalized intersections operate at LOS D or better during the morning and evening peak hours. The one exception is Riverside Avenue from the Metrolink tracks to the City's southern border, for which the Level of Service standard is LOS E. The City's Traffic Study Guidelines require new development to mitigate impacts that cause the Level of Service to fall below an acceptable LOS, or that cause 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 second

The City's traffic study guidelines require unsignalized intersections to operate with no vehicular movement having an average delay exceeding 120 seconds during the morning and evening peak hours.

LEVEL OF SERVICE DEFINITIONS	
Level of Service	**Description**
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted but not objectionably so.
D	This level encompasses a zone of increasing restriction, approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS		
Level of Service	**Signalized Intersection (Average delay per vehicle, in seconds) [1]**	**Unsignalized Intersections (Average delay per vehicle, in seconds) [2]**
A	≤ 10	0 – 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

[1] Source: Highway Capacity Manual (HCM 2010), Exhibit 18-4.
[2] Source: Highway Capacity Manual (HCM 2010), Exhibits 19-1 and 20-2.

Roadway Segment Analysis

The roadway segment analysis will address the project's impact on daily operating conditions on roadway segments within the project vicinity. Roadway segments are evaluated by comparing the traffic volume on a roadway segment to the daily capacity of that segment, to determine the volume-to-capacity (v/c) ratio. Daily capacity is based on the roadway classification, as shown in the following chart:

CITY OF RIALTO ROADWAY CAPACITY (1)				
Roadway Classification	**No. of Lanes**	**Two-Way Traffic Volume (ADT)(2)**		
		Service Level C	**Service Level D**	**Service Level E**
Local	2	2,500-2,799	2,800-3,099	3,100 +
Collector (60' or 64')	2	9,900-11,199	11,200-12,499	12,500 +
Industrial (45')	2	9,900-11,199	11,200-12,499	12,500 +
Arterial(3)	2	14,400-16,199	16,200-17,999	18,000 +
Secondary Highway	4	16,900-19,399	19,400-21,999	22,000 +
Modified Arterial (100')	4	26,200-29,599	29,600-32,999	33,000 +
Arterial (120')	6	38,700-44,099	44,100-49,499	49,500 +

Notes:
(1) All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only
(2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables.
(3) Two-lane roads designated as future arterials that conform to arterial design standards for vertical and horizontal alignments are analyzed as arterials.

Source: City of Rialto *Traffic Impact Analysis Report Guidelines and Requirements* (2013)

II. AREA CONDITIONS

A. Identify Study Area and Intersections

This traffic study includes evaluation of the following study intersections:

Existing Intersections:

1. Riverside Avenue at I-10 WB Ramps
2. Riverside Avenue at I-10 EB Ramps
3. Riverside Avenue at Slover Avenue
4. Riverside Avenue at Santa Ana Avenue
5. Riverside Avenue at Project Driveway
6. Riverside Avenue at Industrial Drive
7. Riverside Avenue at Jurupa Avenue

In addition, the following roadway segment was analyzed:

1. Riverside Avenue: Santa Ana Avenue to Project Driveway

The study locations were established in conjunction with City staff through the Scoping Agreement process (Exhibit B of the City of Rialto *Traffic Impact Analysis Report Guidelines and Requirements*). A copy of the approved Scoping Agreement is provided in ***Appendix A***.

B. Description of Existing Roads, Traffic Controls and Intersection Geometrics

Regional access to the site is provided primarily by the Interstate 10 (I-10) Freeway, located approximately one mile to the north of the project site. In addition, the Interstate 215 (I-215) Freeway is located approximately 4 miles to the east of the project site and State Route 60 (SR-60) is located approximately 4 miles to the south of the project site.

Existing lane configurations and intersection controls at the study intersections are shown on **Figure 3**. The following provides a description of the roadways surrounding the project site.

Riverside Avenue – Riverside Avenue is currently a four- to six-lane north-south roadway divided by a painted median through the study area. Riverside Avenue forms the eastern boundary of the project site. Riverside Avenue is designated as a Modified Major Arterial II between San Bernardino Avenue and Slover Avenue, and a Modified Arterial I between Slover Avenue and the southern City boundary in the City of Rialto Circulation Element of the General Plan, adopted December, 2010. The ultimate configuration will also accommodate a bike lane on each side of the roadway. Riverside Avenue is a designated truck route for its entire length within the Agua Mansa Specific Plan. Riverside Avenue provides direct access to the I-10 Freeway interchange to the north of the project site. There will be one project driveway on Riverside Avenue.

Willow Avenue – Willow Avenue is a two-lane north-south undivided roadway that extends from Slover Avenue to the north and Jurupa Avenue to the south. Willow Avenue is designated as a Collector Street in the Circulation Element.

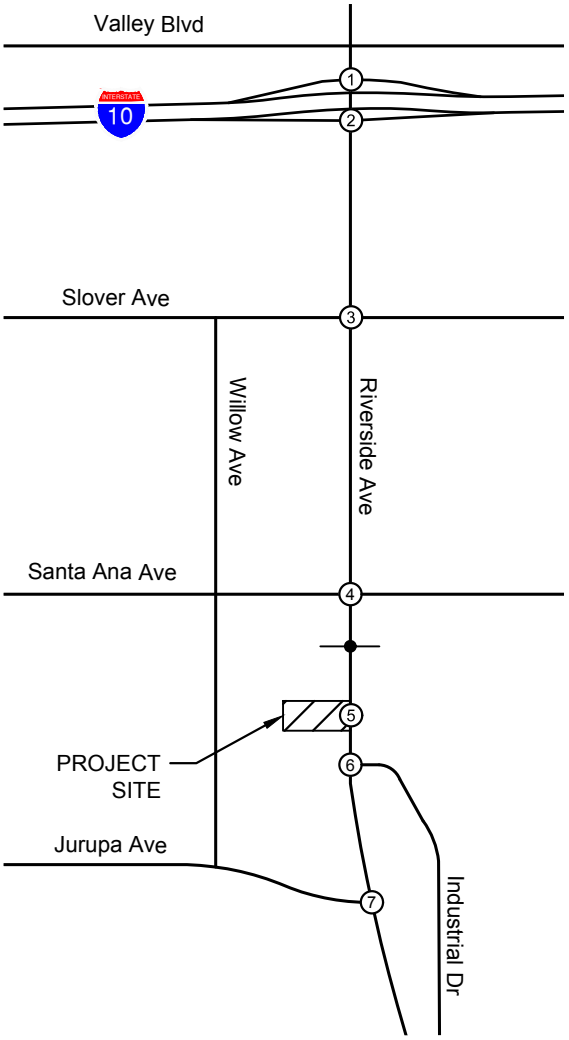
Slover Avenue – Slover Avenue is a two- to four-lane east-west roadway, and currently provides two travel lanes in each direction west of Riverside Avenue and one travel lane in each direction east of Riverside Avenue. Slover Avenue is designated as a Major Arterial in the Circulation Element. Slover Avenue is a designated truck route between Cedar Avenue and Riverside Avenue.

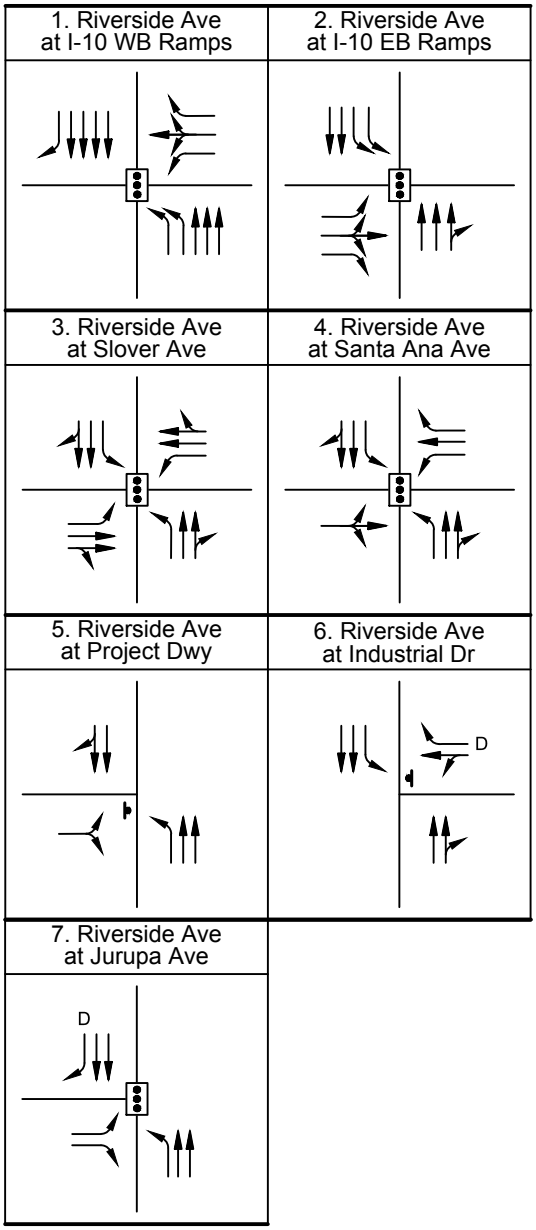
Santa Ana Avenue – Santa Ana Avenue is a two-lane east-west roadway. Santa Ana Avenue is designated as a Secondary Arterial west of Riverside Avenue and a Collector Street east of Riverside Avenue in the Circulation Element. Santa Ana Avenue is a designated truck route for its entire length within the City.

Industrial Drive – Industrial Drive is a two-lane loop roadway that begins and ends at different points along Riverside Avenue, north and south of Jurupa Avenue. The south end of Industrial Drive changes to Resource Drive at its intersection with Riverside Avenue.

Jurupa Avenue – Jurupa Avenue is a two- to four-lane east-west undivided roadway, and currently provides one lane in each direction west of Willow Avenue and two lanes in each direction east of Willow Avenue. Jurupa Avenue is designated as a Secondary Arterial in the Circulation Element.

NOT TO SCALE





LEGEND:

- = Project Site
- = Study Intersection
- = Study Roadway Segment
- = Turn or Through Lane
- = Signal
- = Stop Sign
- D = Defacto Right Turn

FIGURE 3
EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

C. Existing Traffic Volumes

Existing Peak Hour Turning Movement Volumes

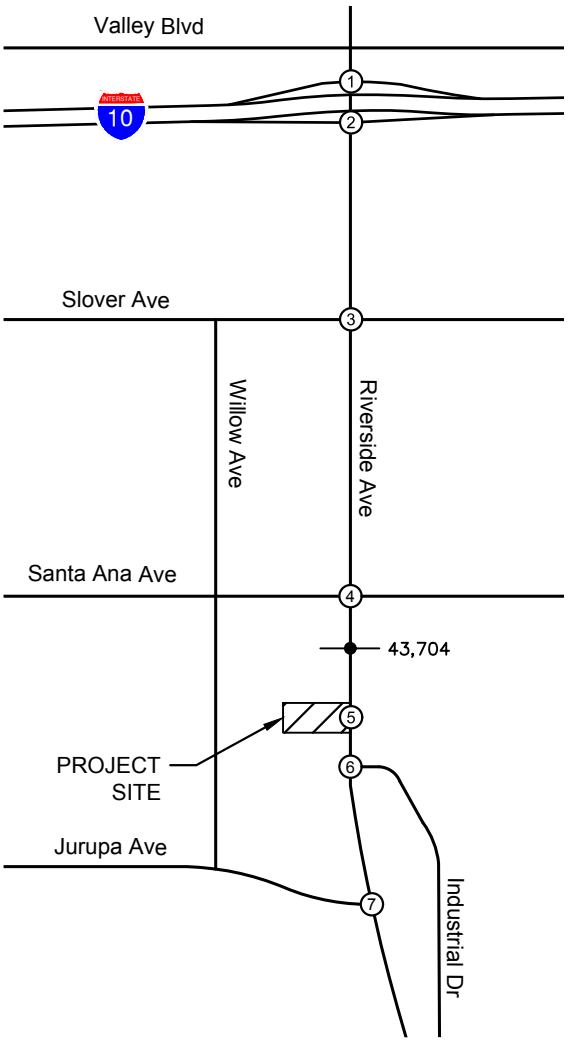
Existing morning and evening peak hour turning movement volumes were collected at the study intersections in April, 2018. Copies of the traffic count data worksheets are provided in ***Appendix B***. The morning and evening peak hour turning volumes shown at the project driveway (intersection #5) reflect the traffic that is currently entering and exiting the site during the peak hours.

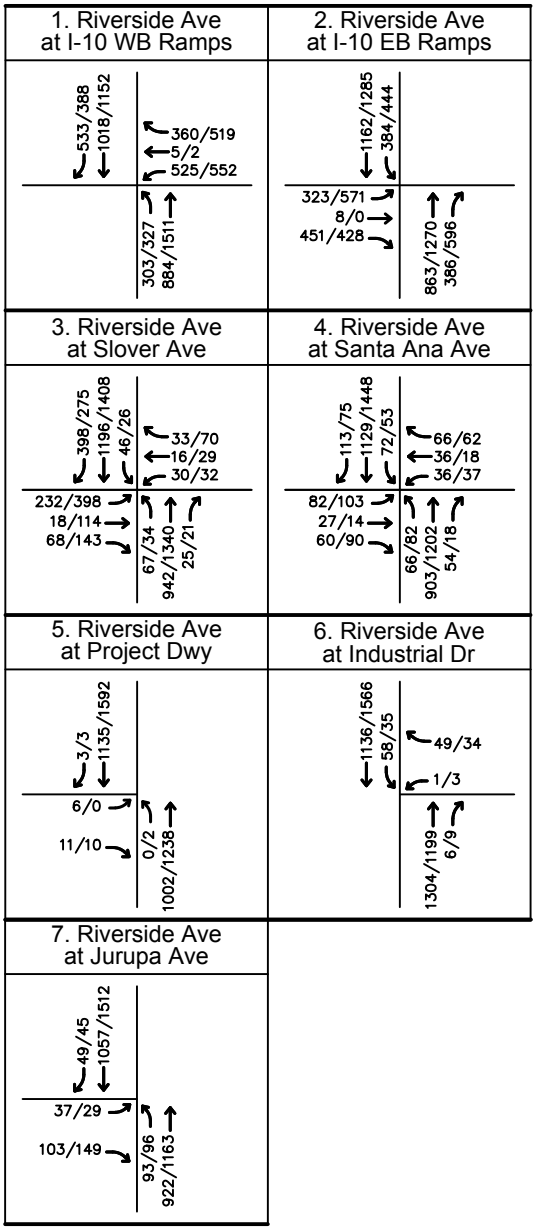
Intersection count data included vehicle classifications for passenger vehicles and trucks. Vehicle classifications are necessary to compute Passenger Car Equivalent (PCE) volumes, which are used in the traffic analysis to address the impacts of truck traffic on intersection and roadway operation.

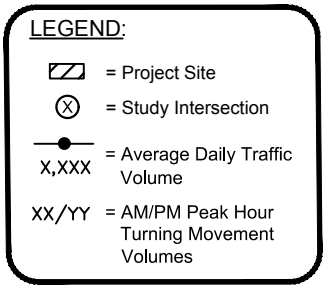
The PCE volumes were developed by applying a PCE factor of 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with 4 or more axles. These factors are consistent with the City of Rialto's *Traffic Impact Analysis Guidelines and Requirements*. PCE volume worksheets are provided in ***Appendix C***. Existing morning and evening peak hour volumes with the PCE factors applied are presented on **Figure 4**.

Existing Roadway Daily Volumes

Existing daily roadway volumes were collected in April, 2018 with vehicle classification. The PCE factors were applied to the truck volumes, and the resulting existing daily traffic volumes with PCE are shown on Figure 4 (previously referenced). Daily traffic count data collection worksheets are provided in ***Appendix B***.







NOT TO SCALE

FIGURE 4
EXISTING DAILY AND PEAK HOUR TRAFFIC VOLUMES

D. Existing Delay and Level of Service

Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for the morning and evening peak hours using the analysis procedures and assumptions described previously in this report. The results of the analysis are shown on **Table 1**. Copies of intersection analysis worksheets are provided in ***Appendix D***.

Review of this table indicates that the following study intersections are currently operating at an unacceptable Level of Service during both peak hours:

- #5 – Riverside Avenue at Project Driveway: AM – LOS F, PM – LOS F
- #6 – Riverside Avenue at Industrial Drive: AM – LOS F, PM – LOS F

The Level of Service for an unsignalized intersection is reported based on the single approach movement with the highest delay, which in this case, would be the eastbound approach for intersection #5 (vehicles leaving the site) and the westbound approach for intersection #6. The side street traffic at both intersections experience delay during the peak hours while waiting for an acceptable gap in traffic on Riverside Avenue. While the side street approach operates at a deficient Level of Service based on the highest delay approach, the overall intersection delay would be acceptable. Any queuing that occurs on the side street is contained on the minor intersection approach, and does not impact the progression of traffic on the main arterial.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Existing Conditions are shown on **Table 2**. Review of this table indicates that the study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway is currently carrying traffic volumes in excess of its daily capacity with LOS F operations.

E. General Plan Circulation Element

The General Plan Circulation Element provides street classifications near the project vicinity. A copy of the General Plan Street Classifications is provided on **Figure 5**. Designated truck routes in the City of Rialto General Plan are shown on **Figure 6**.

F. Transit Service

Bus routes in the City of Rialto are provided via the OmniTrans transit lines, which serve several San Bernardino cities in the area. The nearest bus stops in the project vicinity are located at the intersections of Riverside Avenue at Valley Boulevard and Spruce Avenue at Santa Ana Avenue. A description of the bus routes serving the project area is provided below.

TABLE 1
SUMMARY OF INTERSECTION OPERATION
EXISTING CONDITIONS

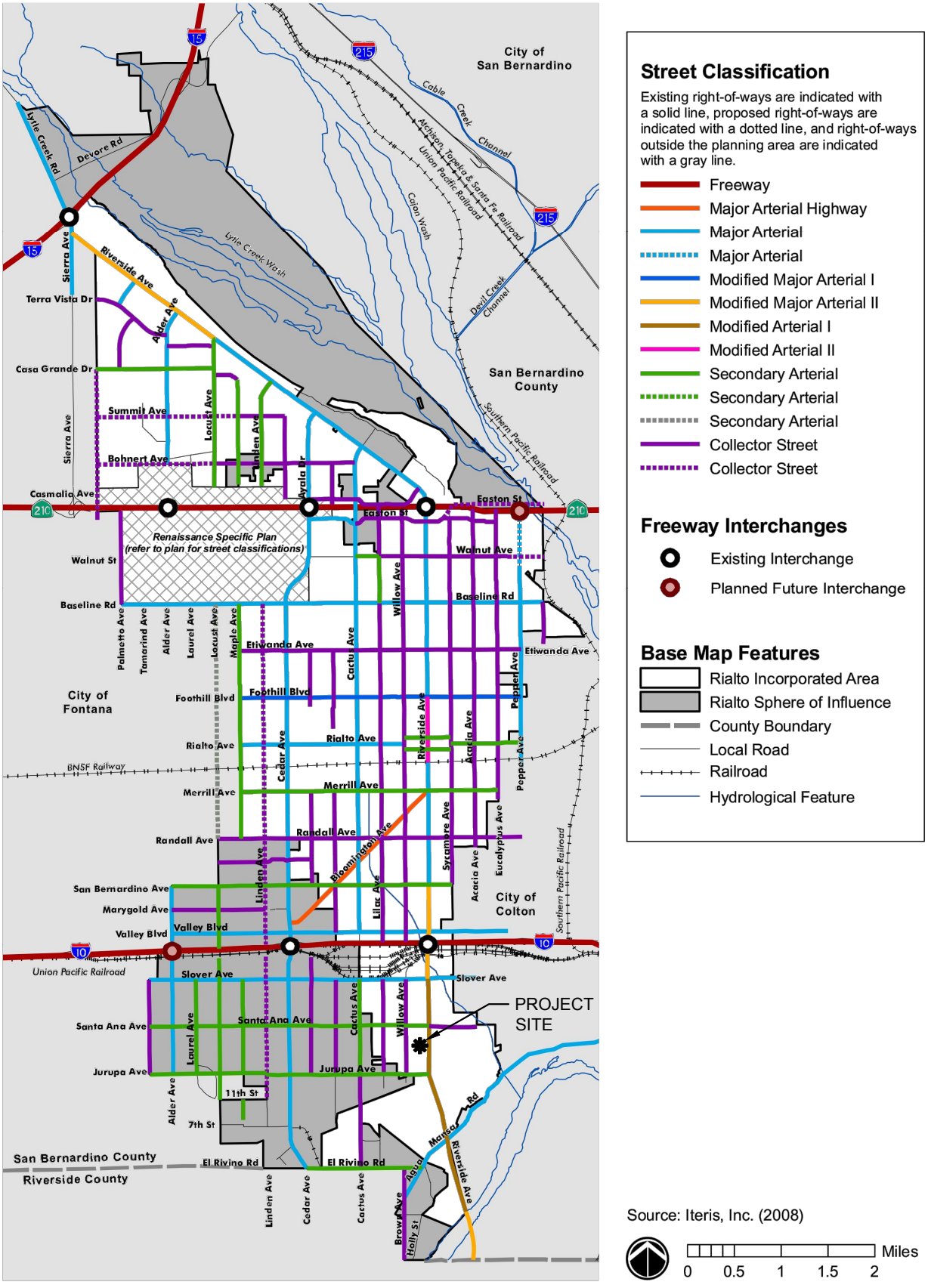
Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	20.5	C	20.4	C
2	Riverside Avenue at I-10 EB Ramps	S	21.1	C	25.3	C
3	Riverside Avenue at Slover Avenue	S	22.1	C	40.6	D
4	Riverside Avenue at Santa Ana Avenue	S	18.0	B	20.2	C
5	Riverside Ave at Project Driveway	U	84.0	F	231.3	F
6	Riverside Avenue at Industrial Drive	U	96.3	F	119.5	F
7	Riverside Avenue at Jurupa Avenue	S	8.5	A	10.6	B

Notes:
- Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
- Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the highest delay movement.
- S = Signalized
- U = Unsignalized

TABLE 2
SUMMARY OF ROADWAY ANALYSIS
EXISTING CONDITIONS

Roadway	Segment	Roadway Classification	Daily Capacity [1]	Existing ADT w/ PCE	LOS
Riverside Avenue	Santa Ana Avenue to Project Driveway	Modified Arterial I	36,399	43,704	F

Notes: PCE = Passenger Car Equivalent
ADT = Average Daily Traffic
LOS = Level of Service
Bold and shaded values indicate roadway segments operating at LOS E or F per City standards.
[1] Daily capacity is based on the upper limit of LOS E for Riverside Avenue.



Street Classification

Existing right-of-ways are indicated with a solid line, proposed right-of-ways are indicated with a dotted line, and right-of-ways outside the planning area are indicated with a gray line.

- Freeway
- Major Arterial Highway
- Major Arterial
- Major Arterial
- Modified Major Arterial I
- Modified Major Arterial II
- Modified Arterial I
- Modified Arterial II
- Secondary Arterial
- Secondary Arterial
- Secondary Arterial
- Collector Street
- Collector Street

Freeway Interchanges

- Existing Interchange
- Planned Future Interchange

Base Map Features

- Rialto Incorporated Area
- Rialto Sphere of Influence
- County Boundary
- Local Road
- Railroad
- Hydrological Feature

FIGURE 7
GENERAL PLAN
STREET CLASSIFICATIONS

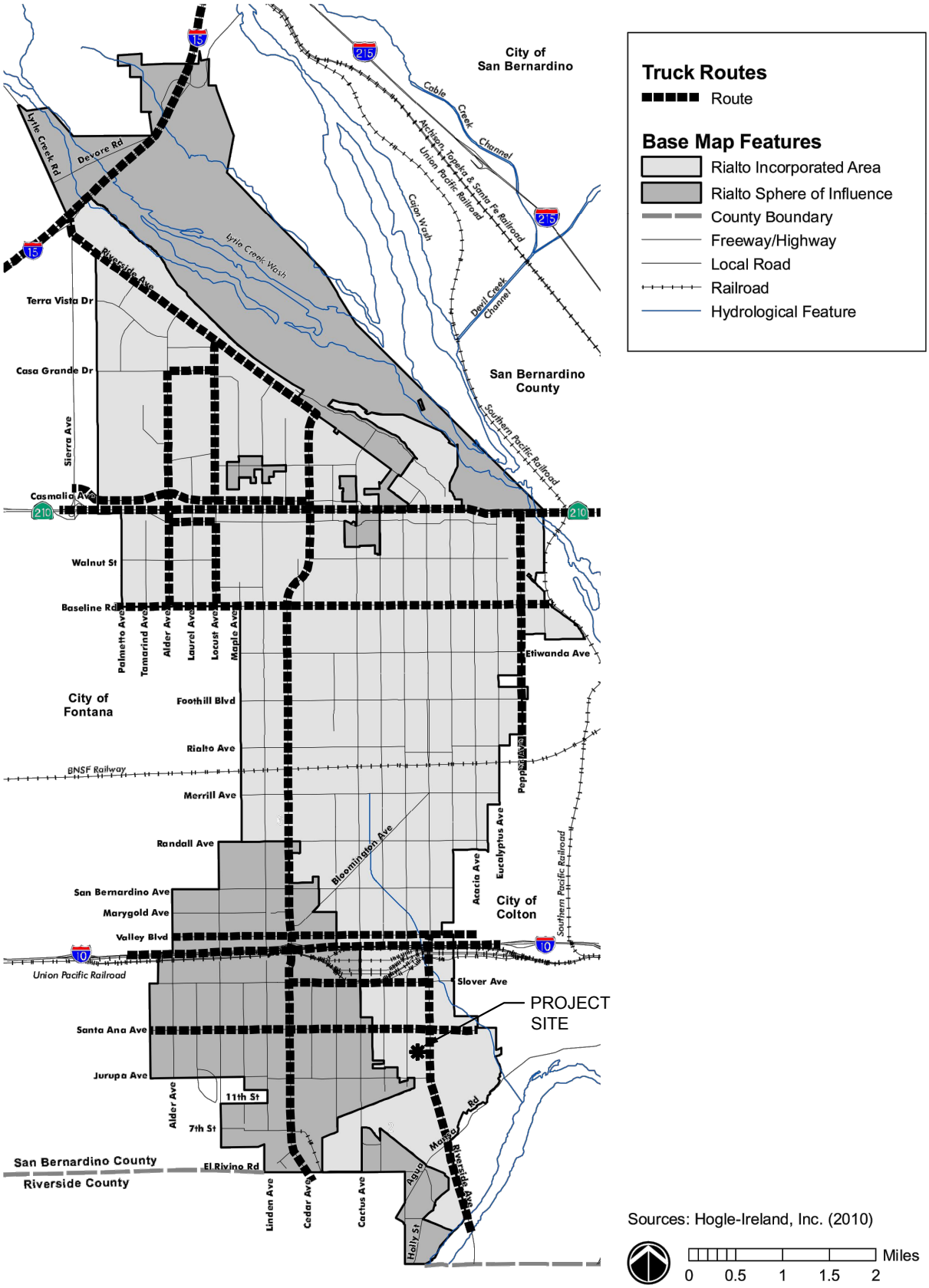


FIGURE 6
GENERAL PLAN
TRUCK ROUTES

OmniTrans Route 22 operates between the City of Rialto and the City of Colton via Riverside Avenue. Route 22 operates on weekdays from 5:00 AM to 10:23 PM with approximately 30-minute headways (the time between bus arrivals), on Saturdays from 7:35 AM to 6:59 PM with approximately 1-hour headways, and on Sundays from 6:35 AM to 7:35 PM with approximately 1-hour headways.

OmniTrans Route 29 operates between the City of Fontana and the Bloomington area, traveling along Spruce Avenue, approximately one mile from the project site. Route 29 operates on weekdays from 6:45 AM to 6:35 PM with approximately 1-hour headways and on Saturdays from 7:45 AM to 6:35 PM with approximately 1-hour headways.

III. PROJECTED FUTURE TRAFFIC

A. Project Traffic

1. Project Trip Generation

Trip generation estimates for the Riverside Avenue Storage Lot project are based on information provided by the Applicant regarding their planned operations, as agreed upon by City staff. Trip generation estimates for the project are summarized on **Table 3**. To account for a heavy amount of truck traffic on the project site, a passenger car equivalent (PCE) factor of 3.0 was applied to all vehicle trips. After applying a PCE factor of 3.0, the project is estimated to generate 850 PCE trips on a daily basis, with 78 PCE trips in the morning peak hour, and 67 PCE trips in the evening peak hour.

2. Trip Distribution and Assignment

Trip distribution assumptions for the project were developed considering the planned operations for the storage lot, as described above. General operation of the project site would consist of 50% of the trucks coming to and from the I-10 freeway, and 50% to and from the distribution facility across Riverside Avenue. The distribution facility has two entrance points – one full-movement unsignalized driveway on Riverside Avenue, offset from the trailer storage lot driveway by approximately 130 feet; and one full-movement unsignalized driveway on Industrial Drive, which is an unsignalized intersection on Riverside Avenue, approximately 275 feet south of the trailer storage lot driveway.

TABLE 3
SUMMARY OF PROJECT TRIP GENERATION
RIVERSIDE AVENUE STORAGE LOT

Land Use	Quantity	Unit	Trip Generation Estimates[1]						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trailer Storage Lot	3.3	Acres	850	32	46	78	30	37	67
Total Project Trips			850	32	46	78	30	37	67

[1] Source: Scoping Agreement for Traffic Impact Analysis (dated: February, 2017); PCE factor included in trips.

Trucks entering and exiting the Project driveway currently do so by making either a right turn or a left turn to or from Riverside Avenue, depending on the vehicle's origin or destination. Current trip distribution and assignment patterns are shown on **Figure 7A**.

There is a possibility that Riverside Avenue may be modified in the future to include a raised median on Riverside Avenue along the project frontage. The raised median would restrict left turns in and out of the project site, as well as in and out of the driveway for the distribution facility across the street. Since the timing of future modifications to Riverside Avenue are uncertain, the "Plus Project" scenarios will also be analyzed with a modified project assignment, as shown on **Figure 7B**. The traffic impact study will analyze "Plus Project" scenarios based on two scenarios:

- Scenario A – Existing full-movement operations (No raised median on Riverside Avenue)
- Scenario B – Right-in-right-out only operations (With a raised median on Riverside Aveneue)

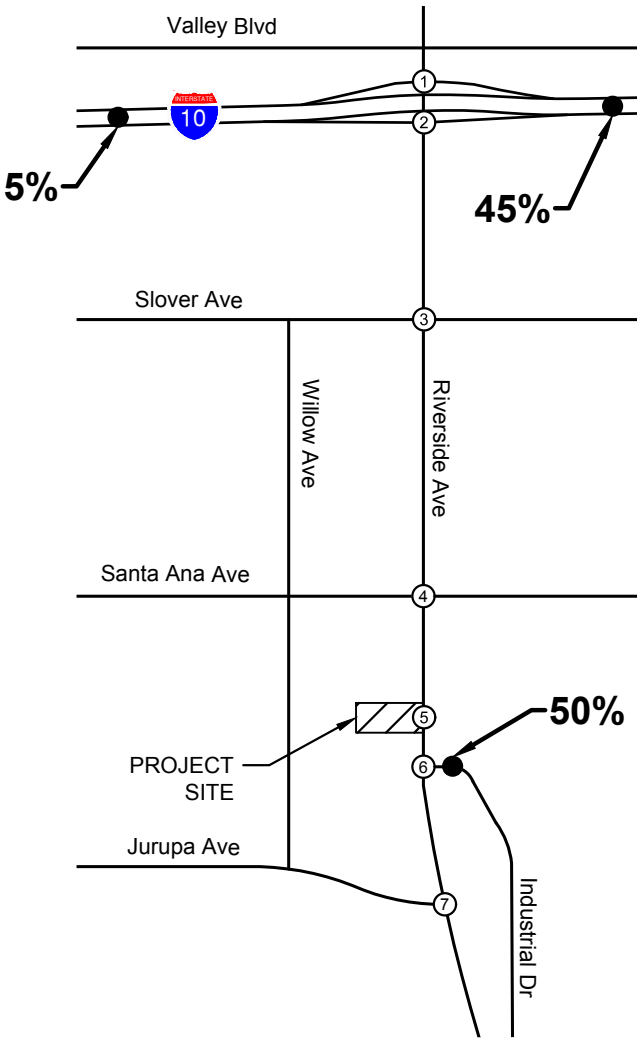
A side-by-side comparison project trip assignment with current truck movements and with left-turn restrictions is shown on **Figure 7C**. As review of Figure 7C shows, with left-turn restrictions, the modified trip assignment would result in some out-of-direction travel for the trucks to approach or depart the site by right-turn-only movements. In particular:

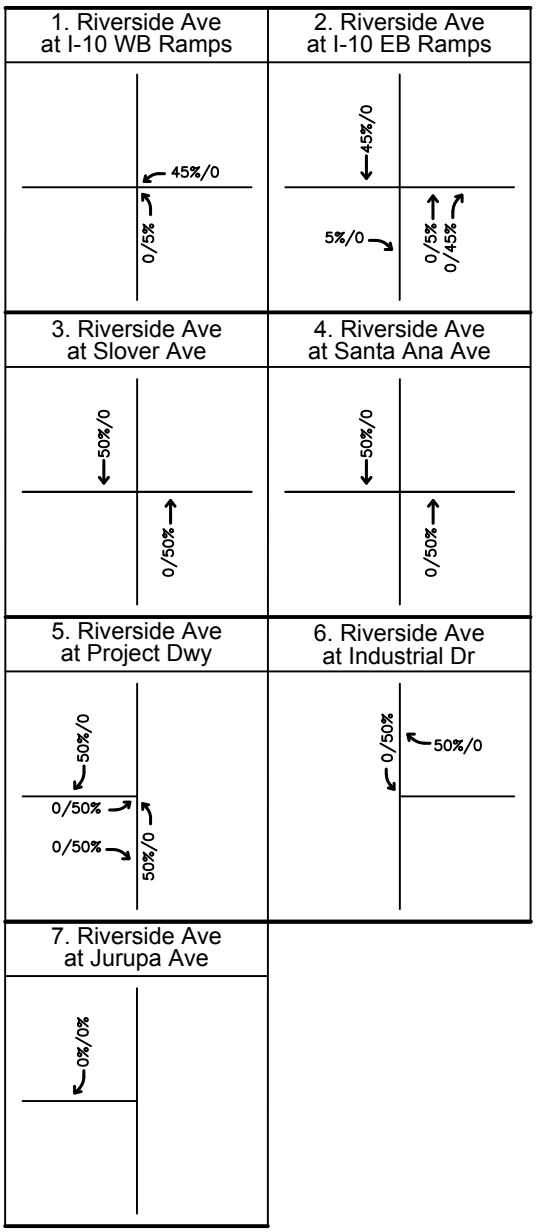
- Trucks departing the site destined for the I-10 Freeway would no longer be able to turn left onto Riverside Avenue. These vehicles would need to turn right out of the site, turn right onto Jurupa Avenue, head north on Willow Avenue, head east on Santa Ana Avenue, and then turn left onto Riverside Avenue to the I-10 Freeway.

- Vehicles approaching the site from the distribution facility would need to turn right from Industrial Drive onto northbound Riverside Avenue, turn right onto Santa Ana Avenue, turn around in the Crown property located on 249 E. Santa Ana Avenue, head back west on Santa Ana Avenue towards Riverside Avenue, head south on Riverside Avenue, and then turn right to access the site.

Trip distribution percentages for each scenario at each study intersection were applied to the project trip generation to determine the project trips through each intersection. The resulting project-related peak hour trips at the study intersections are shown on **Figure 8A** for Scenario A and **Figure 8B** for Scenario B**.**

NOT TO SCALE





LEGEND:

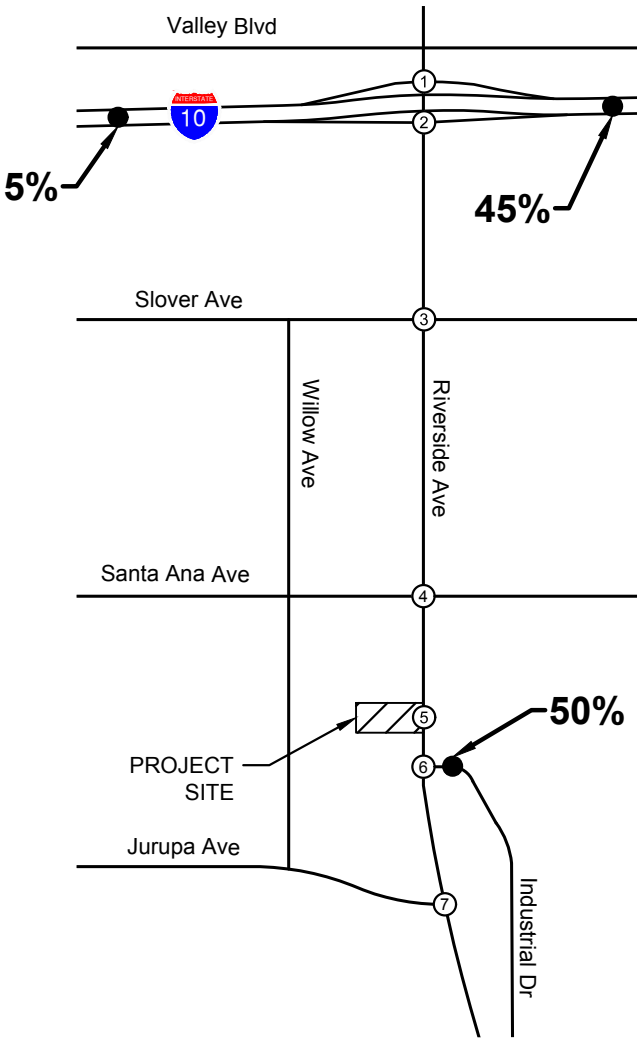
= Project Site

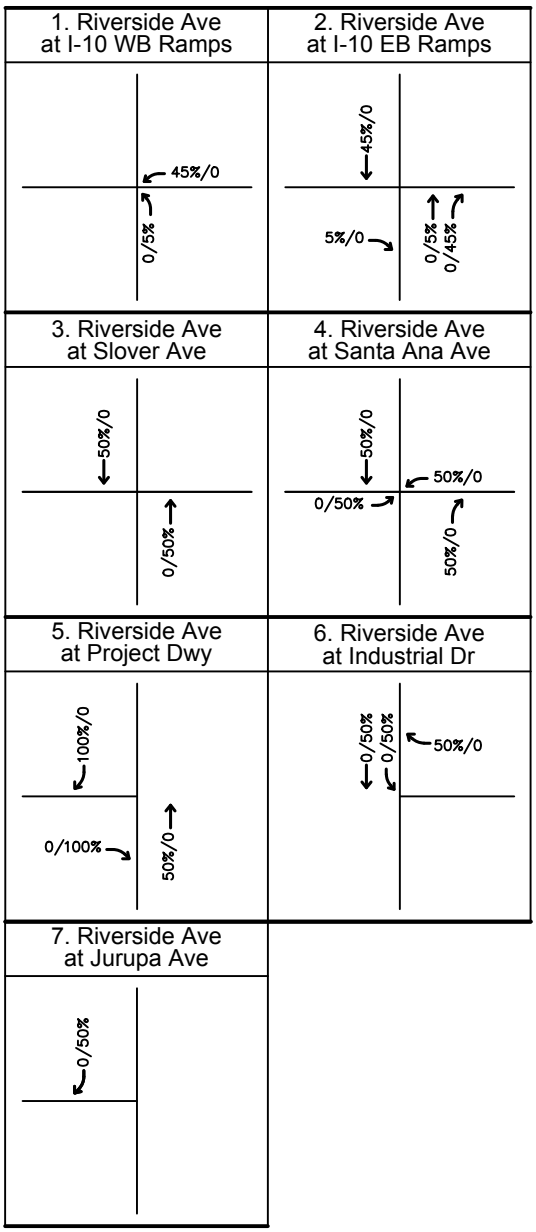
= Study Intersection

XX%/YY% = In/Out Trip Distribution Percentage

FIGURE 7A
PROJECT TRIP DISTRIBUTION AND ASSIGNMENT
SCENARIO A

NOT TO SCALE





LEGEND:

= Project Site

= Study Intersection

XX%/YY% = In/Out Trip Distribution Percentage

FIGURE 7B
PROJECT TRIP DISTRIBUTION AND ASSIGNMENT
SCENARIO B

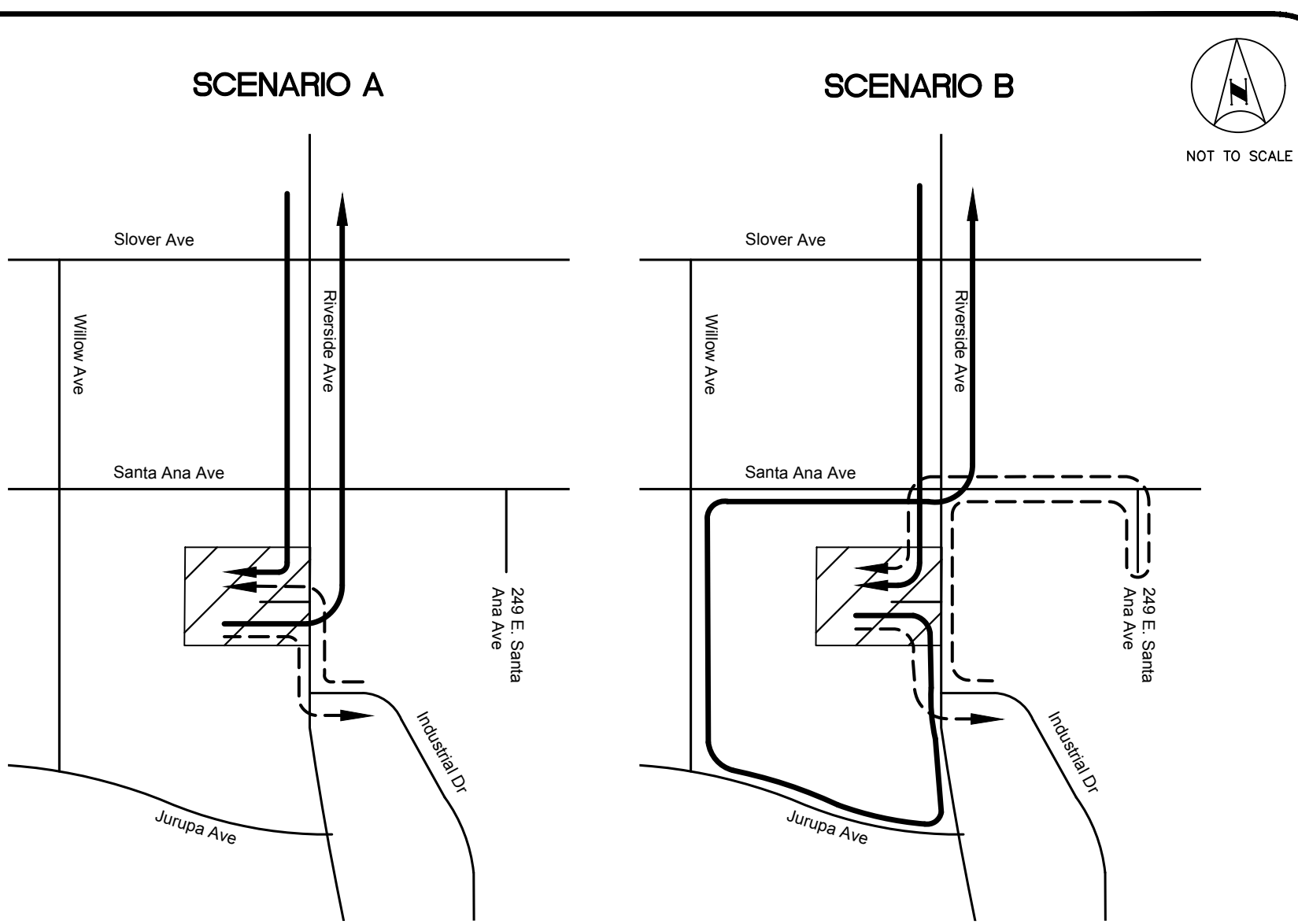
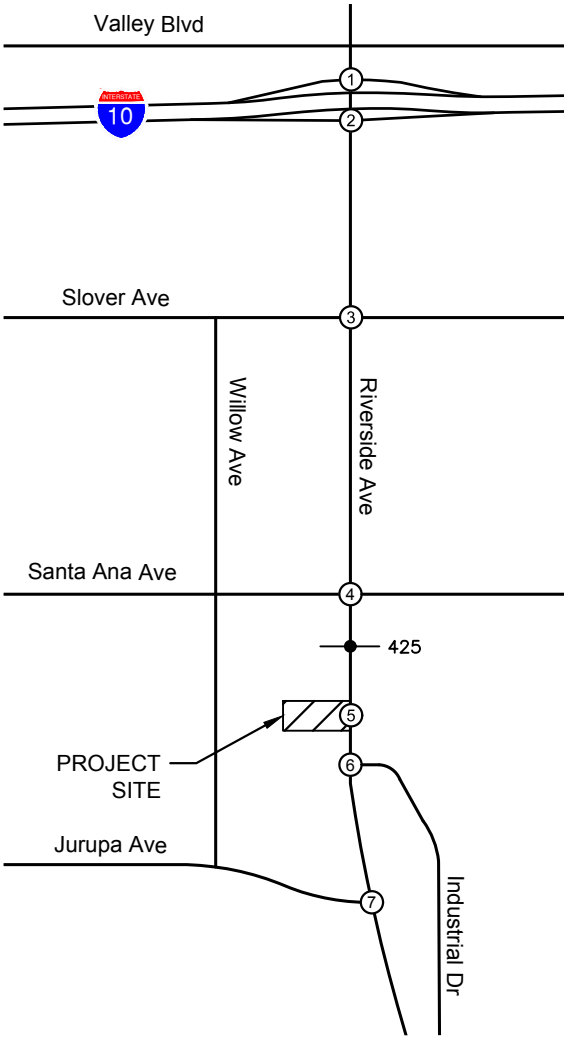
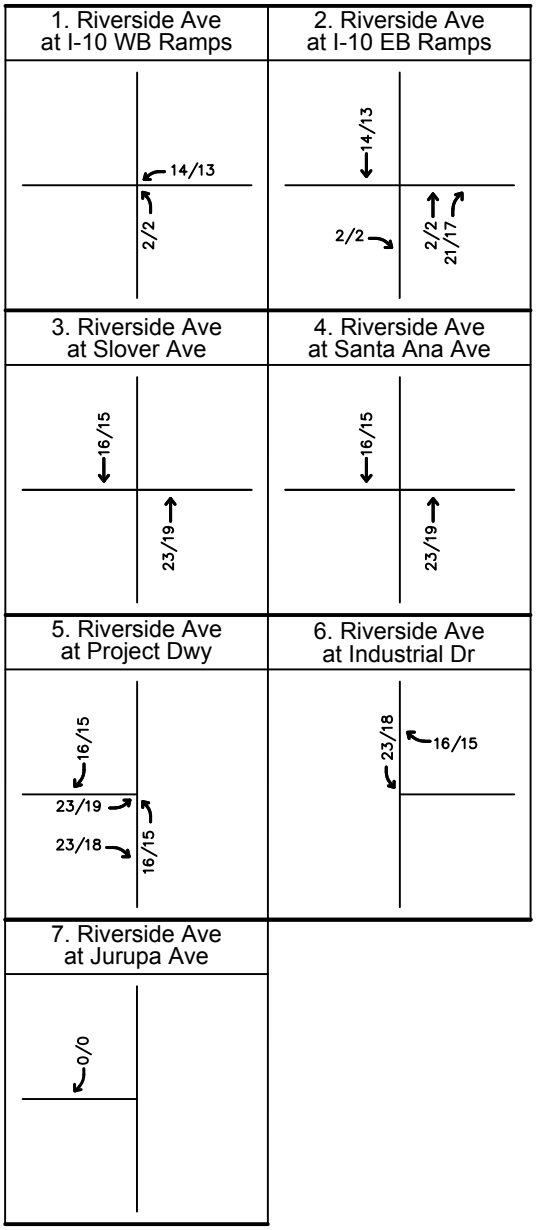


FIGURE 7C
SIDE-BY-SIDE COMPARISON OF PROJECT TRIP ASSIGNMENT

NOT TO SCALE





Note: Project-related traffic volumes reflect PCE adjustments. See the approved Scoping Agreement in Appendix A.

LEGEND:

= Project Site

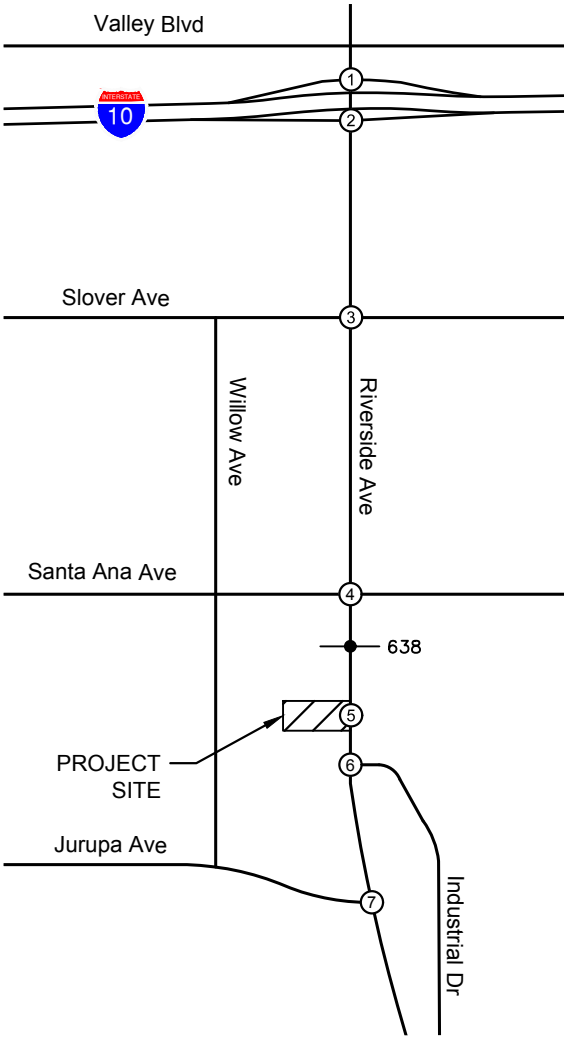
= Study Intersection

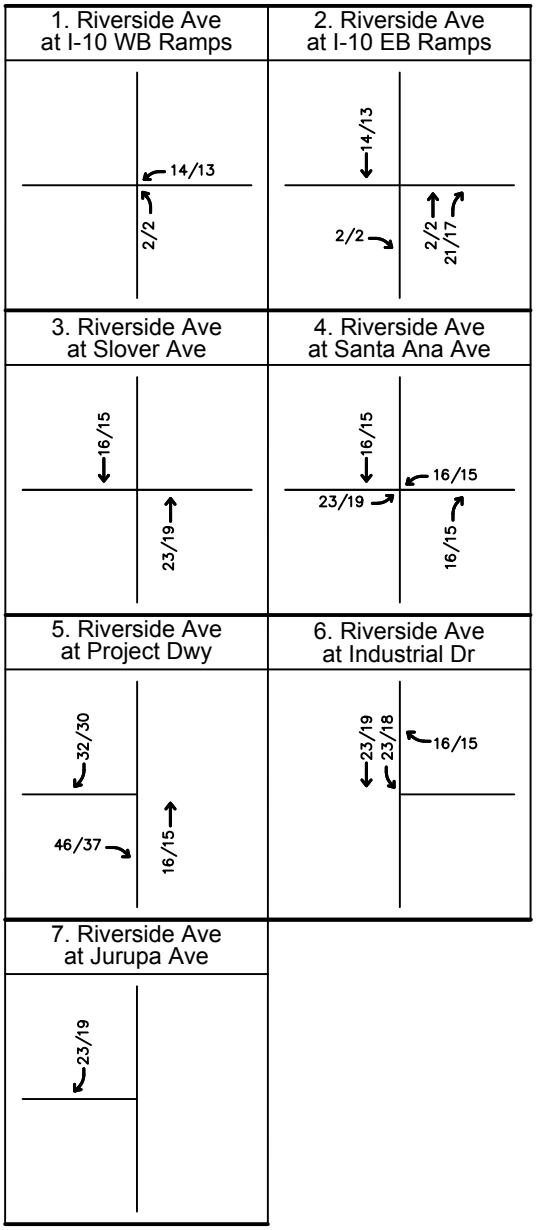
X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 8A
PROJECT-RELATED TRAFFIC VOLUMES
SCENARIO A

NOT TO SCALE





LEGEND:

= Project Site

= Study Intersection

X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 8B
PROJECT-RELATED TRAFFIC VOLUMES
SCENARIO B

B. Existing Plus Growth (Opening Year 2019)

The project Opening Year is anticipated to be Year 2019. For the Opening Year 2019. Lane configurations and intersection controls are assumed to be the same as Existing Conditions, which were shown previously on Figure 3.

1. Ambient Growth Rate

Based on consultation with City staff, an ambient growth rate of 2.0% per year to Opening Year 2019 was applied to existing peak hour traffic volumes to develop Existing Plus Growth forecasts. Project traffic was then added to develop Existing Plus Growth Plus Project (Opening Year 2019) traffic forecasts. The resulting daily and peak hour Existing Plus Growth without the project (Opening Year 2019) traffic volumes are shown on **Figure 9.** Existing Plus Growth Plus Project volumes are shown on **Figures 10A** and**10B** for Scenario A and Scenario B, respectively**.**

2. Opening Year 2019 Existing Plus Growth

Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for the morning and evening peak hours for Existing Plus Growth without the project (Opening Year 2019). The results are shown on **Table 4**. Intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that the following study intersections would continue to operate at an unacceptable Level of Service during both peak hours:

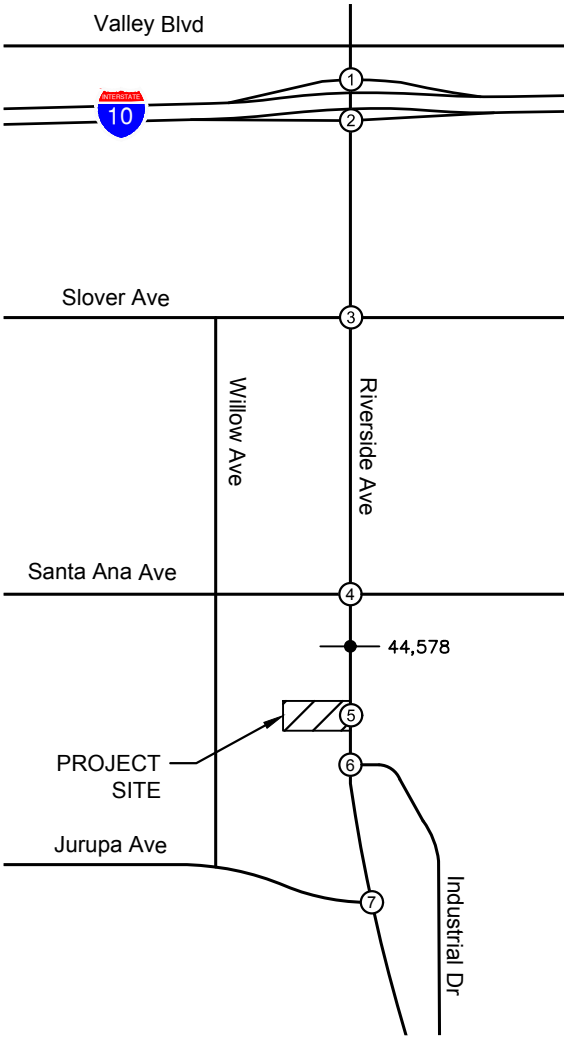
- #5 – Riverside Avenue at Project Driveway: AM – LOS F, PM – LOS F
- #6 – Riverside Avenue at Industrial Drive: AM – LOS F, PM – LOS F

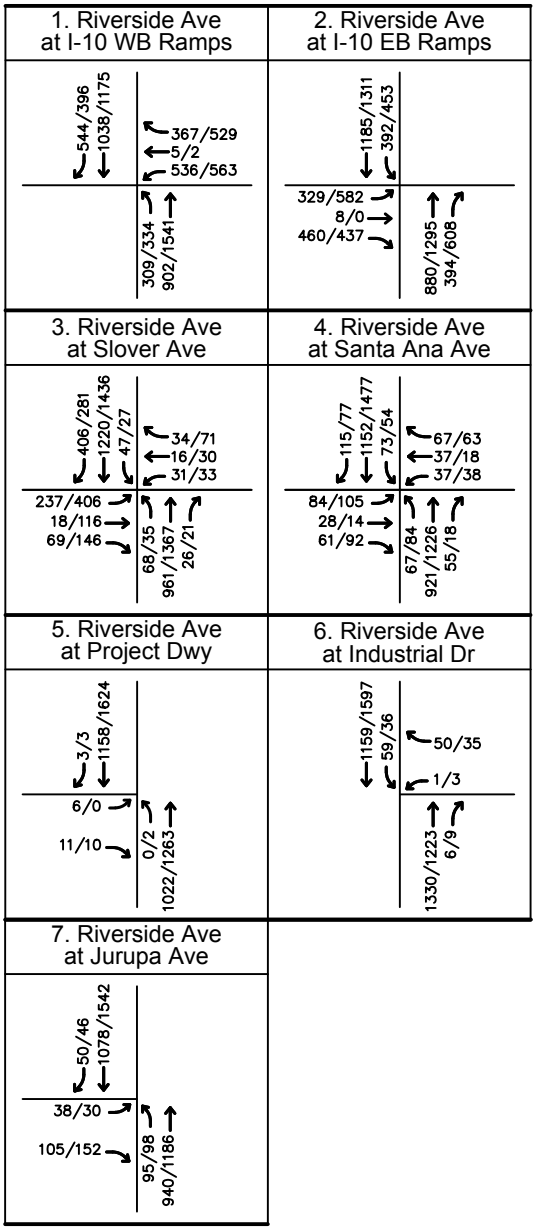
Daily Roadway Operating Conditions

The results of the roadway analysis for Opening Year 2019 Existing Plus Growth Conditions are shown on **Table 5**.

Review of this table indicates that the study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway, with the addition of ambient growth traffic, would continue to carry traffic volumes in excess of its daily capacity with LOS F operations.

NOT TO SCALE





LEGEND:

= Project Site

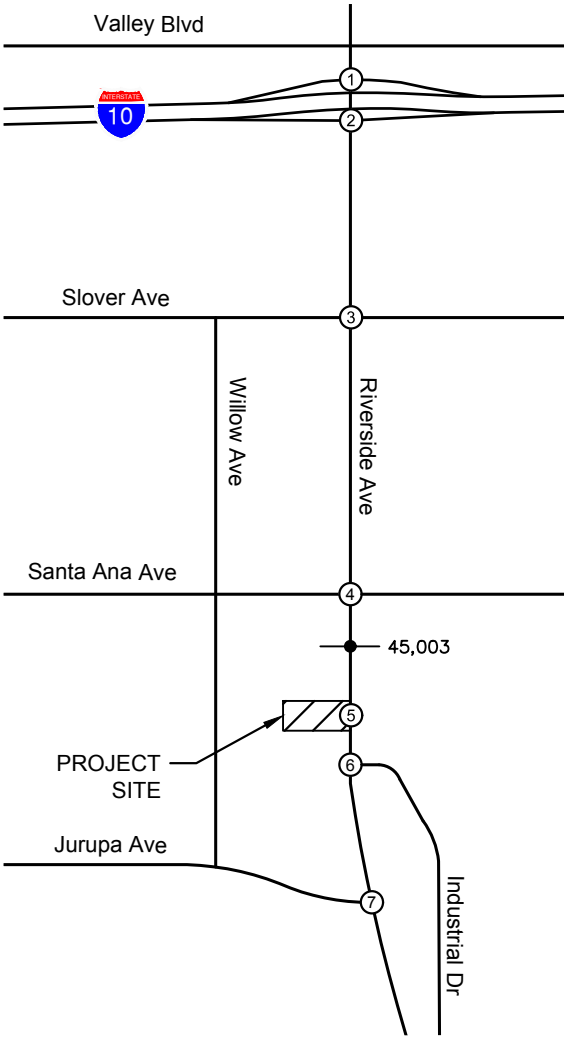
= Study Intersection

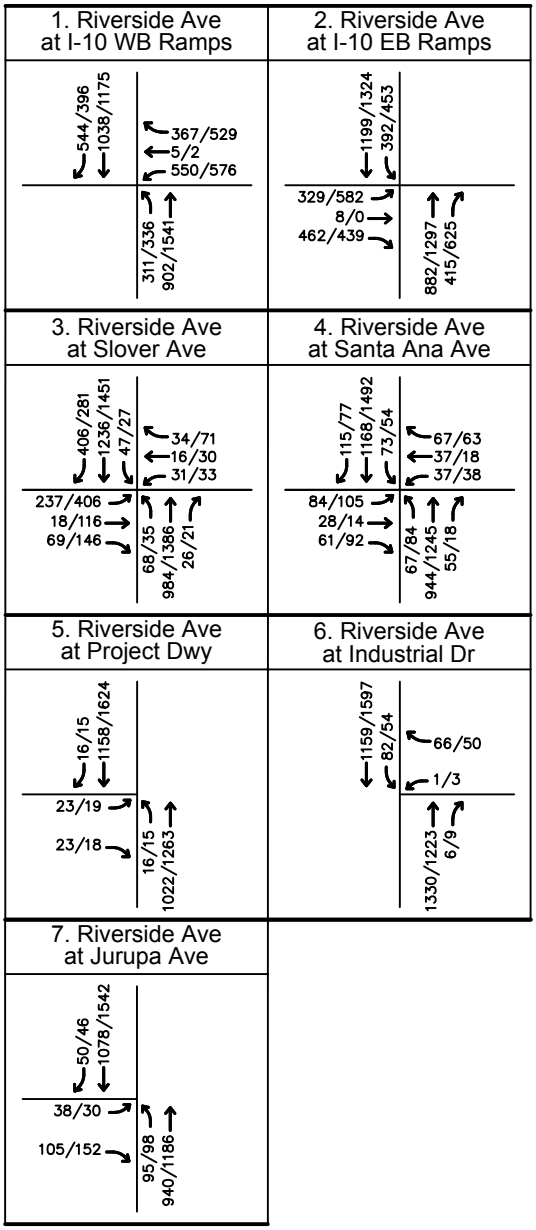
X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 9
OPENING YEAR 2019 - EXISTING PLUS GROWTH TRAFFIC VOLUMES

NOT TO SCALE





LEGEND:

= Project Site

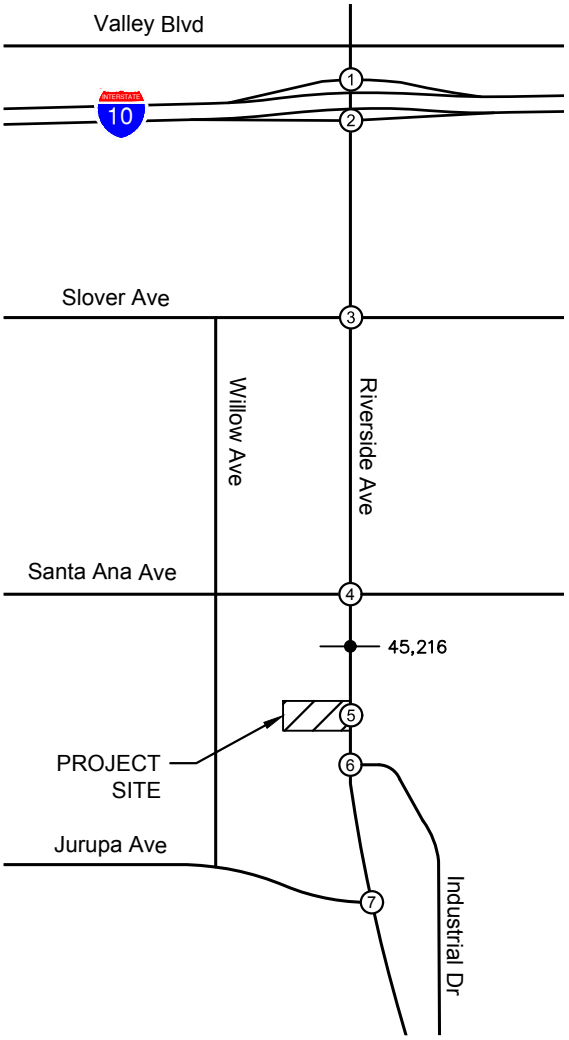
= Study Intersection

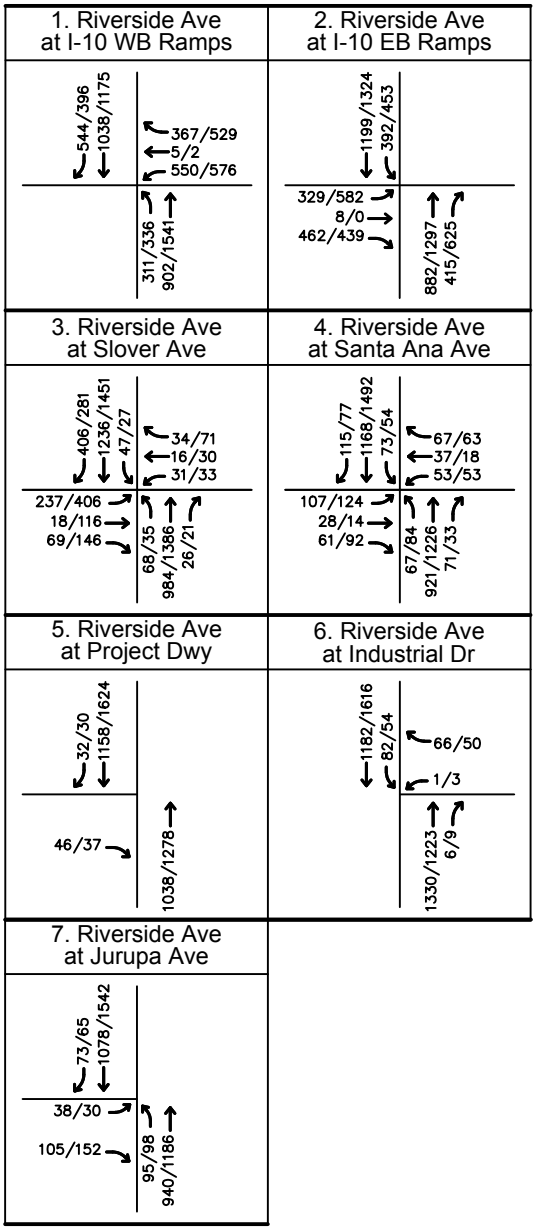
X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 10A
OPENING YEAR 2019 – EXISTING PLUS GROWTH PLUS PROJECT TRAFFIC VOLUMES SCENARIO A

NOT TO SCALE





LEGEND:

= Project Site

= Study Intersection

X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 10B
OPENING YEAR 2019 – EXISTING PLUS GROWTH PLUS PROJECT TRAFFIC VOLUMES SCENARIO B

TABLE 4
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2019 - EXISTING PLUS GROWTH

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	20.6	C	20.6	C
2	Riverside Avenue at I-10 EB Ramps	S	21.4	C	25.9	C
3	Riverside Avenue at Slover Avenue	S	22.7	C	43.7	D
4	Riverside Avenue at Santa Ana Avenue	S	18.2	B	20.6	C
5	Riverside Ave at Project Driveway	U	89.8	F	251.7	F
6	Riverside Avenue at Industrial Drive	U	103.1	F	129.2	F
7	Riverside Avenue at Jurupa Avenue	S	8.6	A	10.8	B

Notes:
- Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
- Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the highest delay movement.
- S = Signalized
- U = Unsignalized

TABLE 5
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2019 - EXISTING PLUS GROWTH

Roadway	Segment	Daily Capacity [1]	Existing ADT w/ PCE	Existing Plus Growth ADT	LOS
Riverside Avenue	Santa Ana Avenue to Project Driveway	36,399	43,704	44,578	F

Notes: PCE = Passenger Car Equivalent
ADT = Average Daily Traffic
LOS = Level of Service
Bold and shaded values indicate roadway segments operating at LOS E or F per City standards.
[1] Daily capacity is based on the upper limit of LOS E for Riverside Avenue.

3. Opening Year 2019 Existing Plus Growth Plus Project

Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for the morning and evening peak hours for the Existing Plus Growth Plus Project condition. The results of the intersection analysis are shown on **Table 6**. Review of this table indicates that the following study intersections would continue to operate at an unacceptable Level of Service during both peak hours under Scenario A conditions:

- #5 – Riverside Avenue at Project Driveway: AM – LOS F, PM – LOS F
- #6 – Riverside Avenue at Industrial Drive: AM – LOS F, PM – LOS F

Under Scenario B conditions, Intersection #5: Riverside Avenue at Project Driveway would operate at an acceptable Level of Service. The restriction of left turns to and from the driveway would reduce the peak hour delay with installation of the median on Riverside Avenue. Intersection #6: Riverside Avenue at Industrial Drive would continue to operate at LOS F delay under Scenario B conditions.

Daily Roadway Operating Conditions

The results of the roadway analysis for Opening Year 2019 Existing Plus Growth Plus Project Conditions are shown on **Table 7**.

Review of this table indicates that with the addition of ambient growth and project traffic, the study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway would continue to carry traffic volumes in excess of its daily capacity under Scenarios A and B with LOS F operations.

TABLE 6
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2019 - EXISTING PLUS GROWTH PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Impact	Impact Sig?	Without Project		With Project		Project Impact	Impact Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Riverside Avenue at I-10 WB Ramps	S	20.6	C	20.8	C	0.2	No	20.6	C	20.7	C	0.1	No
2	Riverside Avenue at I-10 EB Ramps	S	21.4	C	21.4	C	0.0	No	25.9	C	26.0	C	0.1	No
3	Riverside Avenue at Slover Avenue	S	22.7	C	22.9	C	0.2	No	43.7	D	44.7	D	1.0	No
Scenario A														
4	Riverside Avenue at Santa Ana Avenue	S	18.2	B	18.2	B	0.0	No	20.6	C	20.8	C	0.2	No
5	Riverside Ave at Project Driveway	U	89.8	F	161.3	F	71.5	Yes	251.7	F	798.7	F	547.0	Yes
6	Riverside Avenue at Industrial Drive	U	103.1	F	117.4	F	14.3	Yes	129.2	F	144.4	F	15.2	Yes
7	Riverside Avenue at Jurupa Avenue	S	8.6	A	8.6	A	0.0	No	10.8	B	10.8	B	0.0	No
Scenario B														
4	Riverside Avenue at Santa Ana Avenue	S	18.2	B	19.6	B	1.4	No	20.6	C	21.9	C	1.3	No
5	Riverside Ave at Project Driveway	U	14.0	B	15.0	B	1.0	No	18.2	C	20.2	C	2.0	No
6	Riverside Avenue at Industrial Drive	U	103.1	F	119.6	F	16.5	Yes	129.2	F	147.0	F	17.8	Yes
7	Riverside Avenue at Jurupa Avenue	S	8.6	A	8.5	A	-0.1	No	10.8	B	10.7	B	-0.1	No

Notes:
- Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
- Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the highest delay movement.
- S = Signalized
- U = Unsignalized
- Scenario A = Current full-movement operations at the Project Driveway
- Scenario B = Right-in-right-out driveway operations at the Project Driveway

TABLE 7
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2019 - EXISTING PLUS GROWTH PLUS PROJECT

Roadway	Segment	Daily Capacity [1]	Existing ADT w/ PCE	Existing Plus Growth ADT	Daily Project Traffic	Existing + Growth + Project Volume	LOS
Scenario A							
Riverside Avenue	Santa Ana Avenue to Project Driveway	36,399	43,704	44,578	425	45,003	F
Scenario B							
Riverside Avenue	Santa Ana Avenue to Project Driveway	36,399	43,704	44,578	638	45,216	F

Notes: PCE = Passenger Car Equivalent
ADT = Average Daily Traffic
LOS = Level of Service
Bold and shaded values indicate roadway segments operating at LOS E or F per City standards.
[1] Daily capacity is based on the upper limit of LOS E for Riverside Avenue.
Scenario A = Current full-movement operations at the Project Driveway
Scenario B = Right-in-Right-out Driveway operations at the Project Driveway

C. Cumulative Conditions (Existing Plus Growth Plus Cumulative Projects)

1. Cumulative Projects

In addition to ambient growth, traffic volumes for Cumulative Projects (approved and pending projects) are added to the Existing Plus Growth traffic volumes. Cumulative Projects consist of any project that has been approved and is not yet occupied, and projects that are in various stages of the application and approval process, but have not yet been approved. A summary of Cumulative Projects in the project vicinity and the trip generation associated with each is provided on **Table 8**. The locations of the Cumulative Projects are shown on **Figure 11**.

2. Background Growth Rate

As discussed earlier, an ambient growth rate of 2.0% per year to Opening Year 2019 was assumed for this analysis.

3. Cumulative Projects Trip Generation

Trip generation information for the Cumulative Projects was derived either from approved traffic studies, where available; or developed by Kimley-Horn if approved traffic studies were not available. Trip generation assumptions for Cumulative Projects are provided in ***Appendix E***.

4. Cumulative Projects Trip Distribution and Assignment

Likewise, trip distribution and assignment for the Cumulative Projects were either derived from approved traffic studies, where available; or were developed by Kimley-Horn if approved traffic studies were not available. Morning and evening peak hour turning movement volumes for Cumulative Project traffic are shown on **Figure 12.** Trip distribution assumptions for Cumulative Projects are provided in ***Appendix E***.

TABLE 8
SUMMARY OF CUMULATIVE PROJECTS

PROJECT TRIP GENERATION

Project #	Land Use	Quantity	Units	Trip Generation Estimates						
				Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
City of Rialto										
1	Panattoni I-10 (Rialto Commerce Center)	2,475.745	KSF	3,565	145	78	223	82	166	248
2	CapRock III	527.900	KSF	3,151	212	53	265	73	211	284
3	Rialto Walmart									
	Free Standing Discount Superstore	197.639	KSF	10,501	185	145	330	446	465	911
	Shopping Center	13.712	KSF	589	8	5	13	25	26	51
	High-Turnover (Sit-Down) Restaurant	12.856	KSF	1,635	77	71	148	85	59	144
	Gasoline/Service Station	16	VFP	2,697	99	95	194	111	111	222
	Pass-by Gasoline/Service Station			-1,019	-52	-50	-102	-42	-42	-84
	Fast-Food Restaurant w/ D.T.	5.948	KSF	2,951	150	144	294	105	97	202
	Pass-by Fast-Food Restaurant			-1,328	-66	-63	-129	-48	-44	-92
	Internal Capture (10%)			-1,837	-52	-46	-98	-77	-76	-153
4	Fuel/Convenience Market	18	VFP	3,803	232	231	463	190	189	379
5	Truck Yard (SWC of Riverside Ave and Santa Ana Ave)[1]			686	29	43	72	31	34	65
6	Fast Food/Retail (SWC of Riverside Ave and Slover Ave)[1]			1,104	34	22	56	38	37	75
7	Warehouse (SWC of Cactus Ave and Slover Ave)[1]			587	45	12	57	16	48	64
8	Truck Lot (Jurupa Ave)[1]			393	14	21	35	18	20	38
9	FedEx[1]			5,174	342	91	432	116	347	463
10	Warehouse (Valley Blvd)[1]			2,405	159	42	201	54	161	215
11	Warehouse (San Bernardino Ave)[1]			956	66	18	84	22	67	89
12	Warehouse (Riverside Ave)[1]			494	33	9	42	11	34	45
13	Warehouse (Agus Mansa Rd)[1]			319	22	6	28	7	21	28
City of Colton										
14	CUSM (300 N. Pepper Ave)	150	STUDENTS	357	25	6	31	9	22	31
15	1600 Agua Mansa Road	805.500	KSF	2,868	191	51	242	64	193	257
16	Valley Orange Ent. (1600 W. Valley Blvd)	8	VFP	1,348	50	48	98	55	55	110
17	785 M Street	20.600	KSF	144	17	2	19	2	18	20
18	644-660 Laurel Lane	7	DU	67	1	4	5	4	3	7
19	602 Agua Mansa Road	19.919	KSF	196	7	11	18	8	9	17
20	Roquet Ranch									
	Single-Family Detached Housing	754	DU	7,216	141	424	565	480	282	762
	Condominium	244	DU	1,418	18	89	107	85	42	127
	Senior Adult Housing-Attached	52	DU	181	2	4	6	5	3	8
	Shopping Center	6.500	VFP	279	4	3	7	12	12	24
	Coffee/Donut Shop w/ D.T.	1.500	KSF	1,228	85	81	166	32	32	64
	Fast-Food Restaurant w/ D.T.	4.000	KSF	1,984	101	97	198	70	65	135
	County Park	19.5	ACRES	44	0	0	0	0	1	1
City of Riverside										
21	P15-0812	61	DU	354	5	22	27	21	10	31
22	P14-1033	308.000	KSF	1,096	73	19	92	25	74	99
City of Jurupa Valley										
23	Rio Vista Specific Plan 243									
	Single-Family Detached Housing	579	DU	5,541	109	326	435	368	216	584
	Condominium	290	DU	1,685	22	106	128	101	50	151
	Apartment	346	DU	2,301	35	141	176	139	75	214
	City Park	22.2	ACRES	35	-	-	-	-	-	-
	Elementary School (1)	600	STUDENTS	774	149	122	271	44	46	90
24	Rubidoux Commercial Development	315.499	KSF	2,199	255	35	290	37	269	306
25	Wheatley Industrial Mfg. Bldg.	31.500	KSF	220	26	3	29	4	27	31
26	Emerald Ridge North	187	DU	1,790	35	105	140	119	70	189
County of San Bernardino										
27	High Cube	334.000	KSF	481	20	11	31	11	22	33
28	High Cube	476.000	KSF	685	28	15	43	16	32	48
	General Warehouse	30.000	KSF	107	7	2	9	2	7	9
29	High Cube	677.000	KSF	975	40	21	61	22	45	67
30	Single Family Residential	198	DU	1,895	37	111	148	126	74	200
31	General Warehouse	395.000	KSF	1,406	94	25	119	32	95	127
32	Truck Terminal	450.000	KSF	8,231	300	449	749	300	391	691
County of Riverside										
33	CUP03718	19.988	KSF	139	16	2	18	2	17	19
34	PP24798									
	Shopping Center	5.361	KSF	230	3	2	5	10	10	20
	General Office Building	3.405	KSF	37	5	1	6	1	4	5
Total Project Trips				84,337	3,583	3,265	6,848	3,468	4,202	7,670

Notes:

[1] Trip generation estimates provided by City staff.

DU = Dwelling Units, KSF = 1,000 square feet, VFP = Vehicle Fueling Positions

NEC = Northeast Corner, SEC = Southeast Corner, NWC = Northwest Corner, SWC = Southwest Corner

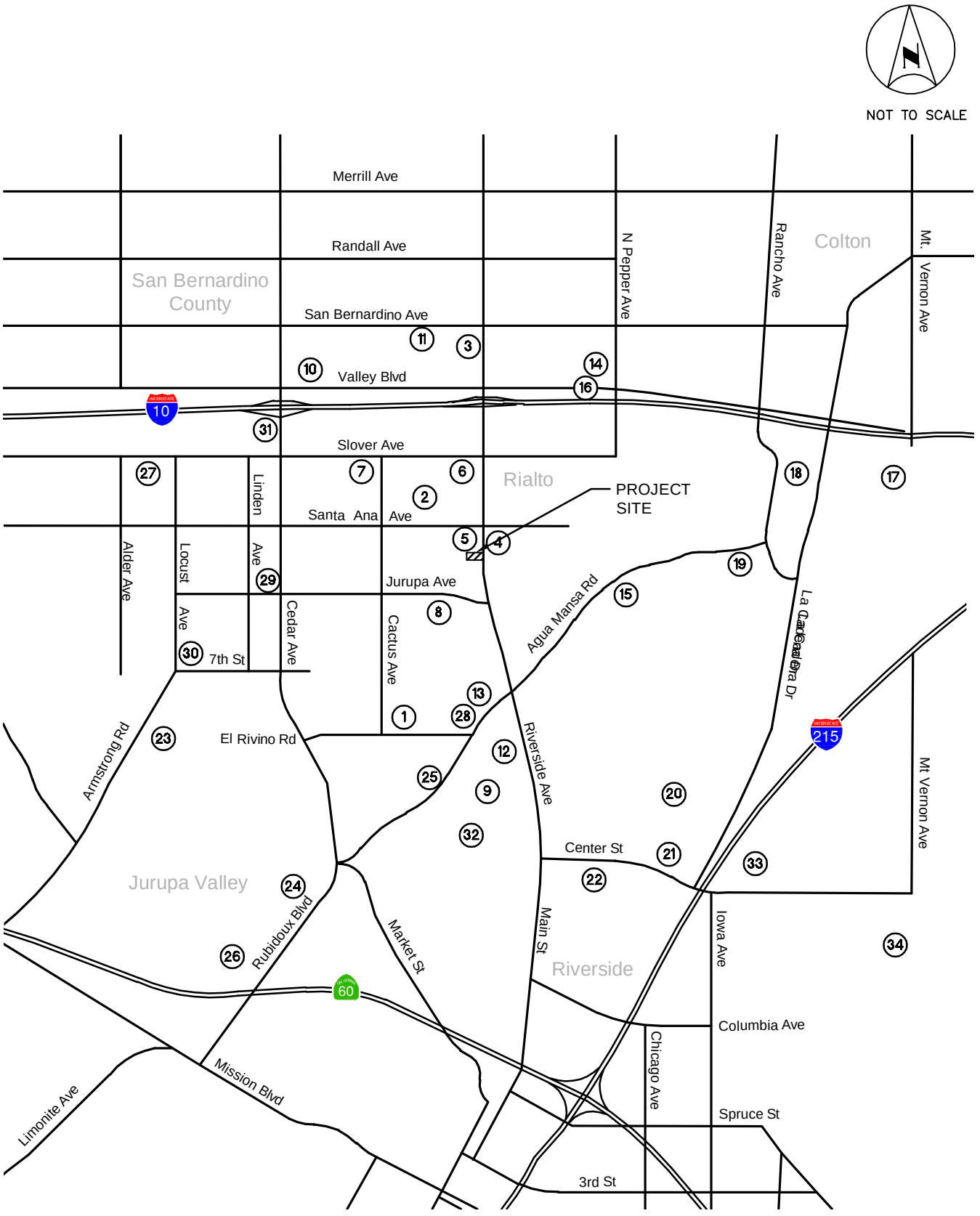
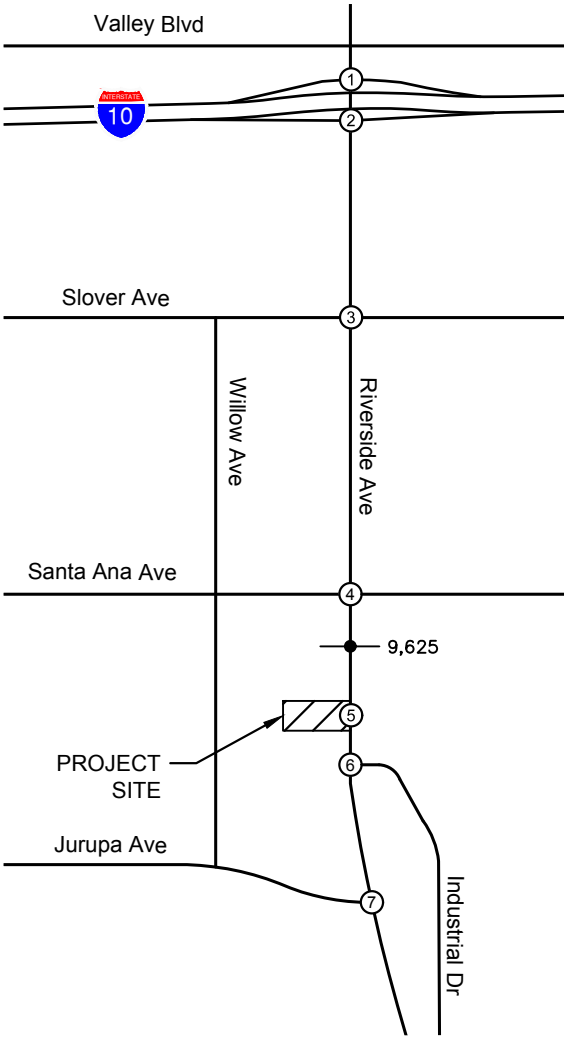
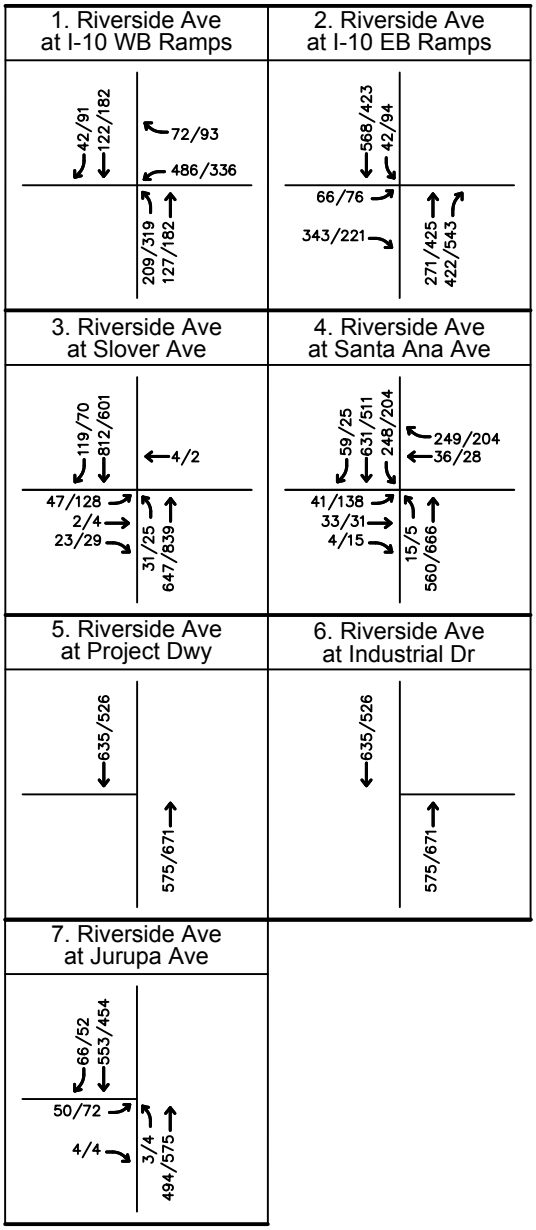


FIGURE 11
LOCATION OF CUMULATIVE PROJECTS

NOT TO SCALE





LEGEND:

= Project Site

= Study Intersection

X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 12
CUMULATIVE PROJECTS TRAFFIC VOLUMES

5. Opening Year 2019 Cumulative Without Project Conditions

Peak Hour Operating Conditions

Morning and evening peak hour turning movement volumes for Opening Year 2019 Cumulative Without Project Conditions are shown on **Figure 13**. Intersection Level of Service analysis was conducted for the morning and evening peak hours, and the results are shown on **Table 9.** Review of this table indicates that, with the addition of Cumulative Projects traffic, the following intersection would operate at an unacceptable Level of Service:

- #2 – Riverside Avenue at I-10 EB Ramps: PM – LOS F
- #3 – Riverside Avenue at Slover Avenue: PM – LOS F
- #4 – Riverside Avenue at Santa Ana Avenue: PM – LOS F
- #5 – Riverside Avenue at Project Driveway: AM – LOS F
- #6 – Riverside Avenue at Industrial Drive: AM – LOS F, PM – LOS F

Intersections #5 and #6 were shown to operate at an unacceptable Level of Service for Existing and Existing Plus Growth conditions. With the addition of background growth and Cumulative Project traffic, Intersections #2, #3, and #4 would worsen to LOS F in the evening peak hour.

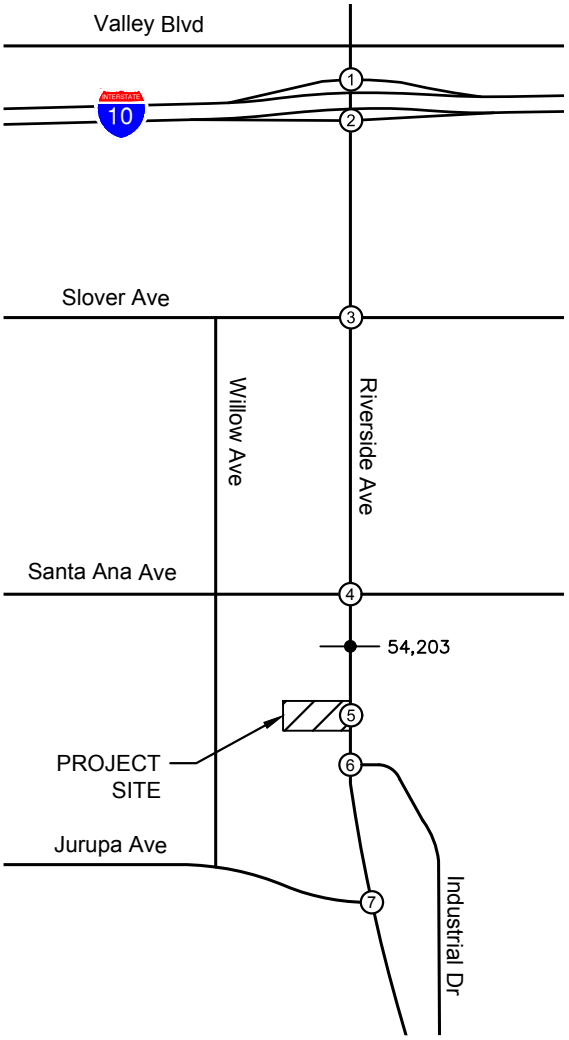
Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

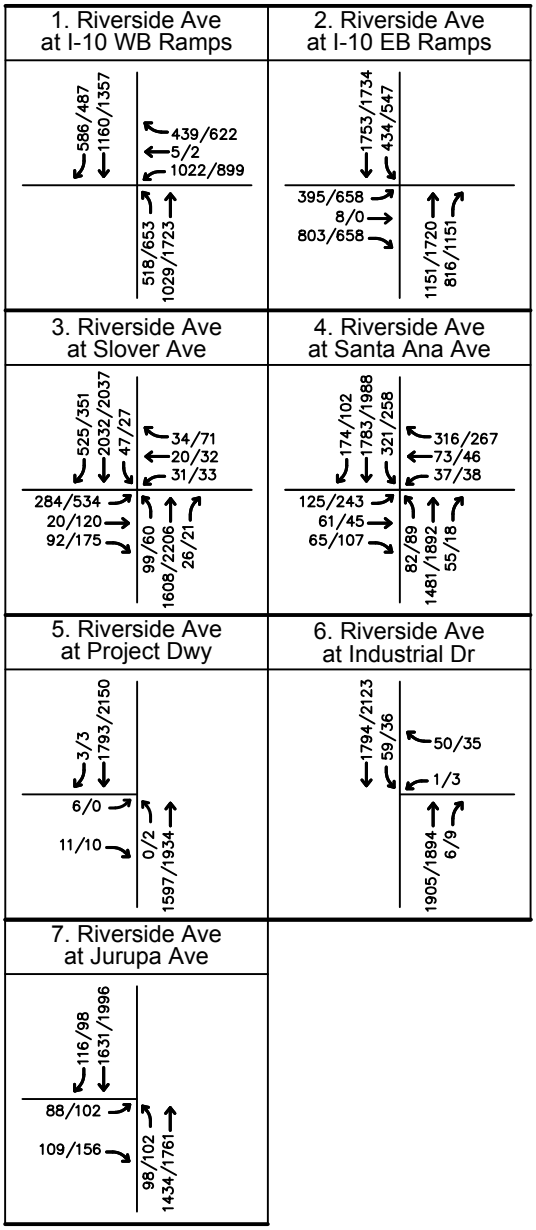
Daily Roadway Operating Conditions

The results of the roadway analysis for Opening Year 2019 Cumulative Without Project Conditions are shown on **Table 10.**

Review of this table indicates that the study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway, with the addition of Cumulative Project traffic, would continue to carry traffic volumes in excess of its daily capacity with LOS F operations.

NOT TO SCALE





LEGEND:

= Project Site

= Study Intersection

X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 13
OPENING YEAR 2019 CUMULATIVE WITHOUT PROJECT TRAFFIC VOLUMES

TABLE 9
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2019 CUMULATIVE WITHOUT PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	31.6	C	31.3	C
2	Riverside Avenue at I-10 EB Ramps	S	41.1	D	82.7	F
3	Riverside Avenue at Slover Avenue	S	74.8	E	118.2	F
4	Riverside Avenue at Santa Ana Avenue	S	51.6	D	89.1	F
5	Riverside Ave at Project Driveway	U	755.9	F	1399.1	F
6	Riverside Avenue at Industrial Drive	U	539.5	F	907.8	F
7	Riverside Avenue at Jurupa Avenue	S	9.0	A	13.9	B

Notes:
- Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
- Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the highest delay movement.
- S = Signalized
- U = Unsignalized

TABLE 10
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2019 CUMULATIVE WITHOUT PROJECT

Roadway	Segment	Daily Capacity [1]	Existing Plus Growth ADT	Cumulative Projects ADT	Opening Year + Cum. Projects ADT	LOS
Riverside Avenue	Santa Ana Avenue to Project Driveway	36,399	44,578	9,625	54,203	F

Notes: ADT = Average Daily Traffic
LOS = Level of Service
Bold and shaded values indicate roadway segments operating at LOS E or F per City standards.
[1] Daily capacity is based on the upper limit of LOS E for Riverside Avenue.

6. Opening Year 2019 Cumulative Plus Project Conditions

Peak Hour Operating Conditions

Project traffic was added to Opening Year 2019 Cumulative traffic volumes to develop Opening Year 2019 Cumulative plus Project traffic forecast volumes. The resulting peak hour traffic volumes are shown on **Figure 14A** for Scenario A and **Figure 14B** for Scenario B. Intersection Level of Service analysis was conducted for the morning and evening peak hours, and the results are shown on **Table 11**. As this table indicates, the following intersections would continue to operate at an unacceptable Level of Service under Scenario A conditions, with the addition of project traffic:

- #2 – Riverside Avenue at I-10 EB Ramps: PM – LOS F
- #3 – Riverside Avenue at Slover Avenue: PM – LOS F
- #4 – Riverside Avenue at Santa Ana Avenue: PM – LOS F
- #5 – Riverside Avenue at Project Driveway: AM – LOS F, PM – LOS F
- #6 – Riverside Avenue at Industrial Drive: AM – LOS F, PM – LOS F

As mentioned previously, under Scenario B conditions, Intersection #5: Riverside Avenue at Project Driveway would operate at an acceptable Level of Service due to the restriction of left turns to and from the driveway with installation of the median on Riverside Avenue.

Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

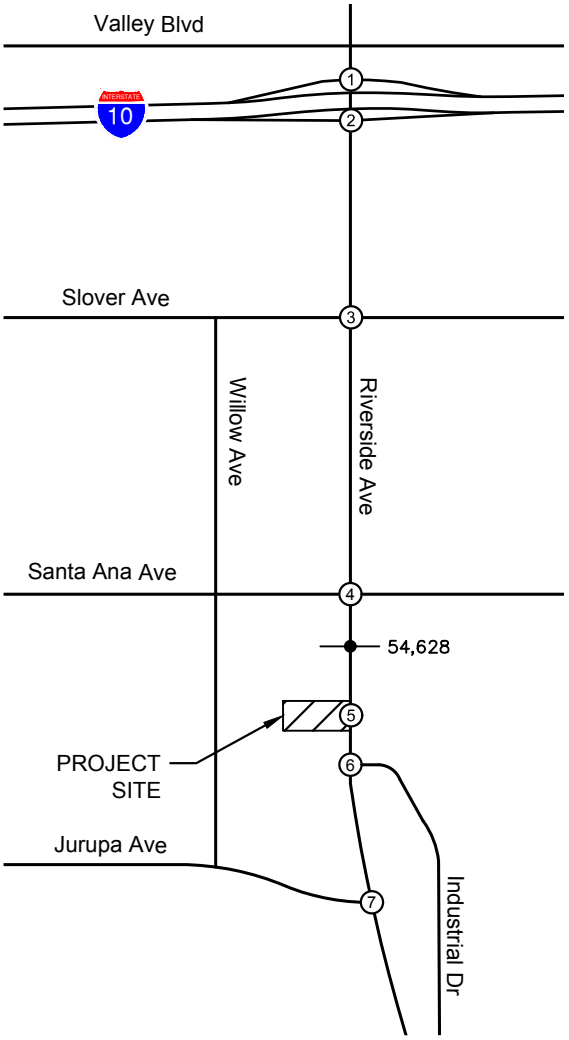
Daily Roadway Operating Conditions

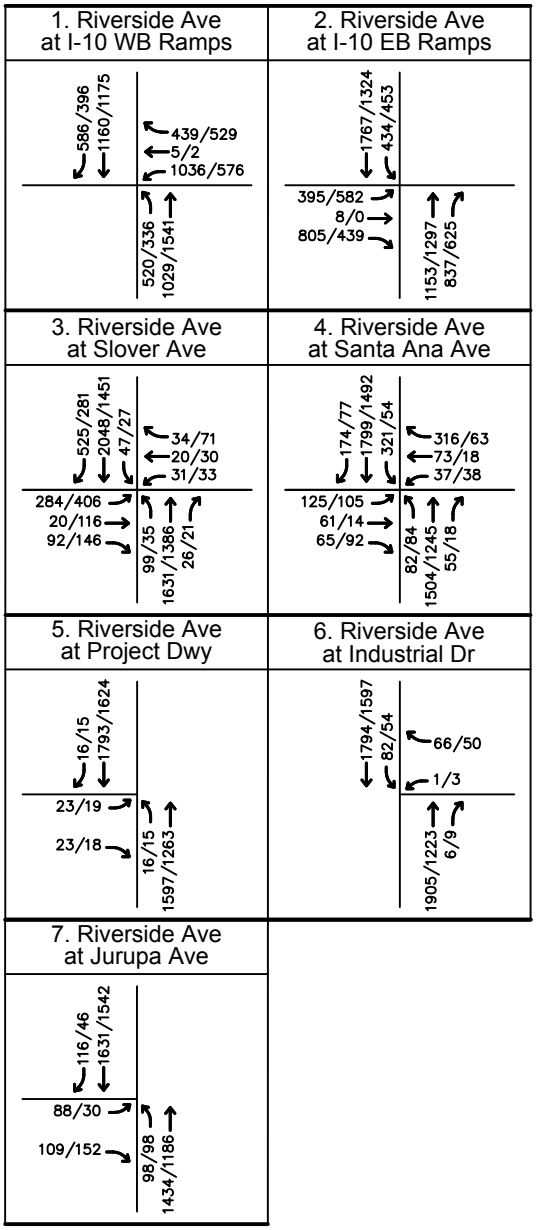
The results of the roadway analysis for Opening Year 2019 Cumulative Plus Project Conditions are shown on **Table 12.**

Review of this table indicates that the study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway, with the addition of project traffic, would continue to carry traffic volumes in excess of its daily capacity under Scenarios A and B with LOS F operations.

Recommended measures to mitigate the project impacts are presented in the Mitigation Measures section of this report.

NOT TO SCALE





LEGEND:

= Project Site

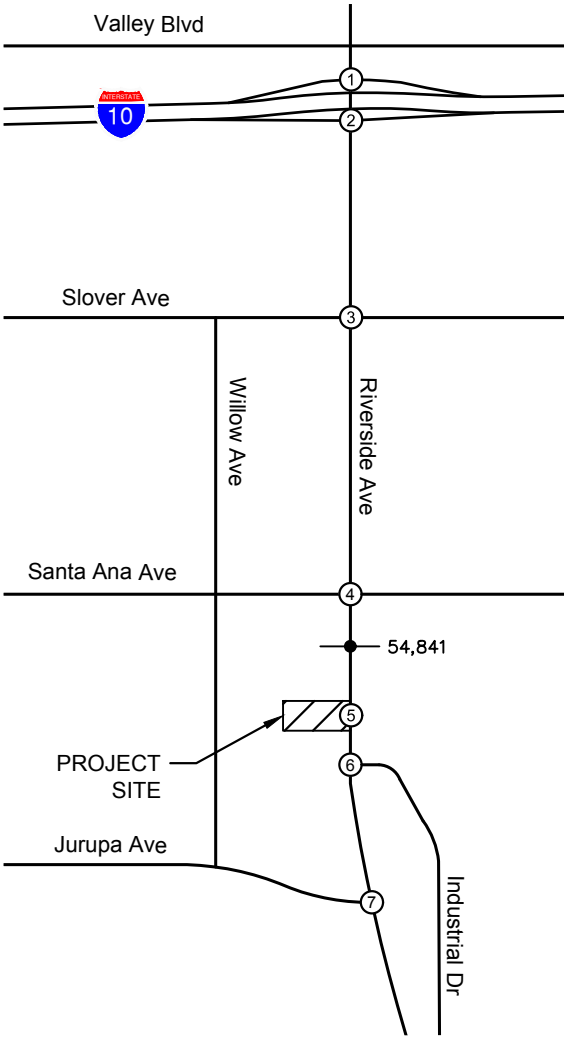
= Study Intersection

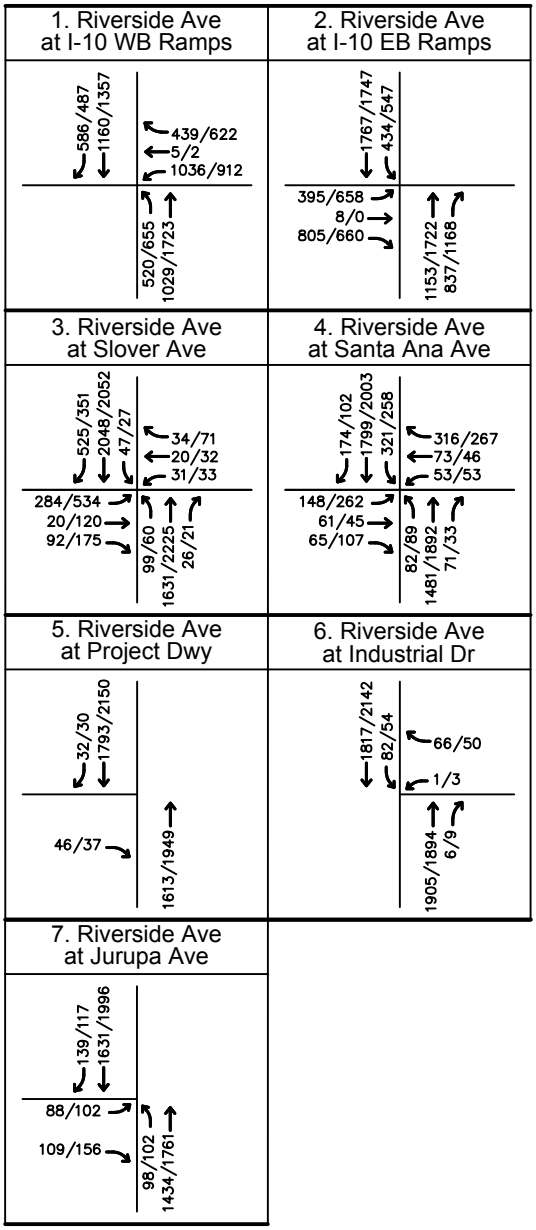
X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 14A
OPENING YEAR 2019 CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES SCENARIO A

NOT TO SCALE





LEGEND:

= Project Site

= Study Intersection

X,XXX = Average Daily Traffic Volume

XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 14B
OPENING YEAR 2019 CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES SCENARIO B

TABLE 11
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2019 CUMULATIVE PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Impact	Impact Sig?	Without Project		With Project		Project Impact	Impact Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Riverside Avenue at I-10 WB Ramps	S	31.6	C	31.9	C	0.3	No	31.3	C	31.6	C	0.3	No
2	Riverside Avenue at I-10 EB Ramps	S	41.1	D	42.7	D	1.6	No	82.7	F	84.5	F	1.8	Yes
3	Riverside Avenue at Slover Avenue	S	74.8	E	76.3	E	1.5	No	118.2	F	120.4	F	2.2	Yes
Scenario A														
4	Riverside Avenue at Santa Ana Avenue	S	51.6	D	53.6	D	2.0	No	89.1	F	91.5	F	2.4	Yes
5	Riverside Ave at Project Driveway	U	755.9	F	2232.2	F	1476.3	Yes	1399.1	F	6223.6	F	4824.5	Yes
6	Riverside Avenue at Industrial Drive	U	539.5	F	664.3	F	124.8	Yes	907.8	F	1087.1	F	179.3	Yes
7	Riverside Avenue at Jurupa Avenue	S	9.0	A	9.0	A	0.0	No	13.9	B	13.9	B	0.0	No
Scenario B														
4	Riverside Avenue at Santa Ana Avenue	S	51.6	D	55.0	D	3.4	No	89.1	F	93.5	F	4.4	Yes
5	Riverside Ave at Project Driveway	U	20.9	C	24.0	C	3.1	No	26.1	D	31.3	D	5.2	Yes
6	Riverside Avenue at Industrial Drive	U	539.5	F	679.2	F	139.7	Yes	907.8	F	1107.9	F	200.1	Yes
7	Riverside Avenue at Jurupa Avenue	S	9.0	A	9.0	A	0.0	No	13.9	B	13.9	B	0.0	No

Notes:
- Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
- Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the highest delay movement.
- S = Signalized
- U = Unsignalized
- Scenario A = Current full-movement operations at the Project Driveway
- Scenario B = Right-in-right-out driveway operations at the Project Driveway

TABLE 12
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2019 CUMULATIVE PLUS PROJECT

Roadway	Segment	Daily Capacity [1]	Opening Year + Cum. Projects ADT	Daily Project Traffic	Opening Year + Cum. Project + Project ADT	LOS
Scenario A						
Riverside Avenue	Santa Ana Avenue to Project Driveway	36,399	54,203	425	54,628	F
Scenario B						
Riverside Avenue	Santa Ana Avenue to Project Driveway	36,399	54,203	638	54,841	F

Notes: ADT = Average Daily Traffic
LOS = Level of Service
Bold and shaded values indicate roadway segments operating at LOS E or F per City standards.
[1] Daily capacity is based on the upper limit for LOS E for Riverside Avenue.
Scenario A = Current full-movement operations at the Project Driveway
Scenario B = Right-in-Right-out Driveway operations at the Project Driveway

IV. MITIGATION MEASURES

A. Intersection Improvements

Based on the impact criteria in the City's *Traffic Impact Analysis Report Guidelines and Requirements* (Exhibit F), the project-related impact would be considered significant at the following intersections

- #2 – Riverside Avenue at I-10 Eastbound Ramps
- #3 – Riverside Avenue at Slover Avenue
- #4 – Riverside Avenue at Santa Ana Avenue

Implementation of the following improvements would mitigate the project's impact at each intersection:

#2 – Riverside Avenue at I-10 Eastbound Ramps: Add a northbound right-turn lane. This improvement is part of the Riverside Avenue bridge improvement project to provide a 4th northbound through lane on Riverside Avenue from Slover Avenue to the I-10 Westbound Ramps. This improvement would more than offset the project-related incremental delay.

#3 – Riverside Avenue at Slover Avenue: Add a 3rd north- and southbound through lane. This improvement is part of the planned Riverside Avenue Widening project and would more than offset the project-related incremental delay.

#4 – Riverside Avenue at Santa Ana Avenue: Add a 3rd north- and southbound through lane. This improvement is part of the planned Riverside Avenue Widening project and would more than offset the project-related incremental delay.

A summary of the intersection analysis after implementation of the Riverside Avenue bridge and roadway widening is provided on **Table 13**.

The following unsignalized intersections currently operate at an unacceptable Level of Service:

- #5 – Riverside Avenue at Project Driveway
- #6 – Riverside Avenue at Industrial Drive

The Level of Service for an unsignalized intersection is reported based on the single approach movement with the highest delay, which in this case, would be the eastbound approach for intersection #5 and the westbound approach for intersection #6. The side street traffic at both intersections experience delay during the peak hours while waiting for an acceptable gap in traffic on Riverside Avenue. While the side street approach operates at a deficient Level of Service based on the highest delay approach, the overall intersection delay would be acceptable. Any queuing that occurs on the side street is contained on the minor intersection approach, and does not impact the progression of traffic on the main arterial.

TABLE 13
SUMMARY OF INTERSECTION OPERATIONS WITH PROPOSED MITIGATION MEASURES
OPENING YEAR 2019 CUMULATIVE PLUS PROJECT

Int. #	Intersection	AM Peak Hour				PM Peak Hour			
		Without Mitigation		With Mitigation		Without Mitigation		With Mitigation	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2	Riverside Avenue at I-10 EB Ramps								
	Add NB Right-Turn Lane	42.7	D	42.0	D	84.5	F	82.1	F
3	Riverside Avenue at Slover Avenue								
	Add 3rd NB and SB Through Lanes	76.3	E	26.3	C	120.4	F	62.9	E
4	Riverside Avenue at Santa Ana Avenue								
	Add 3rd NB and SB Through Lanes	53.6	D	32.4	C	91.5	F	49.8	D

Notes:
- Bold and shaded values indicate intersections operating at LOS E or F or significant impact to intersection per City standards.
- Delay values are based on the methodology outlined in the 2010 Highway Capacity Manual.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- At a two-way stop-controlled intersection, delay refers to the average vehicle delay on the highest delay movement.

A signal warrant analysis was conducted at both unsignalized intersection under Opening Year 2019 Cumulative Plus Project conditions. The signal warrant analysis indicates that installation of a traffic signal is not warranted at either of the unsignalized intersections, under Warrant 3 (Peak Hour) conditions.

The City of Rialto Public Works Department recently presented an updated City of Rialto Traffic/Transportation Fee Study at the City's Transportation Commission meeting, held on April 3rd, 2019. From this presentation, the intersections of Slover Avenue at Riverside Avenue, Jurupa Avenue at Riverside Avenue, and the roadway segment of Riverside Avenue from I-10 EB Ramps to Jurupa Avenue, were presented as "Locations of Improvements." The proposed project will pay applicable DIF fees toward the Riverside Avenue Widening project. The fees paid by the Developer will be collected by the City of Rialto and used toward the Riverside Avenue Widening Project, as identified in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South City Limit to Slover Avenue from 4 lanes to 6 lanes."

B. Roadway Improvements

The study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway is currently and would continue to exceed its daily roadway capacity with LOS F operations.

Riverside Avenue is currently a four- to five-lane undivided roadway from north of Slover Avenue to south of Jurupa Avenue. Riverside Avenue is designated as a Modified Major Arterial II (six-lane divided roadway) north of Slover Avenue and a Modified Arterial I (four-lane divided roadway) south of Slover Avenue in the City of Rialto Circulation Element of the General Plan. The City's General Plans being modified to upgrade Riverside Avenue south of Slover Avenue as a six-lane arterial roadway within 120 feet of right-of-way. As mentioned previously, the widening of Riverside Avenue from the I-10 EB Ramps to Jurupa Avenue from 4 lanes to 6 lanes were presented in the City of Rialto Traffic/Transportation Fee Study as a "Location of Improvement." The proposed project will pay applicable DIF fees toward the Riverside Avenue Widening project.

A summary of the roadway analysis after implementation of the Riverside Avenue widening is provided on **Table 14**. With the planned widening of Riverside Avenue, the roadway segment of Riverside Avenue from Santa Ana Avenue to the Project Driveway would operate within its daily roadway capacity. The estimated DIF costs for the proposed project based on total daily trips, as derived from the City of Rialto Traffic/Transportation Fee Study (April 2019), is shown on **Table 15**.

C. Significant Impacts – Other Improvements

Not applicable.

TABLE 14
SUMMARY OF ROADWAY ANALYSIS WITH PROPOSED MITIGATION MEASURES
OPENING YEAR 2019 CUMULATIVE PLUS PROJECT

Roadway	Segment	Mitigated Roadway Classification	Daily Capacity [1]	Opening Year + Cum. Projects ADT	Daily Project Traffic [2]	Opening Year + Cum. Project + Project ADT	LOS
Riverside Avenue	Santa Ana Avenue to Project Driveway	Modified Arterial II	54,899	54,203	638	54,841	E

Notes: ADT = Average Daily Traffic
LOS = Level of Service
Bold and shaded values indicate roadway segments operating at LOS F per City standards.

[1] Daily capacity is based on the upper limit of LOS E for Riverside Avenue.

[2] Daily project traffic assumes Scenario B roadway volumes as the worst-case scenario.

TABLE 15

TRAFFIC IMPACT MITIGATION FAIR SHARE COSTS

Intersection and Roadway Improvements			
Riverside Avenue Widening Project	Unit Cost per Trip [1]	Daily Trips	Total
Riverside Avenue Widening Cost	$ 375.50	850	$ 319,175
Total Project Cost			$ 319,175

[1] Source: City of Rialto Traffic/Transportation Fee Study (April 2019).

V. CEQA VEHICLE MILES TRAVELED (VMT) ASSESSMENT

Senate Bill 743 (SB 743) was approved by the California legislature in September 2013. SB 743 requires changes to California Environmental Quality Act (CEQA), specifically directing the Governor's Office of Planning and Research (OPR) to develop alternative metrics to the use of vehicular "level of service" (LOS) for evaluating transportation projects. OPR has prepared a technical advisory ("OPR Technical Advisory") for evaluating transportation impacts in CEQA and has recommended that Vehicle Miles Traveled (VMT) replace LOS as the primary measure of transportation impacts. The Natural Resources Agency has adopted updates to CEQA Guidelines to incorporate SB 743 that requires use of VMT for the purposes of determining a significant transportation impact under CEQA. The City of Rialto has yet to adopt VMT-based metric guidelines to evaluate transportation impacts for CEQA. Until the City adopts a VMT policy, projects are likely to be evaluated on a case-by-case basis. Screening thresholds are broken into the following three steps:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Project Type Screening

A land use project needs only to meet one of the above screening thresholds to be presumed to result in a not significant impact under CEQA pursuant to SB 743.

A. Transit Priority Area (TPA) Screening

Based on the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool, the project site is not located within half a mile of Transit Priority Area (TPA). The closest transit stops are located an approximately 1.25-mile walk from the project site, located at the intersection of Santa Ana Avenue and Spruce Street. Based on the project's proximity to a major transit station, the project cannot be presumed to have a less than significant impact based on its proximity to transit.

The TPA screening threshold is not met.

B. Low VMT Area Screening

OPR guidance states that "Residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Maps created with VMT data, for example from a travel survey or a travel demand model, can illustrate areas that are currently below threshold VMT…Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis."

The VMT Screening Tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual traffic analysis zones (TAZ's) within the SBCTA region. The Project's physical location based on the APN is input into the Screening Tool to determine VMT generated by the existing TAZ. The parcel containing the proposed Project was

selected and the Screening Tool was run for the Origin/Destination VMT per service population measure of VMT. Based on the Screening Tool results provided in **Appendix F**, the project TAZ (53,749,302) current generates 45.7 VMT vs the jurisdiction VMT of 28.2 VMT; therefore, the project site is not located within a low VMT generating zone and the project cannot be presumed to have a less than significant impact based on not being located in a Low VMT Area.

The Low VMT Area screening threshold is not met.

C. Project Type Screening

OPR guidance states that local-serving retail development less than 50,000 square feet may be presumed to have a less than significant impact. Other types of local serving uses, such as day-care centers; non-destination hotels; and places of worship, are local serving in nature and tend to shorten trips and reduce VMT. The City may presume such development creates a less than significant transportation impact.

A logical way to evaluate this type of facility is to consider the major trip purposes of the site in terms of their trip length and frequency. Given the description, two types of trips were broadly considered for this development given its context: (1) employee commute trips and (2) local-serving truck trips. The following discussion is provided regarding these two broad trip types.

- **Commute trips**. Limited staffing for the project will be necessary to maintain the project site since the project does not propose any habitable structures nor does the project propose any services or sales. As such, automobile commute trips to this facility are expected to be nominal. It is anticipated that these trips would most likely occur regardless of whether this location were developed as it is in response to a likely existing demand for storage of excess truck trailers. Accordingly, if this site were not developed, a similar site will be developed elsewhere to meet this demand and as such the alternative to this development would likely not eliminate any related VMT.
- **Local-serving truck trips**. The proposed use would store excess truck trailers for nearby warehouses or fulfillment centers that need extra storage capacity during high-demand seasons. Although the end-user of this facility is unknown at this time (so the nature of the business enterprise using the facility and its probable origins and destinations are unknown), it is reasonable to assume that the ultimate end user will select this location, at least in part, as to how it effects their transportation costs. Most often businesses who have shipping as a significant part of their operations are sensitive to transportation costs and their relative proximity to customers and suppliers. Accordingly, it is reasonable to assume that trailer drop lots are often located in a manner to reduce VMT given that it is the interest of the business. As a result, the truck trips are expected to be local.

Based on the considerations noted above, the project would not generate new "demand", but meets existing demand that would shorten the distance that road users would otherwise travel. As such the project would result in a less-than-significant finding based on the project being a local-serving use.

The Project Type screening threshold is met.

Based on review of the VMT screening thresholds, the project meets the Project Type screening thresholds; therefore, the project would result in a less-than-significant impact, and no additional VMT analysis is required.

VI. FINDINGS AND RECOMMENDATIONS

A. Improvements

The following intersections would operate at Level of Service E or better, but the project's impact would be considered significant on the basis of the sliding scale:

- #2 – Riverside Avenue at I-10 Eastbound Ramps
- #3 – Riverside Avenue at Slover Avenue
- #4 – Riverside Avenue at Santa Ana Avenue

Off-site mitigation improvements were identified to mitigate the project's significant impacts at these three study intersections.

The following unsignalized intersections would operate at an unacceptable Level of Service under all conditions:

- #5 – Riverside Avenue at Project Driveway: AM – LOS F, PM – LOS F
- #6 – Riverside Avenue at Industrial Drive: AM – LOS F, PM – LOS F

A signal warrant analysis was conducted at both unsignalized intersection under Opening Year 2019 Cumulative Plus Project conditions. The signal warrant analysis indicates that installation of a traffic signal is not warranted at either of the unsignalized intersections, under Warrant 3 (Peak Hour) conditions.

Off-site mitigation improvements were identified to mitigate the project's significant impacts on the study roadway segment of Riverside Avenue from Santa Ana Avenue to Project Driveway

B. Traffic Signal Warrant Analysis

A signal warrant analysis was conducted for each study intersection that was unsignalized. The analysis indicates that both unsignalized intersections would not warrant a traffic signal under Opening Year 2019 Cumulative Plus Project conditions.

C. Site Circulation

Vehicular access provisions for the project site currently consist of one full-movement driveway on Riverside Avenue. Trucks entering and exiting the Project driveway currently do so by making either a right turn or a left turn to or from Riverside Avenue, depending on the vehicle's origin or destination.

There is a possibility that Riverside Avenue may be modified in the future to include a raised median on Riverside Avenue along the project frontage. The raised median would restrict left turns in and out of the project site, as well as in and out of the driveway for the distribution facility across the street.

D. Safety and Operational Improvements

The roadways serving the project site are generally straight and flat. A sight distance analysis of existing roadway conditions is not needed. The site driveways and project improvements must be designed so that adequate sight distance for drivers entering and exiting the site is maintained. The line of sight – a straight line between the driver's eye and oncoming vehicles on the adjacent roadway defines the Limited Use Area. The Limited Use Area for each driveway must be kept clear of visual obstructions, including project signs, building structures, and landscaping, in order to maintain adequate sight distance.

E. Fair Share Calculations

The project fair share proportion of the improvements are shown on Table 14 (presented previously), and the estimated costs of the proposed improvements are shown on Table 15 (presented previously).

F. Specific Plan Signalization

Not Applicable.

G. General Plan Conformance

The proposed Riverside Avenue Storage Lot is in conformance with City of Rialto General Plan. Neither a Specific Plan Amendment nor a General Plan Amendment is required for the project.

H. Regional Funding Mechanisms

The project is subject to the City's city-wide traffic impact fee program. The proposed project will pay applicable DIF fees toward the Riverside Avenue Widening project. The fees paid by the Developer will be collected by the City of Rialto and used toward the Riverside Avenue Widening Project, as identified in Measure I of the 2018 Nexus Study Item "Widen Riverside Avenue from South

City Limit to Slover Avenue from 4 lanes to 6 lanes. To the extent that a mitigation measure is included in an existing fee program, the project's payment of impact fees can be used to offset the costs of implementing the mitigation measures. In addition, the project may be required construct a needed improvement in advance of the City's receipt of full funding, in which case the improvement may be subject to a reimbursement agreement, to allow the project to recoup costs from future development.

APPENDIX A

APPROVED SCOPING AGREEMENT

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This following form shall be used to acknowledge preliminary approval of the scope for the traffic impact analysis (TIA) of the following project. The TIA must follow the City of Rialto Traffic Impact Analysis – Report Guidelines and Requirements, adopted by the City Council on _____.

City of Rialto

Traffic Impact Analysis

Scoping Agreement

Case No. _____

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: Overflow Truck Trailer Storage Yard

Project Address: Riverside Ave.

Project Description: Trailer parking lot to support existing business at 2765 Riverside Ave.

	Consultant	Developer
Name:	LSC Transportation Consultants INC	Crown Enterprises Inc.
Address:	2690 Lake Forest Rd	12225 Stephens, Warren, MI 48089
Telephone:	530-583-4053	586-467-1711
Fax:	530-583-5966	586-467-0114

1. Trip Generation Source: Person Trip Analysis. ITE Trip Generation Manual

Existing GP Land Use None Proposed Land Use Truck Trailer Storage

Current Zoning Agua Mansa Ind. Proposed Zoning: Agua Mansa Ind.

Total Daily Project Trips: 290 (vehicle trips)= 850 (PCE trips).

Note: 50% of trips are to and from the truck terminal on Industrial Dr.

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	0	0	0	32	46	78 (PCE)
PM Trips	0	0	0	30	37	67 (PCE)

Internal Trip Allowance Yes **No** (0 % Trip Discount)

Pass-By Trip Allowance Yes **No** (0 % Trip Discount)

For appropriate land uses, a pass-by trip discount may be allowed not to exceed 25%. Discount trips shall be indicated on a report figure for intersections and access locations.

2. Trip Geographic Distribution: N 50 % S 0 % E 50 % W 0 %

(Detailed exhibits of trip distribution must be attached with Trucks as a separate exhibit)

3. Background Growth Traffic

Project Completion Year: 2017 Annual Background Growth Rate: 0 %

Other Phase Years None

Other area projects to be considered:

(Contact Planning for Lists. Correlate projects to exhibit map and also indicate which projects have been included in study area forecasts for existing + background growth + project + cumulative)

Model/Forecast methodology:

4. Study Intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

1. S Riverside Ave/Site Driveway
2. S Riverside Ave/Industrial Dr
3. S Riverside Ave/W Jurupa Ave
4. S Riverside Ave/W Santa Ana Ave
5. S. Riverside Ave/Slover Ave
6. S Riverside Ave/I10 Eastbound Ramps
7. S Riverside Ave/I10 Westbound Ramps

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

1. S. Riverside Ave (Industrial Dr to I10)
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

6. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or within one-mile of another jurisdictional boundary? __x__ YES _____ NO

If so, name of Jurisdiction: **City of Colton**

7. Site Plan (please attach 11" x 17" legible copy)

8. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (to be filled out by the City of Rialto Public Works Department) (NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing un-signalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

_____

_____

_____

_____

9. Existing Conditions

Traffic count data must be new or within one year. Provide traffic count dates if using other than new counts.

Date of counts: _____

NOTE Fees are due and must be submitted with, or prior to submittal of this form. The City will not process the Scoping Agreement prior to the receipt of the processing fee.

Fees Paid: _____ Date _____

Recommended:

Scoping Agreement Submittal date _____

Scoping Agreement Resubmittal date _____

Sara T. Hawley P.E. 2/23/17

Applicant/Engineer Date

Land Use Concurrence:

2/27/17

Development Services Department Date

Approved by:

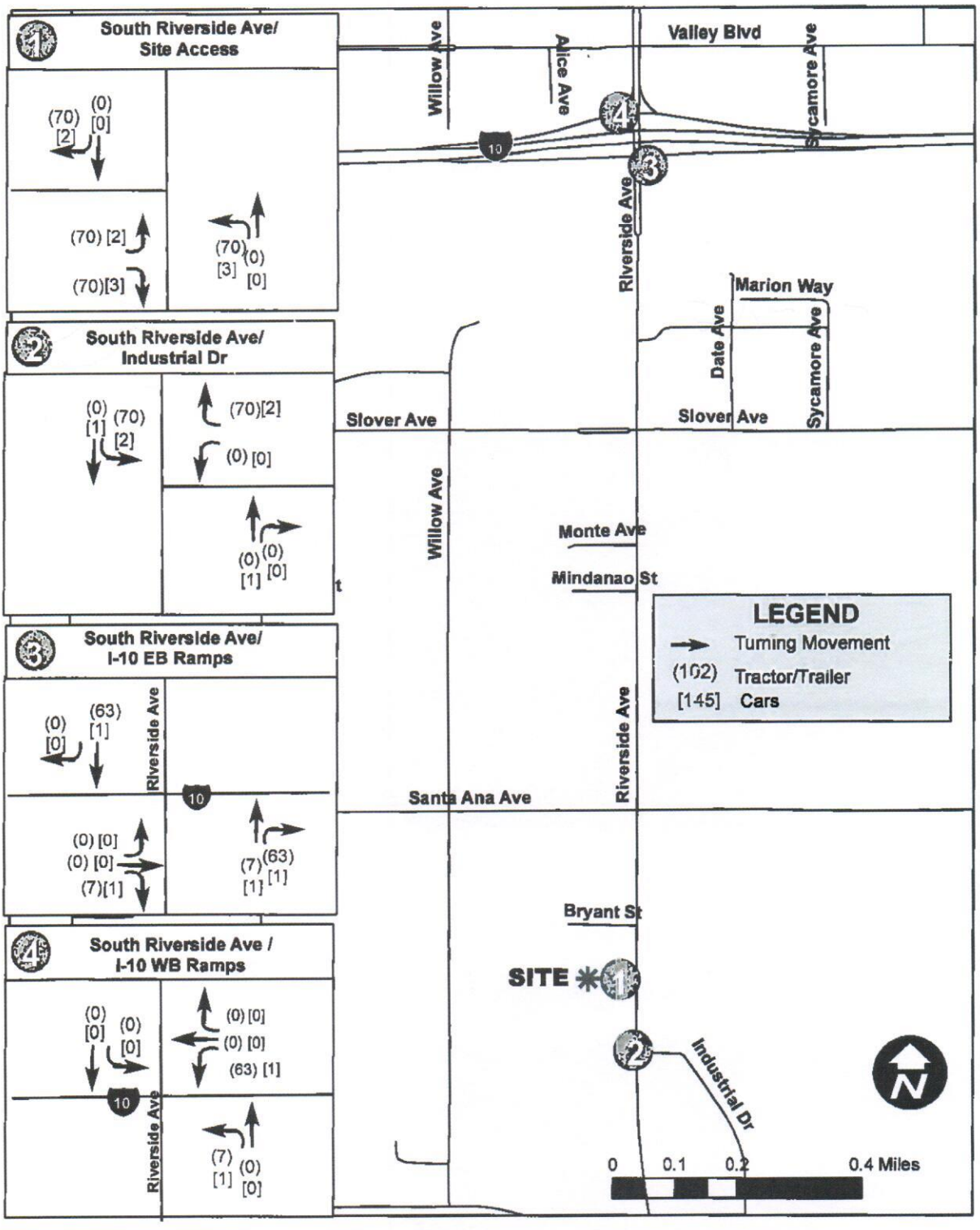
2/27/17

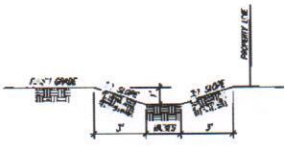
Public Works Department Date

NOTE:

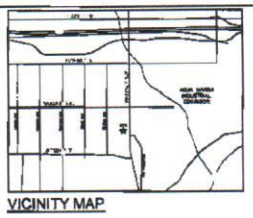
The Applicant/Engineer acknowledges that the Scoping Agreement is intended to assist in the preparation of any required TIA. It is preliminary in nature and the City does not have sufficient data to determine the ultimate conditions that may be imposed for the project. It does not provide nor limit the requirements imposed on the Project but is intended only to provide initial input into the parameters for review of the traffic generated by the Project and the initial areas to be considered and studied. Subsequent changes to scope of required analysis to be included in the TIA may be required by the Transportation Commission, Planning Commission, and/or the City Council upon Public Works Director/City Engineer review and approval.

Exhibit 1
Daily Project Generated Turning Movements





INFILTRATION BASIN DETAIL

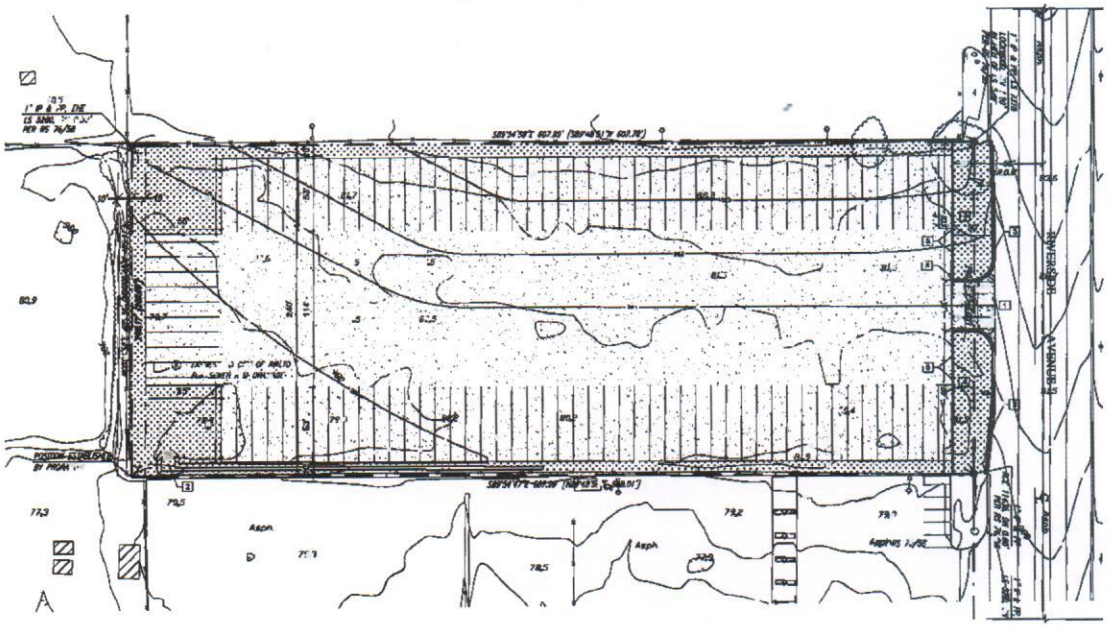


VICINITY MAP

LEGEND

PLAN REFERENCE NOTES

1. CONSTRUCT DRIVEWAY APPROACH PER STREET PLAN (SEPARATE PERMIT).
2. CONSTRUCT INFILTRATION BASIN PER DETAIL HEREIN.
3. CONSTRUCT 6" CURB AND GUTTER PER CITY STANDARD SC-201.
4. INSTALL DECORATIVE LANDSCAPE ROCKS.
5. CONSTRUCT 6' HIGH SCREEN WALL PER CITY STANDARD - SEE SCREEN WALL DETAILS ON SHEET C 1.
6. NEW WROUGHT IRON MANUAL SLIDING GATE



GRADING PLAN

SCALE: 1" = 20'

SITE IMPROVEMENTS

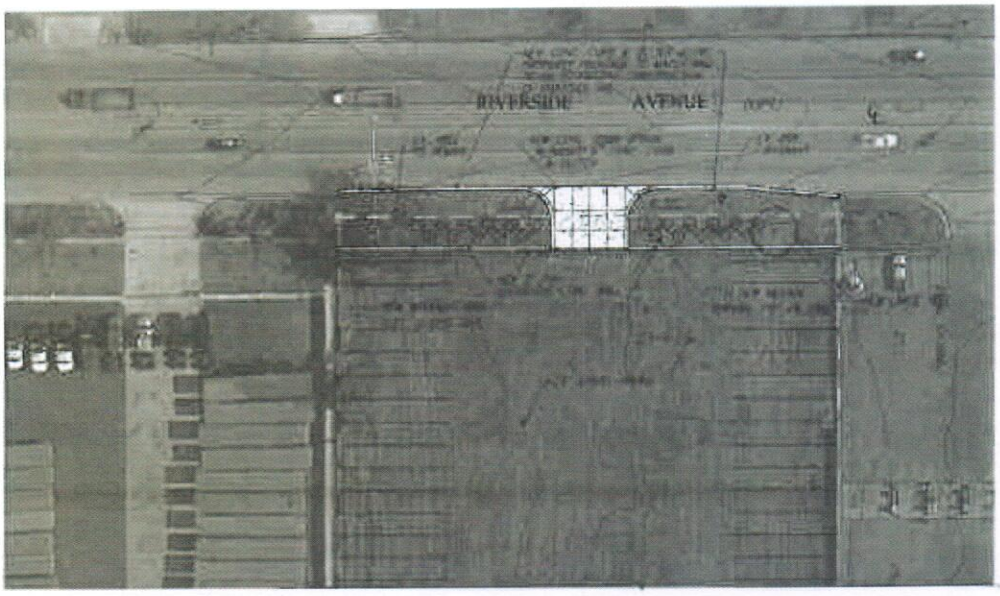
RIVERSIDE DR RIALTO, CALIFORNIA

CROWN ENTERPRISES, INC.

12236 STEPHENS WARREN, MICHIGAN

Precise Grading Plan

C.2

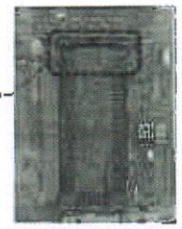


ENLARGED STREETSCAPE PLAN
SCALE: 1" = 20'

PERENNIAL NATIVE PLANTS:

ATRIPLEX CONFERTIFOLIA	"HOP SAGE"
ARTEMISIA PALMERI	"SAN DIEGO SAGEBRUSH"
ARTEMISIA PYCNOCEPHALA	"BEACH WORMWOOD"
AGAVE UTAHENSIS	"UTAH AGAVE"

NOTE:
PROPOSED LANDSCAPING ALONG RIVERSIDE DRIVE TO MEET CITY of RIALTO MUNICIPAL CODE REQUIREMENTS FOR LANDSCAPING AND BUFFERING,
TITLE 18 - ZONING Chapter 18.61.050 Section E



KEY PLAN
SCALE: N.T.S

SITE IMPROVEMENTS RIVERSIDE DR RIALTO, CALIFORNIA	DRAWN BY JMH
CROWN ENTERPRISES, INC. 1228 STEPHENS WARREN, MICHIGAN	DATE 3-24-15
Streetscape Plan	C.4

APPENDIX **B**

TRAFFIC COUNT DATA SHEETS

Prepared by National Data & Surveying Services

S Riverside Ave & I-10 WB Ramps

Peak Hour Turning Movement Count

ID: 18-06047-001
City: Rialto

Day: Thursday
Date: 04/12/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND — S Riverside Ave

AM	518	997	0	0	1170	AM
NOON	0	0	0	0	0	NOON
PM	374	1119	0	0	1980	PM

1 4 0 0

EASTBOUND — I-10 WB Ramps

AM	NOON	PM	
671	0	617	⇦
0	0	0	0 ↶
0	0	0	0 ↱
0	0	0	0 →
0	0	0	0 ↷
AM	NOON	PM	

WESTBOUND — I-10 WB Ramps

PM	NOON	AM	
508	0	350	1.3 ↰
2	0	5	0.3 ←
424	0	420	1.3 ↰
0	0	0	0 ↶
0	0	0	⇨
PM	NOON	AM	

CONTROL

Signalized

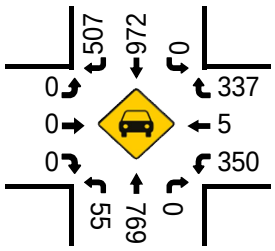
TEV	3271 AM	0 NOON	4140 PM
PHF	0.98		0.97

0 2 3 0

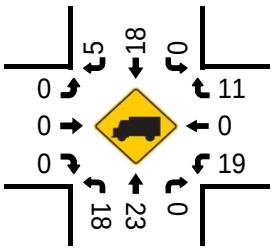
NORTHBOUND — S Riverside Ave

PM	1543	0	241	1472	0 PM
NOON	0	0	0	0	0 NOON
AM	1430	13	148	820	0 AM

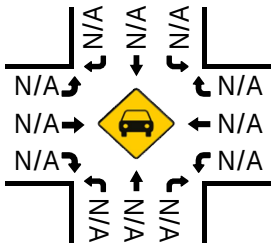
Cars (AM)



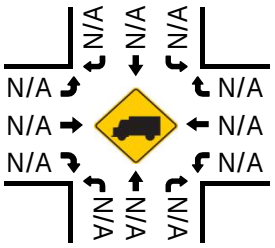
2axle (AM)



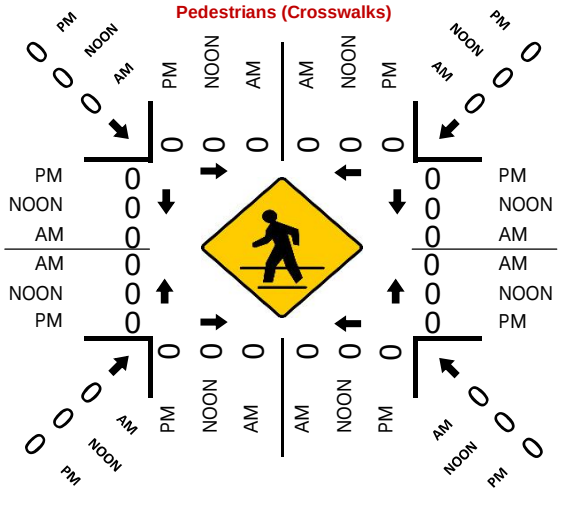
Cars (NOON)



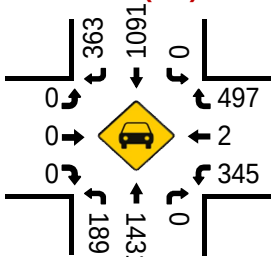
2axle (NOON)



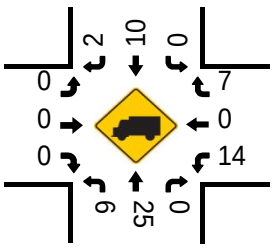
Pedestrians (Crosswalks)



Cars (PM)



2axle (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	36	194	0	5	0	241	145	0	0	0	0	0	111	2	95	0	829
7:15 AM	37	185	0	3	0	253	146	0	0	0	0	0	106	1	89	0	820
7:30 AM	30	211	0	2	0	270	141	0	0	0	0	0	90	1	88	0	833
7:45 AM	45	230	0	3	0	233	86	0	0	0	0	0	113	1	78	0	789
8:00 AM	35	176	0	0	0	248	123	0	0	0	0	0	94	0	64	0	740
8:15 AM	37	163	0	3	0	238	119	0	0	0	0	0	87	3	86	0	736
8:30 AM	48	184	0	2	0	225	114	0	0	0	0	0	81	0	96	0	750
8:45 AM	45	201	0	0	0	199	102	0	0	0	0	0	71	0	80	0	698
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	313	1544	0	18	0	1907	976	0	0	0	0	0	753	8	676	0	6195
APPROACH %'s :	16.69%	82.35%	0.00%	0.96%	0.00%	66.15%	33.85%	0.00%					52.40%	0.56%	47.04%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	148	820	0	13	0	997	518	0	0	0	0	0	420	5	350	0	3271
PEAK HR FACTOR :	0.822	0.891	0.000	0.650	0.000	0.923	0.887	0.000	0.000	0.000	0.000	0.000	0.929	0.625	0.921	0.000	0.982
	0.882				0.922								0.931				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	58	356	0	0	0	266	102	0	0	0	0	0	93	1	127	0	1003
4:15 PM	51	343	0	1	0	252	104	0	0	0	0	0	90	0	118	0	959
4:30 PM	61	356	0	0	0	294	97	0	0	0	0	0	95	0	144	0	1047
4:45 PM	61	357	0	0	0	263	89	0	0	0	0	0	99	0	112	0	981
5:00 PM	60	374	0	0	0	301	92	0	0	0	0	0	114	0	109	0	1050
5:15 PM	59	385	0	0	0	261	96	0	0	0	0	0	116	2	143	0	1062
5:30 PM	49	368	0	0	0	266	105	0	0	0	0	0	121	1	119	0	1029
5:45 PM	52	361	0	0	0	244	84	0	0	0	0	0	113	0	98	0	952
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	451	2900	0	1	0	2147	769	0	0	0	0	0	841	4	970	0	8083
APPROACH %'s :	13.45%	86.52%	0.00%	0.03%	0.00%	73.63%	26.37%	0.00%					46.34%	0.22%	53.44%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	241	1472	0	0	0	1119	374	0	0	0	0	0	424	2	508	0	4140
PEAK HR FACTOR :	0.988	0.956	0.000	0.000	0.000	0.929	0.964	0.000	0.000	0.000	0.000	0.000	0.914	0.250	0.882	0.000	0.975
	0.965				0.950								0.895				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	181	0	5	0	232	141	0	0	0	0	0	90	2	94	0	757
7:15 AM	9	168	0	3	0	245	146	0	0	0	0	0	88	1	87	0	747
7:30 AM	15	199	0	2	0	268	136	0	0	0	0	0	75	1	84	0	780
7:45 AM	19	221	0	3	0	227	84	0	0	0	0	0	97	1	72	0	724
8:00 AM	17	165	0	0	0	240	122	0	0	0	0	0	70	0	62	0	676
8:15 AM	11	145	0	3	0	225	113	0	0	0	0	0	46	3	81	0	627
8:30 AM	14	169	0	2	0	212	110	0	0	0	0	0	55	0	91	0	653
8:45 AM	19	184	0	0	0	179	97	0	0	0	0	0	57	0	80	0	616
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	1432	0	18	0	1828	949	0	0	0	0	0	578	8	651	0	5580
APPROACH %'s :	7.41%	91.44%	0.00%	1.15%	0.00%	65.83%	34.17%	0.00%					46.73%	0.65%	52.63%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	55	769	0	13	0	972	507	0	0	0	0	0	350	5	337	0	3008
PEAK HR FACTOR :	0.72	0.870	0.000	0.650	0.000	0.907	0.868	0.000	0.000	0.000	0.000	0.000	0.902	0.625	0.896	0.000	0.964
	0.861				0.915								0.930				

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	41	348	0	0	0	255	100	0	0	0	0	0	74	0	124	0	942
4:15 PM	38	332	0	0	0	240	101	0	0	0	0	0	61	0	114	0	886
4:30 PM	46	345	0	0	0	289	94	0	0	0	0	0	67	0	140	0	981
4:45 PM	48	346	0	0	0	256	85	0	0	0	0	0	79	0	108	0	922
5:00 PM	46	365	0	0	0	292	90	0	0	0	0	0	94	0	109	0	996
5:15 PM	49	375	0	0	0	254	94	0	0	0	0	0	105	2	140	0	1019
5:30 PM	39	363	0	0	0	258	101	0	0	0	0	0	101	1	115	0	978
5:45 PM	39	356	0	0	0	240	84	0	0	0	0	0	80	0	95	0	894
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	346	2830	0	0	0	2084	749	0	0	0	0	0	661	3	945	0	7618
APPROACH %'s :	10.89%	89.11%	0.00%	0.00%	0.00%	73.56%	26.44%	0.00%					41.08%	0.19%	58.73%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	189	1431	0	0	0	1091	363	0	0	0	0	0	345	2	497	0	3918
PEAK HR FACTOR :	0.96	0.954	0.000	0.000	0.000	0.934	0.965	0.000	0.000	0.000	0.000	0.000	0.821	0.250	0.888	0.000	0.961
	0.955				0.949								0.854				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	6	4	0	0	0	7	1	0	0	0	0	0	5	0	1	0	24
7:15 AM	5	8	0	0	0	5	0	0	0	0	0	0	9	0	2	0	29
7:30 AM	4	6	0	0	0	1	3	0	0	0	0	0	4	0	3	0	21
7:45 AM	3	5	0	0	0	5	1	0	0	0	0	0	1	0	5	0	20
8:00 AM	2	4	0	0	0	3	0	0	0	0	0	0	2	0	2	0	13
8:15 AM	4	8	0	0	0	10	1	0	0	0	0	0	4	0	4	0	31
8:30 AM	7	3	0	0	0	11	1	0	0	0	0	0	3	0	4	0	29
8:45 AM	6	9	0	0	0	12	3	0	0	0	0	0	2	0	0	0	32
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	37	47	0	0	0	54	10	0	0	0	0	0	30	0	21	0	199
APPROACH %'s :	44.05%	55.95%	0.00%	0.00%	0.00%	84.38%	15.63%	0.00%					58.82%	0.00%	41.18%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	18	23	0	0	0	18	5	0	0	0	0	0	19	0	11	0	94
PEAK HR FACTOR :	0.750	0.719	0.000	0.000	0.000	0.643	0.417	0.000	0.000	0.000	0.000	0.000	0.528	0.000	0.550	0.000	0.810
	0.788				0.719								0.682				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	3	0	0	0	6	0	0	0	0	0	0	3	1	2	0	17
4:15 PM	0	1	0	0	0	9	3	0	0	0	0	0	5	0	2	0	20
4:30 PM	3	7	0	0	0	1	0	0	0	0	0	0	4	0	3	0	18
4:45 PM	2	6	0	0	0	4	0	0	0	0	0	0	4	0	3	0	19
5:00 PM	0	4	0	0	0	4	0	0	0	0	0	0	4	0	0	0	12
5:15 PM	1	8	0	0	0	1	2	0	0	0	0	0	2	0	1	0	15
5:30 PM	0	1	0	0	0	2	1	0	0	0	0	0	3	0	2	0	9
5:45 PM	1	2	0	0	0	3	0	0	0	0	0	0	4	0	1	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	32	0	0	0	30	6	0	0	0	0	0	29	1	14	0	121
APPROACH %'s :	21.95%	78.05%	0.00%	0.00%	0.00%	83.33%	16.67%	0.00%					65.91%	2.27%	31.82%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	6	25	0	0	0	10	2	0	0	0	0	0	14	0	7	0	64
PEAK HR FACTOR :	0.50	0.781	0.000	0.000	0.000	0.625	0.250	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.583	0.000	0.842
	0.775				0.750								0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	1	0	0	0	0	0	0	0	0	0	0	4	0	0	0	9
7:15 AM	6	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	9
7:30 AM	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
7:45 AM	2	2	0	0	0	1	0	0	0	0	0	0	2	0	0	0	7
8:00 AM	4	3	0	0	0	3	0	0	0	0	0	0	4	0	0	0	14
8:15 AM	5	4	0	0	0	1	0	0	0	0	0	0	4	0	0	0	14
8:30 AM	4	3	0	0	0	1	1	0	0	0	0	0	3	0	0	0	12
8:45 AM	4	3	0	0	0	3	0	0	0	0	0	0	3	0	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	17	0	0	0	10	1	0	0	0	0	0	21	0	0	0	83
APPROACH %'s :	66.67%	33.33%	0.00%	0.00%	0.00%	90.91%	9.09%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	17	4	0	0	0	2	0	0	0	0	0	0	7	0	0	0	30
PEAK HR FACTOR :	0.708	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.438	0.000	0.000	0.000	0.833
	0.750				0.500								0.438				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	8
4:15 PM	4	6	0	1	0	2	0	0	0	0	0	0	4	0	0	0	17
4:30 PM	3	1	0	0	0	1	2	0	0	0	0	0	2	0	1	0	10
4:45 PM	1	2	0	0	0	1	2	0	0	0	0	0	4	0	0	0	10
5:00 PM	3	2	0	0	0	2	1	0	0	0	0	0	1	0	0	0	9
5:15 PM	2	1	0	0	0	4	0	0	0	0	0	0	2	0	0	0	9
5:30 PM	2	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	6
5:45 PM	3	2	0	0	0	1	0	0	0	0	0	0	9	0	1	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	23	15	0	1	0	12	8	0	0	0	0	0	24	0	2	0	85
APPROACH %'s :	58.97%	38.46%	0.00%	2.56%	0.00%	60.00%	40.00%	0.00%					92.31%	0.00%	7.69%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	9	6	0	0	0	8	5	0	0	0	0	0	9	0	1	0	38
PEAK HR FACTOR :	0.75	0.750	0.000	0.000	0.000	0.500	0.625	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.250	0.000	0.950
	0.750				0.813								0.625				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 WB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-001
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 WB Ramps				I-10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	14	8	0	0	0	2	3	0	0	0	0	0	12	0	0	0	39
7:15 AM	17	8	0	0	0	2	0	0	0	0	0	0	8	0	0	0	35
7:30 AM	6	6	0	0	0	1	2	0	0	0	0	0	11	0	1	0	27
7:45 AM	21	2	0	0	0	0	1	0	0	0	0	0	13	0	1	0	38
8:00 AM	12	4	0	0	0	2	1	0	0	0	0	0	18	0	0	0	37
8:15 AM	17	6	0	0	0	2	5	0	0	0	0	0	33	0	1	0	64
8:30 AM	23	9	0	0	0	1	2	0	0	0	0	0	20	0	1	0	56
8:45 AM	16	5	0	0	0	5	2	0	0	0	0	0	9	0	0	0	37
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	126	48	0	0	0	15	16	0	0	0	0	0	124	0	4	0	333
APPROACH %'s :	72.41%	27.59%	0.00%	0.00%	0.00%	48.39%	51.61%	0.00%					96.88%	0.00%	3.13%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	58	24	0	0	0	5	6	0	0	0	0	0	44	0	2	0	139
PEAK HR FACTOR :	0.690	0.750	0.000	0.000	0.000	0.625	0.500	0.000	0.000	0.000	0.000	0.000	0.846	0.000	0.500	0.000	0.891
	0.820				0.550								0.821				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	0	4	1	0	0	0	0	0	1.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	5	0	0	0	5	1	0	0	0	0	0	14	0	1	0	36
4:15 PM	9	4	0	0	0	1	0	0	0	0	0	0	20	0	2	0	36
4:30 PM	9	3	0	0	0	3	1	0	0	0	0	0	22	0	0	0	38
4:45 PM	10	3	0	0	0	2	2	0	0	0	0	0	12	0	1	0	30
5:00 PM	11	3	0	0	0	3	1	0	0	0	0	0	15	0	0	0	33
5:15 PM	7	1	0	0	0	2	0	0	0	0	0	0	7	0	2	0	19
5:30 PM	8	3	0	0	0	5	1	0	0	0	0	0	17	0	2	0	36
5:45 PM	9	1	0	0	0	0	0	0	0	0	0	0	20	0	1	0	31
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	73	23	0	0	0	21	6	0	0	0	0	0	127	0	9	0	259
APPROACH %'s :	76.04%	23.96%	0.00%	0.00%	0.00%	77.78%	22.22%	0.00%					93.38%	0.00%	6.62%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	37	10	0	0	0	10	4	0	0	0	0	0	56	0	3	0	120
PEAK HR FACTOR :	0.84	0.833	0.000	0.000	0.000	0.833	0.500	0.000	0.000	0.000	0.000	0.000	0.636	0.000	0.375	0.000	0.789
	0.839				0.875								0.670				

Prepared by National Data & Surveying Services

S Riverside Ave & I-10 EB Ramps

Peak Hour Turning Movement Count

ID: 18-06047-002
City: Rialto

Day: Thursday
Date: 04/12/2018

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — S Riverside Ave

AM	0	1046	373	2	981	AM
NOON	0	0	0	0	0	NOON
PM	0	1122	436	1	1735	PM

EASTBOUND — I-10 EB Ramps

AM	NOON	PM	
0	0	0	
0	0	0	0
312	0	564	1.3
7	0	0	0.3
323	0	306	1.3
AM	NOON	PM	

WESTBOUND — I-10 EB Ramps

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
927	0	648	
PM	NOON	AM	

NORTHBOUND — S Riverside Ave

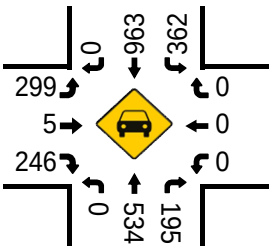
PM	1428	0	0	1170	491	PM
NOON	0	0	0	0	0	NOON
AM	1370	1	0	667	268	AM

	0	2	2	0
	0	0	2.5	0.5

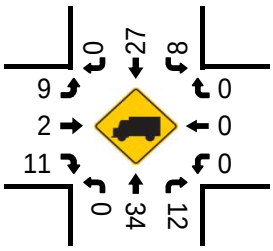
CONTROL: Signalized

TEV	2999 AM	0 NOON	4090 PM
PHF	0.93		0.97

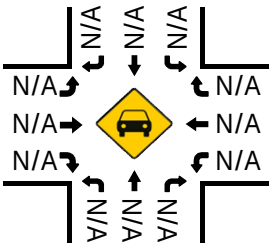
Cars (AM)



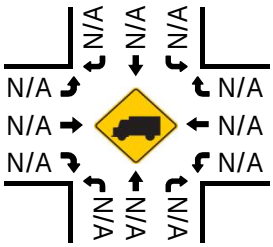
2axle (AM)



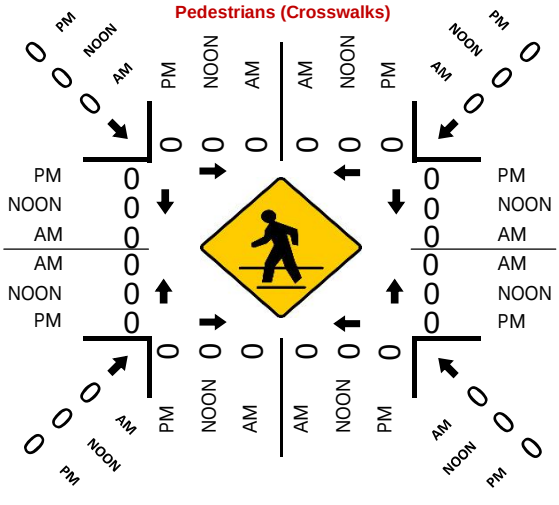
Cars (NOON)



2axle (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	169	75	1	75	261	0	2	64	2	61	0	0	0	0	0	710
7:15 AM	0	156	51	0	106	271	0	0	72	4	70	0	0	0	0	0	730
7:30 AM	0	154	71	0	103	251	0	0	88	0	90	0	0	0	0	0	757
7:45 AM	0	188	71	0	89	263	0	0	88	1	102	0	0	0	0	0	802
8:00 AM	0	153	71	0	97	260	0	0	65	0	61	0	0	0	0	0	707
8:15 AM	0	141	80	0	94	240	0	0	73	0	79	0	0	0	0	0	707
8:30 AM	0	142	63	0	115	199	0	1	84	1	67	0	0	0	0	0	672
8:45 AM	0	181	112	0	85	187	0	0	78	1	61	0	0	0	0	0	705
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1284	594	1	764	1932	0	3	612	9	591	0	0	0	0	0	5790
APPROACH %'s :	0.00%	68.33%	31.61%	0.05%	28.31%	71.58%	0.00%	0.11%	50.50%	0.74%	48.76%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	667	268	1	373	1046	0	2	312	7	323	0	0	0	0	0	2999
PEAK HR FACTOR :	0.000	0.887	0.893	0.250	0.880	0.965	0.000	0.250	0.886	0.438	0.792	0.000	0.000	0.000	0.000	0.000	0.935
		0.903				0.942				0.840							

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	259	115	0	123	236	0	0	159	0	69	0	0	0	0	0	961
4:15 PM	0	255	141	0	118	218	0	0	140	0	73	0	0	0	0	0	945
4:30 PM	0	300	124	0	140	259	0	0	122	0	50	0	0	0	0	0	995
4:45 PM	0	289	116	0	103	266	0	0	126	1	50	0	0	0	0	0	951
5:00 PM	0	285	129	0	124	293	0	0	152	0	65	0	0	0	0	0	1048
5:15 PM	0	316	125	0	100	274	0	0	140	0	96	0	0	0	0	0	1051
5:30 PM	0	290	106	0	97	290	0	0	126	0	81	0	0	0	0	0	990
5:45 PM	0	279	131	0	115	265	0	1	146	0	64	0	0	0	0	0	1001
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2273	987	0	920	2101	0	1	1111	1	548	0	0	0	0	0	7942
APPROACH %'s :	0.00%	69.72%	30.28%	0.00%	30.44%	69.52%	0.00%	0.03%	66.93%	0.06%	33.01%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	1170	491	0	436	1122	0	1	564	0	306	0	0	0	0	0	4090
PEAK HR FACTOR :	0.000	0.926	0.937	0.000	0.879	0.957	0.000	0.250	0.928	0.000	0.797	0.000	0.000	0.000	0.000	0.000	0.973
		0.942				0.935				0.922							

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	129	57	1	71	236	0	2	62	1	45	0	0	0	0	0	604
7:15 AM	0	120	35	0	102	249	0	0	66	3	56	0	0	0	0	0	631
7:30 AM	0	132	53	0	103	236	0	0	85	0	64	0	0	0	0	0	673
7:45 AM	0	153	50	0	86	242	0	0	86	1	81	0	0	0	0	0	699
8:00 AM	0	127	48	0	95	228	0	0	62	0	44	0	0	0	0	0	604
8:15 AM	0	104	50	0	85	196	0	0	63	0	58	0	0	0	0	0	556
8:30 AM	0	101	37	0	108	168	0	1	81	0	40	0	0	0	0	0	536
8:45 AM	0	141	66	0	80	158	0	0	71	1	31	0	0	0	0	0	548
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1007	396	1	730	1713	0	3	576	6	419	0	0	0	0	0	4851
APPROACH %'s :	0.00%	71.72%	28.21%	0.07%	29.84%	70.03%	0.00%	0.12%	57.54%	0.60%	41.86%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	534	195	1	362	963	0	2	299	5	246	0	0	0	0	0	2607
PEAK HR FACTOR :	0.00	0.873	0.855	0.250	0.879	0.967	0.000	0.250	0.869	0.417	0.759	0.000	0.000	0.000	0.000	0.000	0.932
		0.899				0.945				0.818							

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	239	97	0	120	208	0	0	157	0	53	0	0	0	0	0	874
4:15 PM	0	235	122	0	117	179	0	0	134	0	52	0	0	0	0	0	839
4:30 PM	0	281	103	0	139	228	0	0	114	0	31	0	0	0	0	0	896
4:45 PM	0	261	97	0	101	242	0	0	125	1	41	0	0	0	0	0	868
5:00 PM	0	270	110	0	122	268	0	0	149	0	44	0	0	0	0	0	963
5:15 PM	0	293	112	0	99	257	0	0	140	0	82	0	0	0	0	0	983
5:30 PM	0	279	93	0	96	261	0	0	124	0	64	0	0	0	0	0	917
5:45 PM	0	261	112	0	114	229	0	1	145	0	41	0	0	0	0	0	903
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2119	846	0	908	1872	0	1	1088	1	408	0	0	0	0	0	7243
APPROACH %'s :	0.00%	71.47%	28.53%	0.00%	32.65%	67.31%	0.00%	0.04%	72.68%	0.07%	27.25%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	1103	427	0	431	1015	0	1	558	0	231	0	0	0	0	0	3766
PEAK HR FACTOR :	0.00	0.941	0.953	0.000	0.883	0.947	0.000	0.250	0.936	0.000	0.704	0.000	0.000	0.000	0.000	0.000	0.958
		0.944				0.928				0.889							

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	14	2	0	3	8	0	0	1	1	1	0	0	0	0	0	30
7:15 AM	0	4	3	0	2	11	0	0	6	1	2	0	0	0	0	0	29
7:30 AM	0	8	5	0	0	4	0	0	2	0	2	0	0	0	0	0	21
7:45 AM	0	8	2	0	3	4	0	0	0	0	6	0	0	0	0	0	23
8:00 AM	0	6	4	0	1	6	0	0	1	0	5	0	0	0	0	0	23
8:15 AM	0	7	5	0	6	8	0	0	6	0	2	0	0	0	0	0	34
8:30 AM	0	8	6	0	6	7	0	0	1	1	3	0	0	0	0	0	32
8:45 AM	0	10	24	0	4	10	0	0	4	0	3	0	0	0	0	0	55
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	65	51	0	25	58	0	0	21	3	24	0	0	0	0	0	247
APPROACH %'s :	0.00%	56.03%	43.97%	0.00%	30.12%	69.88%	0.00%	0.00%	43.75%	6.25%	50.00%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	34	12	0	8	27	0	0	9	2	11	0	0	0	0	0	103
PEAK HR FACTOR :	0.000	0.607	0.600	0.000	0.667	0.614	0.000	0.000	0.375	0.500	0.458	0.000	0.000	0.000	0.000	0.000	0.858
		0.719				0.673				0.611							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	6	4	0	1	8	0	0	0	0	4	0	0	0	0	0	23
4:15 PM	0	1	2	0	1	12	0	0	0	0	4	0	0	0	0	0	20
4:30 PM	0	7	0	0	0	4	0	0	4	0	3	0	0	0	0	0	18
4:45 PM	0	9	2	0	1	8	0	0	0	0	0	0	0	0	0	0	20
5:00 PM	0	1	0	0	1	7	0	0	1	0	2	0	0	0	0	0	12
5:15 PM	0	6	4	0	0	3	0	0	0	0	1	0	0	0	0	0	14
5:30 PM	0	2	2	0	0	6	0	0	1	0	1	0	0	0	0	0	12
5:45 PM	0	4	3	0	1	5	0	0	0	0	3	0	0	0	0	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	36	17	0	5	53	0	0	6	0	18	0	0	0	0	0	135
APPROACH %'s :	0.00%	67.92%	32.08%	0.00%	8.62%	91.38%	0.00%	0.00%	25.00%	0.00%	75.00%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	13	9	0	2	21	0	0	2	0	7	0	0	0	0	0	54
PEAK HR FACTOR :	0.00	0.542	0.563	0.000	0.500	0.750	0.000	0.000	0.500	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.844
		0.550				0.719				0.750							

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	4	1	0	0	6	0	0	1	0	3	0	0	0	0	0	15
7:15 AM	0	8	2	0	1	1	0	0	0	0	3	0	0	0	0	0	15
7:30 AM	0	4	2	0	0	0	0	0	0	0	2	0	0	0	0	0	8
7:45 AM	0	4	5	0	0	3	0	0	1	0	2	0	0	0	0	0	15
8:00 AM	0	7	2	0	0	6	0	0	1	0	3	0	0	0	0	0	19
8:15 AM	0	6	4	0	1	3	0	0	1	0	2	0	0	0	0	0	17
8:30 AM	0	7	0	0	0	4	0	0	1	0	3	0	0	0	0	0	15
8:45 AM	0	6	4	0	1	5	0	0	1	0	4	0	0	0	0	0	21
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	46	20	0	3	28	0	0	6	0	22	0	0	0	0	0	125
APPROACH %'s :	0.00%	69.70%	30.30%	0.00%	9.68%	90.32%	0.00%	0.00%	21.43%	0.00%	78.57%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	20	10	0	1	10	0	0	2	0	10	0	0	0	0	0	53
PEAK HR FACTOR :	0.000	0.625	0.500	0.000	0.250	0.417	0.000	0.000	0.500	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.883
		0.750				0.458				0.750							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	4	2	0	0	2	0	0	0	0	4	0	0	0	0	0	12
4:15 PM	0	6	3	0	0	7	0	0	3	0	6	0	0	0	0	0	25
4:30 PM	0	4	2	0	0	4	0	0	0	0	6	0	0	0	0	0	16
4:45 PM	0	4	1	0	0	3	0	0	0	0	0	0	0	0	0	0	8
5:00 PM	0	4	3	0	0	3	0	0	1	0	5	0	0	0	0	0	16
5:15 PM	0	5	1	0	0	6	0	0	0	0	2	0	0	0	0	0	14
5:30 PM	0	3	3	0	0	1	0	0	0	0	6	0	0	0	0	0	13
5:45 PM	0	3	3	0	0	10	0	0	1	0	5	0	0	0	0	0	22
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	33	18	0	0	36	0	0	5	0	34	0	0	0	0	0	126
APPROACH %'s :	0.00%	64.71%	35.29%	0.00%	0.00%	100.00%	0.00%	0.00%	12.82%	0.00%	87.18%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	15	10	0	0	20	0	0	2	0	18	0	0	0	0	0	65
PEAK HR FACTOR :	0.00	0.750	0.833	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.739
		0.893				0.500				0.833							

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & I-10 EB Ramps
City: Rialto
Control: Signalized

Project ID: 18-06047-002
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				I-10 EB Ramps				I-10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	22	15	0	1	11	0	0	0	0	12	0	0	0	0	0	61
7:15 AM	0	24	11	0	1	10	0	0	0	0	9	0	0	0	0	0	55
7:30 AM	0	10	11	0	0	11	0	0	1	0	22	0	0	0	0	0	55
7:45 AM	0	23	14	0	0	14	0	0	1	0	13	0	0	0	0	0	65
8:00 AM	0	13	17	0	1	20	0	0	1	0	9	0	0	0	0	0	61
8:15 AM	0	24	21	0	2	33	0	0	3	0	17	0	0	0	0	0	100
8:30 AM	0	26	20	0	1	20	0	0	1	0	21	0	0	0	0	0	89
8:45 AM	0	24	18	0	0	14	0	0	2	0	23	0	0	0	0	0	81
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	166	127	0	6	133	0	0	9	0	126	0	0	0	0	0	567
APPROACH %'s :	0.00%	56.66%	43.34%	0.00%	4.32%	95.68%	0.00%	0.00%	6.67%	0.00%	93.33%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	79	51	0	2	46	0	0	2	0	56	0	0	0	0	0	236
PEAK HR FACTOR :	0.000	0.823	0.850	0.000	0.500	0.821	0.000	0.000	0.500	0.000	0.636	0.000	0.000	0.000	0.000	0.000	0.908
		0.878				0.857				0.630							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	0.5	0	2	2	0	0	1.3	0.3	1.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	10	12	0	2	18	0	0	2	0	8	0	0	0	0	0	52
4:15 PM	0	13	14	0	0	20	0	0	3	0	11	0	0	0	0	0	61
4:30 PM	0	8	19	0	1	23	0	0	4	0	10	0	0	0	0	0	65
4:45 PM	0	15	16	0	1	13	0	0	1	0	9	0	0	0	0	0	55
5:00 PM	0	10	16	0	1	15	0	0	1	0	14	0	0	0	0	0	57
5:15 PM	0	12	8	0	1	8	0	0	0	0	11	0	0	0	0	0	40
5:30 PM	0	6	8	0	1	22	0	0	1	0	10	0	0	0	0	0	48
5:45 PM	0	11	13	0	0	21	0	0	0	0	15	0	0	0	0	0	60
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	85	106	0	7	140	0	0	12	0	88	0	0	0	0	0	438
APPROACH %'s :	0.00%	44.50%	55.50%	0.00%	4.76%	95.24%	0.00%	0.00%	12.00%	0.00%	88.00%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	39	45	0	3	66	0	0	2	0	50	0	0	0	0	0	205
PEAK HR FACTOR :	0.00	0.813	0.703	0.000	0.750	0.750	0.000	0.000	0.500	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.854
		0.808				0.750				0.867							

Prepared by National Data & Surveying Services

S Riverside Ave & Santa Ana Ave

Peak Hour Turning Movement Count

ID: 18-06047-004
City: Bloomington

Day: Thursday
Date: 04/12/2018

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND

AM	95	912	34	0	756	AM
NOON	0	0	0	0	0	NOON
PM	68	1222	30	0	1188	PM

EASTBOUND (Santa Ana Ave)

AM	NOON	PM	
163	0	152	
0	0	0	0
63	0	87	0
14	0	10	1
48	0	73	0
AM	NOON	PM	

WESTBOUND (Santa Ana Ave)

PM	NOON	AM	
52	0	27	0
14	0	12	2
26	0	16	0
0	0	0	0
49	0	73	
PM	NOON	AM	

NORTHBOUND

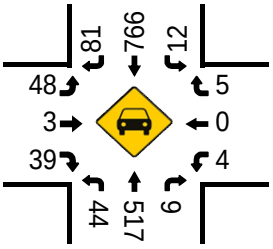
PM	1321	0	70	1049	9	PM
NOON	0	0	0	0	0	NOON
AM	976	0	56	666	25	AM

	0	3	0	0
	0	0	3	0

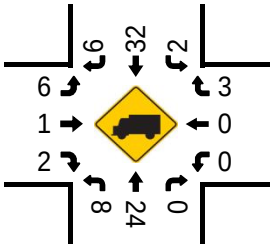
CONTROL: Signalized

TEV	1968 AM	0 NOON	2710 PM
PHF	0.93		0.93

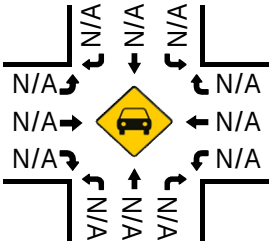
Cars (AM)



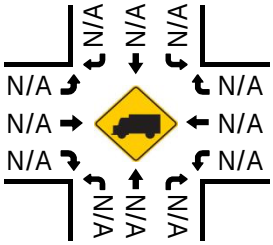
2axle (AM)



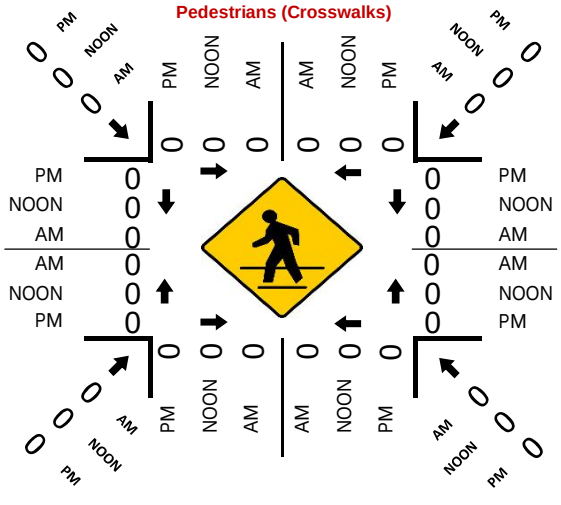
Cars (NOON)



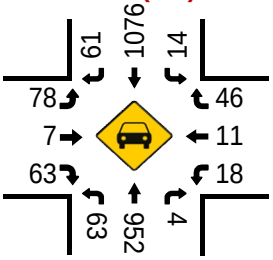
2axle (NOON)



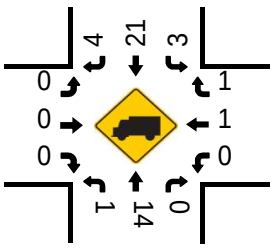
Pedestrians (Crosswalks)



Cars (PM)



2axle (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	24	160	3	0	13	196	23	0	7	7	14	0	4	3	10	0	464
7:15 AM	15	146	4	1	8	217	31	0	10	8	11	0	4	5	7	0	467
7:30 AM	14	185	1	0	4	222	23	0	14	7	9	0	2	3	7	0	491
7:45 AM	21	178	7	0	11	234	25	0	17	4	13	0	5	6	9	0	530
8:00 AM	13	154	6	0	2	231	26	0	13	2	16	0	2	2	7	0	474
8:15 AM	8	149	11	0	17	225	21	0	19	1	10	0	7	1	4	0	473
8:30 AM	12	162	7	0	19	193	18	1	15	1	9	0	8	4	12	0	461
8:45 AM	9	202	8	0	23	182	15	0	25	5	13	0	9	1	8	0	500
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	1336	47	1	97	1700	182	1	120	35	95	0	41	25	64	0	3860
APPROACH %'s :	7.73%	89.07%	3.13%	0.07%	4.90%	85.86%	9.19%	0.05%	48.00%	14.00%	38.00%	0.00%	31.54%	19.23%	49.23%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	56	666	25	0	34	912	95	0	63	14	48	0	16	12	27	0	1968
PEAK HR FACTOR :	0.667	0.900	0.568	0.000	0.500	0.974	0.913	0.000	0.829	0.500	0.750	0.000	0.571	0.500	0.750	0.000	0.928
	0.907				0.964				0.919				0.688				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	16	244	6	0	9	234	18	0	19	6	26	0	10	6	11	0	605
4:15 PM	19	220	5	0	12	248	10	0	16	3	19	0	5	2	17	0	576
4:30 PM	21	202	6	0	7	261	13	0	18	1	18	0	12	1	15	0	575
4:45 PM	9	224	9	0	7	238	19	1	11	1	12	0	5	2	9	0	547
5:00 PM	22	274	4	0	5	296	19	0	24	5	21	0	7	3	23	0	703
5:15 PM	15	271	1	0	9	340	15	0	24	2	25	0	9	2	12	0	725
5:30 PM	18	269	3	0	7	309	15	0	23	2	15	0	7	5	10	0	683
5:45 PM	15	235	1	0	9	277	19	0	16	1	12	0	3	4	7	0	599
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	135	1939	35	0	65	2203	128	1	151	21	148	0	58	25	104	0	5013
APPROACH %'s :	6.40%	91.94%	1.66%	0.00%	2.71%	91.91%	5.34%	0.04%	47.19%	6.56%	46.25%	0.00%	31.02%	13.37%	55.61%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	70	1049	9	0	30	1222	68	0	87	10	73	0	26	14	52	0	2710
PEAK HR FACTOR :	0.795	0.957	0.563	0.000	0.833	0.899	0.895	0.000	0.906	0.500	0.730	0.000	0.722	0.700	0.565	0.000	0.934
	0.940				0.907				0.833				0.697				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	23	125	1	0	8	166	19	0	4	1	13	0	0	0	2	0	362
7:15 AM	14	109	2	1	7	189	29	0	8	2	9	0	1	2	0	0	373
7:30 AM	10	152	0	0	0	193	22	0	13	0	8	0	1	0	1	0	400
7:45 AM	18	137	3	0	7	201	18	0	12	0	11	0	1	0	1	0	409
8:00 AM	10	117	4	0	0	200	24	0	9	2	11	0	0	0	1	0	378
8:15 AM	6	111	2	0	5	172	17	0	14	1	9	0	2	0	2	0	341
8:30 AM	10	111	2	0	6	160	15	1	11	1	7	0	0	4	4	0	332
8:45 AM	8	159	3	0	11	139	14	0	9	3	10	0	2	1	1	0	360
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	99	1021	17	1	44	1420	158	1	80	10	78	0	7	7	12	0	2955
APPROACH %'s :	8.70%	89.72%	1.49%	0.09%	2.71%	87.49%	9.74%	0.06%	47.62%	5.95%	46.43%	0.00%	26.92%	26.92%	46.15%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	44	517	9	0	12	766	81	0	48	3	39	0	4	0	5	0	1528
PEAK HR FACTOR :	0.61	0.850	0.563	0.000	0.429	0.953	0.844	0.000	0.857	0.375	0.886	0.000	0.500	0.000	0.625	0.000	0.934
	0.880				0.950				0.938				0.563				

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	214	5	0	4	199	15	0	16	6	19	0	7	4	7	0	511
4:15 PM	17	195	3	0	8	203	10	0	16	3	17	0	5	2	16	0	495
4:30 PM	19	182	5	0	5	220	10	0	15	1	17	0	9	1	13	0	497
4:45 PM	6	198	4	0	5	207	18	1	6	0	11	0	3	1	7	0	467
5:00 PM	20	254	3	0	2	265	16	0	21	4	18	0	6	3	21	0	633
5:15 PM	15	246	1	0	5	306	14	0	22	1	22	0	8	1	10	0	651
5:30 PM	15	247	0	0	4	273	13	0	21	1	12	0	3	3	8	0	600
5:45 PM	13	205	0	0	3	232	18	0	14	1	11	0	1	4	7	0	509
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	120	1741	21	0	36	1905	114	1	131	17	127	0	42	19	89	0	4363
APPROACH %'s :	6.38%	92.51%	1.12%	0.00%	1.75%	92.66%	5.54%	0.05%	47.64%	6.18%	46.18%	0.00%	28.00%	12.67%	59.33%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	63	952	4	0	14	1076	61	0	78	7	63	0	18	11	46	0	2393
PEAK HR FACTOR :	0.79	0.937	0.333	0.000	0.700	0.879	0.847	0.000	0.886	0.438	0.716	0.000	0.563	0.688	0.548	0.000	0.919
	0.920				0.885				0.822				0.625				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	10	0	0	0	8	1	0	1	0	0	0	0	0	1	0	21
7:15 AM	0	7	0	0	0	12	0	0	0	1	0	0	0	0	1	0	21
7:30 AM	4	8	0	0	1	5	0	0	0	1	0	0	0	0	0	0	19
7:45 AM	2	6	0	0	1	7	3	0	3	0	0	0	0	0	2	0	24
8:00 AM	1	5	0	0	0	7	1	0	1	0	2	0	0	0	0	0	17
8:15 AM	1	5	0	0	0	13	2	0	2	0	0	0	0	0	1	0	24
8:30 AM	1	7	0	0	0	7	0	0	4	0	0	0	0	0	0	0	19
8:45 AM	0	13	1	0	1	13	0	0	13	0	0	0	0	0	1	0	42
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	61	1	0	3	72	7	0	24	2	2	0	0	0	6	0	187
APPROACH %'s :	12.68%	85.92%	1.41%	0.00%	3.66%	87.80%	8.54%	0.00%	85.71%	7.14%	7.14%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	8	24	0	0	2	32	6	0	6	1	2	0	0	0	3	0	84
PEAK HR FACTOR :	0.500	0.750	0.000	0.000	0.500	0.615	0.500	0.000	0.500	0.250	0.250	0.000	0.000	0.000	0.375	0.000	0.875
	0.667				0.667				0.750				0.375				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	2	0	0	0	7	2	0	1	0	1	0	1	0	2	0	17
4:15 PM	0	2	0	0	0	11	0	0	0	0	0	0	0	0	0	0	13
4:30 PM	1	4	0	0	0	3	2	0	0	0	1	0	1	0	0	0	12
4:45 PM	0	4	0	0	1	6	1	0	0	0	0	0	0	0	0	0	12
5:00 PM	1	2	0	0	2	2	1	0	0	0	0	0	0	0	0	0	8
5:15 PM	0	3	0	0	1	6	1	0	0	0	0	0	0	0	1	0	12
5:30 PM	0	4	0	0	0	6	2	0	0	0	0	0	0	1	0	0	13
5:45 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	26	0	0	4	48	9	0	1	0	2	0	2	1	3	0	99
APPROACH %'s :	10.34%	89.66%	0.00%	0.00%	6.56%	78.69%	14.75%	0.00%	33.33%	0.00%	66.67%	0.00%	33.33%	16.67%	50.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	14	0	0	3	21	4	0	0	0	0	0	0	1	1	0	45
PEAK HR FACTOR :	0.25	0.700	0.000	0.000	0.375	0.750	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.865
	0.750				0.875								0.500				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	2	1	0	1	3	1	0	0	5	0	0	2	0	2	0	18
7:15 AM	0	6	0	0	0	3	1	0	1	5	0	0	1	1	2	0	20
7:30 AM	0	7	0	0	0	2	0	0	0	4	0	0	1	0	0	0	14
7:45 AM	1	5	1	0	0	7	0	0	1	4	1	0	2	0	0	0	22
8:00 AM	0	8	1	0	1	5	0	0	1	0	2	0	0	0	1	0	19
8:15 AM	1	5	1	0	2	13	1	0	0	0	0	0	1	0	0	0	24
8:30 AM	0	6	1	0	2	5	1	0	0	0	1	0	1	0	1	0	18
8:45 AM	0	7	1	0	0	7	0	0	0	1	0	0	1	0	1	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	46	6	0	6	45	4	0	3	19	4	0	9	1	7	0	153
APPROACH %'s :	5.45%	83.64%	10.91%	0.00%	10.91%	81.82%	7.27%	0.00%	11.54%	73.08%	15.38%	0.00%	52.94%	5.88%	41.18%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	2	25	3	0	3	27	1	0	2	8	3	0	4	0	1	0	79
PEAK HR FACTOR :	0.500	0.781	0.750	0.000	0.375	0.519	0.250	0.000	0.500	0.500	0.375	0.000	0.500	0.000	0.250	0.000	0.823
	0.833				0.484				0.542				0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	5	0	0	1	6	0	0	0	0	1	0	1	1	1	0	16
4:15 PM	1	5	0	0	3	12	0	0	0	0	1	0	0	0	0	0	22
4:30 PM	0	4	0	0	1	6	0	0	0	0	0	0	1	0	0	0	12
4:45 PM	3	6	2	0	0	5	0	0	2	1	1	0	1	1	0	0	22
5:00 PM	0	5	1	0	1	10	0	0	0	1	1	0	1	0	0	0	20
5:15 PM	0	7	0	0	1	9	0	0	0	0	2	0	0	0	1	0	20
5:30 PM	1	4	0	0	2	6	0	0	0	1	0	0	3	1	0	0	18
5:45 PM	0	4	0	0	1	10	1	0	2	0	0	0	1	0	0	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	40	3	0	10	64	1	0	4	3	6	0	8	3	2	0	149
APPROACH %'s :	10.42%	83.33%	6.25%	0.00%	13.33%	85.33%	1.33%	0.00%	30.77%	23.08%	46.15%	0.00%	61.54%	23.08%	15.38%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	20	1	0	5	35	1	0	2	2	3	0	5	1	1	0	77
PEAK HR FACTOR :	0.25	0.714	0.250	0.000	0.625	0.875	0.250	0.000	0.250	0.500	0.375	0.000	0.417	0.250	0.250	0.000	0.963
	0.786				0.854				0.875				0.438				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Santa Ana Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-004
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Santa Ana Ave				Santa Ana Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	23	1	0	4	19	2	0	2	1	1	0	2	3	5	0	63
7:15 AM	1	24	2	0	1	13	1	0	1	0	2	0	2	2	4	0	53
7:30 AM	0	18	1	0	3	22	1	0	1	2	1	0	0	3	6	0	58
7:45 AM	0	30	3	0	3	19	4	0	1	0	1	0	2	6	6	0	75
8:00 AM	2	24	1	0	1	19	1	0	2	0	1	0	2	2	5	0	60
8:15 AM	0	28	8	0	10	27	1	0	3	0	1	0	4	1	1	0	84
8:30 AM	1	38	4	0	11	21	2	0	0	0	1	0	7	0	7	0	92
8:45 AM	1	23	3	0	11	23	1	0	3	1	3	0	6	0	5	0	80
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	208	23	0	44	163	13	0	13	4	11	0	25	17	39	0	565
APPROACH %'s :	2.12%	88.14%	9.75%	0.00%	20.00%	74.09%	5.91%	0.00%	46.43%	14.29%	39.29%	0.00%	30.86%	20.99%	48.15%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	2	100	13	0	17	87	7	0	7	2	4	0	8	12	18	0	277
PEAK HR FACTOR :	0.250	0.833	0.406	0.000	0.425	0.806	0.438	0.000	0.583	0.250	1.000	0.000	0.500	0.500	0.750	0.000	0.824
	0.799				0.730				0.813				0.679				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	23	1	0	4	22	1	0	2	0	5	0	1	1	1	0	61
4:15 PM	1	18	2	0	1	22	0	0	0	0	1	0	0	0	1	0	46
4:30 PM	1	12	1	0	1	32	1	0	3	0	0	0	1	0	2	0	54
4:45 PM	0	16	3	0	1	20	0	0	3	0	0	0	1	0	2	0	46
5:00 PM	1	13	0	0	0	19	2	0	3	0	2	0	0	0	2	0	42
5:15 PM	0	15	0	0	2	19	0	0	2	1	1	0	1	1	0	0	42
5:30 PM	2	14	3	0	1	24	0	0	2	0	3	0	1	0	2	0	52
5:45 PM	2	21	1	0	5	28	0	0	0	0	1	0	1	0	0	0	59
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	132	11	0	15	186	4	0	15	1	13	0	6	2	10	0	402
APPROACH %'s :	4.67%	88.00%	7.33%	0.00%	7.32%	90.73%	1.95%	0.00%	51.72%	3.45%	44.83%	0.00%	33.33%	11.11%	55.56%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	5	63	4	0	8	90	2	0	7	1	7	0	3	1	4	0	195
PEAK HR FACTOR :	0.63	0.750	0.333	0.000	0.400	0.804	0.250	0.000	0.583	0.250	0.583	0.000	0.750	0.250	0.500	0.000	0.826
	0.750				0.758				0.750				0.667				

Prepared by National Data & Surveying Services

S Riverside Ave & Slover Ave

Peak Hour Turning Movement Count

ID: 18-06047-003
City: Bloomington

Day: Thursday
Date: 04/12/2018

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

S Riverside Ave — SOUTHBOUND

AM	351	998	29	2	891	AM
NOON	0	0	0	0	0	NOON
PM	226	1181	14	0	1606	PM

EASTBOUND — Slover Ave

AM	NOON	PM		
413	0	262	⇦	
0	0	0	↶	0
206	0	378	↱	1
17	0	107	→	2
40	0	115	↴	0
AM	NOON	PM		

WESTBOUND — Slover Ave

PM	NOON	AM		
57	0	20	↰	0
14	0	11	←	2
15	0	19	↰	1
0	0	0	↶	0
135	0	59	⇨	
PM	NOON	AM		

	0	2	1	0

	0	1	2	0

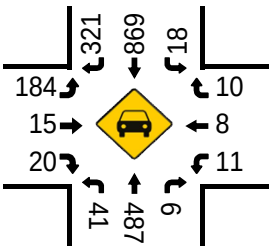
CONTROL: Signalized

TEV	2422 AM	0 NOON	3320 PM
PHF	0.94		0.94

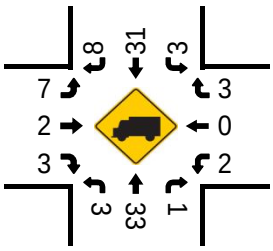
NORTHBOUND — S Riverside Ave

PM	1317	6	22	1171	14	PM
NOON	0	0	0	0	0	NOON
AM	1059	2	51	663	13	AM

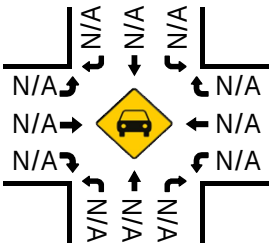
Cars (AM)



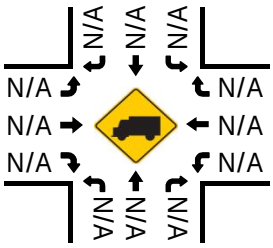
2axle (AM)



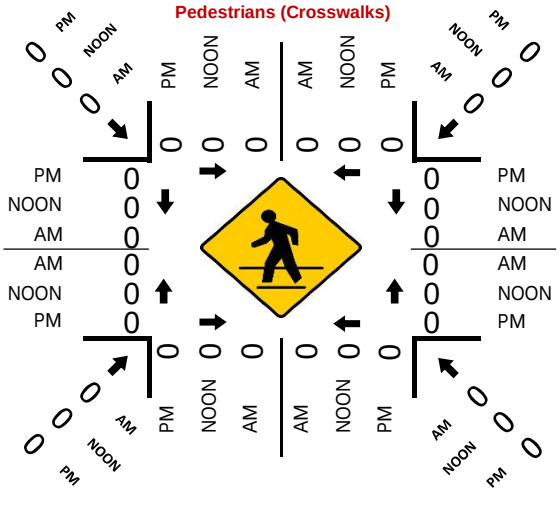
Cars (NOON)



2axle (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	129	3	0	9	215	110	0	74	6	10	0	4	12	5	0	594
7:15 AM	17	145	7	0	10	246	88	0	47	2	3	0	5	2	5	0	577
7:30 AM	12	177	1	0	4	240	87	0	54	5	14	0	6	4	5	0	609
7:45 AM	15	191	4	1	4	254	90	0	51	5	13	0	4	3	6	0	641
8:00 AM	7	150	1	1	11	258	86	2	54	5	10	0	4	2	4	0	595
8:15 AM	8	161	2	3	16	243	48	0	48	8	11	0	4	4	6	0	562
8:30 AM	9	180	6	0	8	224	52	0	53	9	7	0	6	5	4	0	563
8:45 AM	9	213	3	1	5	196	40	0	48	13	10	0	5	7	3	0	553
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	94	1346	27	6	67	1876	601	2	429	53	78	0	38	39	38	0	4694
APPROACH %'s :	6.38%	91.38%	1.83%	0.41%	2.63%	73.68%	23.61%	0.08%	76.61%	9.46%	13.93%	0.00%	33.04%	33.91%	33.04%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	51	663	13	2	29	998	351	2	206	17	40	0	19	11	20	0	2422
PEAK HR FACTOR :	0.750	0.868	0.464	0.500	0.659	0.967	0.975	0.250	0.954	0.850	0.714	0.000	0.792	0.688	0.833	0.000	0.945
	0.864				0.966				0.901				0.833				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	273	2	1	5	219	66	0	109	46	28	0	10	2	25	0	792
4:15 PM	7	215	2	1	7	225	64	0	89	47	33	0	5	2	29	0	726
4:30 PM	2	290	4	0	8	239	79	0	84	32	36	0	4	4	25	0	807
4:45 PM	5	230	2	1	5	237	60	0	101	13	27	0	5	3	13	0	702
5:00 PM	2	302	1	3	3	313	44	0	86	38	31	0	2	7	9	0	841
5:15 PM	9	327	2	0	3	294	63	0	95	35	29	0	4	3	20	0	884
5:30 PM	7	261	6	3	2	301	58	0	106	11	25	0	4	1	10	0	795
5:45 PM	4	281	5	0	6	273	61	0	91	23	30	0	5	3	18	0	800
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	42	2179	24	9	39	2101	495	0	761	245	239	0	39	25	149	0	6347
APPROACH %'s :	1.86%	96.67%	1.06%	0.40%	1.48%	79.73%	18.79%	0.00%	61.12%	19.68%	19.20%	0.00%	18.31%	11.74%	69.95%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	22	1171	14	6	14	1181	226	0	378	107	115	0	15	14	57	0	3320
PEAK HR FACTOR :	0.611	0.895	0.583	0.500	0.583	0.943	0.897	0.000	0.892	0.704	0.927	0.000	0.750	0.500	0.713	0.000	0.939
	0.897				0.984				0.943				0.796				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	97	2	0	7	181	105	0	69	5	6	0	3	10	4	0	500
7:15 AM	14	95	3	0	7	220	79	0	44	1	1	0	4	2	4	0	474
7:30 AM	10	141	0	0	3	209	79	0	45	5	8	0	4	3	2	0	509
7:45 AM	13	138	3	1	2	218	85	0	50	5	5	0	1	2	4	0	527
8:00 AM	4	113	0	1	6	222	78	2	45	4	6	0	2	1	0	0	484
8:15 AM	6	111	1	3	10	182	45	0	36	7	6	0	2	4	2	0	415
8:30 AM	7	114	3	0	5	178	44	0	39	7	6	0	4	1	1	0	409
8:45 AM	6	149	3	0	4	147	32	0	35	11	5	0	4	5	2	0	403
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	71	958	15	5	44	1557	547	2	363	45	43	0	24	28	19	0	3721
APPROACH %'s :	6.77%	91.33%	1.43%	0.48%	2.05%	72.42%	25.44%	0.09%	80.49%	9.98%	9.53%	0.00%	33.80%	39.44%	26.76%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	41	487	6	2	18	869	321	2	184	15	20	0	11	8	10	0	1994
PEAK HR FACTOR :	0.73	0.863	0.500	0.500	0.643	0.979	0.944	0.250	0.920	0.750	0.625	0.000	0.688	0.667	0.625	0.000	0.946
	0.865				0.982				0.913				0.725				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	4	232	0	1	3	185	56	0	103	44	21	0	6	1	23	0	679
4:15 PM	7	186	1	1	2	178	57	0	83	46	25	0	2	2	26	0	616
4:30 PM	1	257	2	0	5	208	63	0	76	28	24	0	2	2	23	0	691
4:45 PM	4	198	1	1	2	215	52	0	97	11	20	0	2	1	10	0	614
5:00 PM	2	277	1	3	0	279	38	0	79	37	25	0	0	1	7	0	749
5:15 PM	6	301	2	0	3	264	59	0	90	33	24	0	1	1	19	0	803
5:30 PM	6	240	4	3	1	261	52	0	102	10	23	0	2	1	8	0	713
5:45 PM	3	248	3	0	1	231	45	0	90	22	25	0	1	1	16	0	686
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	33	1939	14	9	17	1821	422	0	720	231	187	0	16	10	132	0	5551
APPROACH %'s :	1.65%	97.19%	0.70%	0.45%	0.75%	80.58%	18.67%	0.00%	63.27%	20.30%	16.43%	0.00%	10.13%	6.33%	83.54%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	17	1066	10	6	5	1035	194	0	361	102	97	0	4	4	50	0	2951
PEAK HR FACTOR :	0.71	0.885	0.625	0.500	0.417	0.927	0.822	0.000	0.885	0.689	0.970	0.000	0.500	1.000	0.658	0.000	0.919
	0.889				0.946				0.952				0.690				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	9	0	0	1	5	3	0	2	1	0	0	1	1	0	0	24
7:15 AM	2	10	0	0	1	9	3	0	1	1	1	0	0	0	0	0	28
7:30 AM	0	5	0	0	0	3	4	0	5	0	0	0	1	0	1	0	19
7:45 AM	0	12	1	0	1	10	1	0	0	0	2	0	1	0	1	0	29
8:00 AM	1	6	0	0	1	9	0	0	1	1	0	0	0	0	1	0	20
8:15 AM	1	7	0	0	1	9	2	0	6	1	4	0	0	0	2	0	33
8:30 AM	1	9	0	0	1	8	1	0	7	0	0	0	0	3	1	0	31
8:45 AM	1	24	0	1	1	12	0	0	9	2	1	0	0	2	0	0	53
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	82	1	1	7	65	14	0	31	6	8	0	3	6	6	0	237
APPROACH %'s :	7.69%	90.11%	1.10%	1.10%	8.14%	75.58%	16.28%	0.00%	68.89%	13.33%	17.78%	0.00%	20.00%	40.00%	40.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	3	33	1	0	3	31	8	0	7	2	3	0	2	0	3	0	96
PEAK HR FACTOR :	0.375	0.688	0.250	0.000	0.750	0.775	0.500	0.000	0.350	0.500	0.375	0.000	0.500	0.000	0.750	0.000	0.828
	0.712				0.808				0.600				0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	6	1	0	1	11	4	0	3	0	0	0	0	0	1	0	27
4:15 PM	0	3	0	0	0	13	1	0	1	1	0	0	0	0	2	0	21
4:30 PM	0	8	0	0	0	3	3	0	2	4	4	0	0	0	0	0	24
4:45 PM	0	4	0	0	1	6	0	0	0	0	0	0	0	0	0	0	11
5:00 PM	0	2	0	0	1	6	1	0	3	1	1	0	0	2	0	0	17
5:15 PM	2	4	0	0	0	3	1	0	1	1	0	0	0	0	0	0	12
5:30 PM	0	4	0	0	0	9	1	0	1	0	1	0	0	0	0	0	16
5:45 PM	0	5	0	0	2	5	3	0	1	0	0	0	1	0	1	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	36	1	0	5	56	14	0	12	7	6	0	1	2	4	0	146
APPROACH %'s :	5.13%	92.31%	2.56%	0.00%	6.67%	74.67%	18.67%	0.00%	48.00%	28.00%	24.00%	0.00%	14.29%	28.57%	57.14%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	2	15	0	0	3	23	6	0	6	2	2	0	1	2	1	0	63
PEAK HR FACTOR :	0.25	0.750	0.000	0.000	0.375	0.639	0.500	0.000	0.500	0.500	0.500	0.000	0.250	0.250	0.250	0.000	0.875
	0.708				0.800				0.500				0.500				

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	5	0	0	1	8	1	0	0	0	1	0	0	0	1	0	18
7:15 AM	1	7	0	0	0	3	0	0	2	0	0	0	0	0	0	0	13
7:30 AM	1	4	1	0	1	1	0	0	2	0	4	0	0	0	1	0	15
7:45 AM	0	6	0	0	1	4	0	0	0	0	3	0	1	1	1	0	17
8:00 AM	0	7	0	0	1	6	1	0	4	0	1	0	1	0	1	0	22
8:15 AM	0	8	0	0	0	5	0	0	1	0	1	0	0	0	1	0	16
8:30 AM	0	8	1	0	0	4	1	0	0	0	1	0	0	1	1	0	17
8:45 AM	0	8	0	0	0	6	3	0	1	0	0	0	0	0	0	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	53	2	0	4	37	6	0	10	0	11	0	2	2	6	0	136
APPROACH %'s :	5.17%	91.38%	3.45%	0.00%	8.51%	78.72%	12.77%	0.00%	47.62%	0.00%	52.38%	0.00%	20.00%	20.00%	60.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	2	24	1	0	3	14	1	0	8	0	8	0	2	1	3	0	67
PEAK HR FACTOR :	0.500	0.857	0.250	0.000	0.750	0.583	0.250	0.000	0.500	0.000	0.500	0.000	0.500	0.250	0.750	0.000	0.761
		0.844				0.563				0.667				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	8	0	0	1	2	2	0	1	2	2	0	1	0	1	0	21
4:15 PM	0	6	0	0	0	11	2	0	3	0	4	0	0	0	0	0	26
4:30 PM	1	8	1	0	3	5	3	0	0	0	3	0	0	1	2	0	27
4:45 PM	1	5	0	0	0	2	0	0	1	0	4	0	2	1	1	0	17
5:00 PM	0	3	0	0	0	6	1	0	2	0	1	0	1	0	0	0	14
5:15 PM	1	7	0	0	0	9	0	0	2	0	3	0	0	1	0	0	23
5:30 PM	0	4	1	0	0	6	0	0	1	0	0	0	1	0	0	0	13
5:45 PM	0	5	0	0	2	10	5	0	0	0	1	0	2	1	0	0	26
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	46	2	0	6	51	13	0	10	2	18	0	7	4	4	0	167
APPROACH %'s :	7.69%	88.46%	3.85%	0.00%	8.57%	72.86%	18.57%	0.00%	33.33%	6.67%	60.00%	0.00%	46.67%	26.67%	26.67%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	19	1	0	2	31	6	0	5	0	5	0	4	2	0	0	76
PEAK HR FACTOR :	0.25	0.679	0.250	0.000	0.250	0.775	0.300	0.000	0.625	0.000	0.417	0.000	0.500	0.500	0.000	0.000	0.731
		0.656				0.574				0.500				0.500			

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Slover Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-003
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Slover Ave				Slover Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	18	1	0	0	21	1	0	3	0	3	0	0	1	0	0	52
7:15 AM	0	33	4	0	2	14	6	0	0	0	1	0	1	0	1	0	62
7:30 AM	1	27	0	0	0	27	4	0	2	0	2	0	1	1	1	0	66
7:45 AM	2	35	0	0	0	22	4	0	1	0	3	0	1	0	0	0	68
8:00 AM	2	24	1	0	3	21	7	0	4	0	3	0	1	1	2	0	69
8:15 AM	1	35	1	0	5	47	1	0	5	0	0	0	2	0	1	0	98
8:30 AM	1	49	2	0	2	34	6	0	7	2	0	0	2	0	1	0	106
8:45 AM	2	32	0	0	0	31	5	0	3	0	4	0	1	0	1	0	79
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	13	253	9	0	12	217	34	0	25	2	16	0	9	3	7	0	600
APPROACH %'s :	4.73%	92.00%	3.27%	0.00%	4.56%	82.51%	12.93%	0.00%	58.14%	4.65%	37.21%	0.00%	47.37%	15.79%	36.84%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	5	119	5	0	5	84	21	0	7	0	9	0	4	2	4	0	265
PEAK HR FACTOR :	0.625	0.850	0.313	0.000	0.417	0.778	0.750	0.000	0.438	0.000	0.750	0.000	1.000	0.500	0.500	0.000	0.960
	0.872				0.887				0.571				0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	27	1	0	0	21	4	0	2	0	5	0	3	1	0	0	65
4:15 PM	0	20	1	0	5	23	4	0	2	0	4	0	3	0	1	0	63
4:30 PM	0	17	1	0	0	23	10	0	6	0	5	0	2	1	0	0	65
4:45 PM	0	23	1	0	2	14	8	0	3	2	3	0	1	1	2	0	60
5:00 PM	0	20	0	0	2	22	4	0	2	0	4	0	1	4	2	0	61
5:15 PM	0	15	0	0	0	18	3	0	2	1	2	0	3	1	1	0	46
5:30 PM	1	13	1	0	1	25	5	0	2	1	1	0	1	0	2	0	53
5:45 PM	1	23	2	0	1	27	8	0	0	1	4	0	1	1	1	0	70
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	158	7	0	11	173	46	0	19	5	28	0	15	9	9	0	483
APPROACH %'s :	1.79%	94.05%	4.17%	0.00%	4.78%	75.22%	20.00%	0.00%	36.54%	9.62%	53.85%	0.00%	45.45%	27.27%	27.27%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	2	71	3	0	4	92	20	0	6	3	11	0	6	6	6	0	230
PEAK HR FACTOR :	0.50	0.772	0.375	0.000	0.500	0.852	0.625	0.000	0.750	0.750	0.688	0.000	0.500	0.375	0.750	0.000	0.821
	0.731				0.806				0.833				0.643				

Prepared by National Data & Surveying Services

Riverside Ave at North Central Transport Dwy & Drop Lot Dwy

Peak Hour Turning Movement Count

ID: 18-06047-005
City: Bloomington

Day: Thursday
Date: 04/12/2018

Riverside Ave at North Central Transport Dwy

SOUTHBOUND

PEAK HOURS								COUNT PERIODS
07:15 AM - 08:15 AM	AM	1	928	7	0	762	AM	07:00 AM - 09:00 AM
NONE	NOON	0	0	0	0	0	NOON	NONE
05:00 PM - 06:00 PM	PM	1	1331	5	0	1084	PM	04:00 PM - 06:00 PM

CONTROL: No Control

		AM	NOON	PM
TEV		1707	0	2434
PHF		0.90		0.90

EASTBOUND

AM	NOON	PM	
3	0	4	⇦
0	0	0	↶ 0
2	0	0	↱ 0
0	0	0	→ 1
4	0	4	↷ 0

WESTBOUND

	PM	NOON	AM
0	6	0	5
1	2	0	2
0	3	0	1
0	0	0	0
	8	0	9

NORTHBOUND

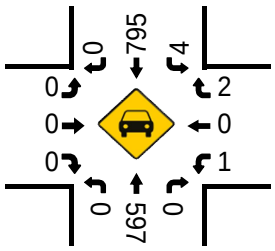
PM	1338	0	1	1078	3	PM
NOON	0	0	0	0	0	NOON
AM	933	0	0	755	2	AM

rside Ave at North Central Transport

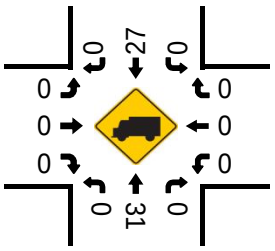
Drop Lot Dwy

Drop Lot Dwy

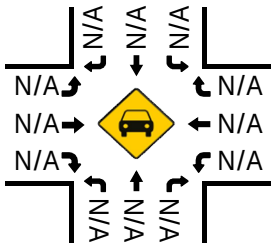
Cars (AM)



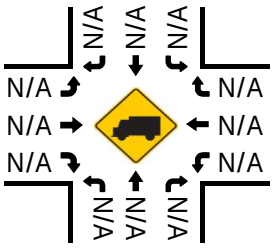
2axle (AM)



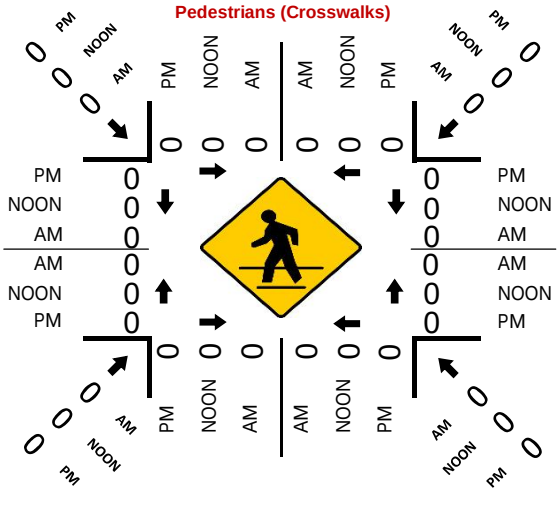
Cars (NOON)



2axle (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: Riverside Ave at North Central Transport Dwy & Drop Lot Dwy
City: Bloomington
Control: No Control

Project ID: 18-06047-005
Date: 4/12/2018

Total

NS/EW Streets:	Riverside Ave at North Central Transport Dwy				Riverside Ave at North Central Transport Dwy				Drop Lot Dwy				Drop Lot Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	185	1	0	1	190	0	0	0	1	1	0	0	2	2	0	386
7:15 AM	0	167	1	0	1	227	0	0	2	0	1	0	0	1	2	0	402
7:30 AM	0	192	0	0	0	236	0	0	0	0	1	0	1	0	1	0	431
7:45 AM	0	210	1	0	4	254	0	0	0	0	1	0	0	1	2	0	473
8:00 AM	0	186	0	0	2	211	1	0	0	0	1	0	0	0	0	0	401
8:15 AM	1	160	0	0	1	232	0	0	0	0	1	0	0	1	2	0	398
8:30 AM	1	168	0	0	3	213	0	0	0	0	1	0	0	1	2	0	389
8:45 AM	1	205	2	0	11	190	0	0	1	0	1	0	0	0	3	0	414
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	1473	5	0	23	1753	1	0	3	1	8	0	1	6	14	0	3294
APPROACH %'s :	0.40%	99.26%	0.34%	0.00%	1.29%	98.65%	0.06%	0.00%	25.00%	8.33%	66.67%	0.00%	4.76%	28.57%	66.67%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	755	2	0	7	928	1	0	2	0	4	0	1	2	5	0	1707
PEAK HR FACTOR :	0.000	0.899	0.500	0.000	0.438	0.913	0.250	0.000	0.250	0.000	1.000	0.000	0.250	0.500	0.625	0.000	0.902
	0.897				0.907				0.500				0.667				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	260	0	0	1	265	1	0	0	0	1	0	1	0	0	0	529
4:15 PM	1	237	0	0	0	284	0	0	0	1	0	0	0	0	0	0	523
4:30 PM	0	213	0	0	3	280	0	0	0	0	1	0	1	0	0	0	498
4:45 PM	0	238	3	0	0	267	0	0	1	0	0	0	2	1	2	0	514
5:00 PM	0	269	0	0	1	306	0	0	0	0	0	0	1	0	2	0	579
5:15 PM	0	295	3	0	1	371	1	0	0	0	1	0	1	1	3	0	677
5:30 PM	1	257	0	0	2	342	0	0	0	0	2	0	1	1	1	0	607
5:45 PM	0	257	0	0	1	312	0	0	0	0	1	0	0	0	0	0	571
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	2026	6	0	9	2427	2	0	1	1	6	0	7	3	8	0	4498
APPROACH %'s :	0.10%	99.61%	0.29%	0.00%	0.37%	99.55%	0.08%	0.00%	12.50%	12.50%	75.00%	0.00%	38.89%	16.67%	44.44%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	1078	3	0	5	1331	1	0	0	0	4	0	3	2	6	0	2434
PEAK HR FACTOR :	0.250	0.914	0.250	0.000	0.625	0.897	0.250	0.000	0.000	0.000	0.500	0.000	0.750	0.500	0.500	0.000	0.899
	0.908				0.896				0.500				0.550				

National Data & Surveying Services Intersection Turning Movement Count

Location: Riverside Ave at North Central Transport Dwy & Drop Lot Dwy
City: Bloomington
Control: No Control

Project ID: 18-06047-005
Date: 4/12/2018

Cars

NS/EW Streets:	Riverside Ave at North Central Transport Dwy				Riverside Ave at North Central Transport Dwy				Drop Lot Dwy				Drop Lot Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	146	1	0	1	157	0	0	0	0	0	0	0	0	2	0	307
7:15 AM	0	130	0	0	0	195	0	0	0	0	0	0	0	0	1	0	326
7:30 AM	0	162	0	0	0	205	0	0	0	0	0	0	1	0	0	0	368
7:45 AM	0	161	0	0	3	217	0	0	0	0	0	0	0	0	1	0	382
8:00 AM	0	144	0	0	1	178	0	0	0	0	0	0	0	0	0	0	323
8:15 AM	0	113	0	0	0	181	0	0	0	0	0	0	0	0	2	0	296
8:30 AM	0	113	0	0	3	162	0	0	0	0	0	0	0	0	2	0	280
8:45 AM	0	152	1	0	9	143	0	0	0	0	0	0	0	0	3	0	308
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1121	2	0	17	1438	0	0	0	0	0	0	1	0	11	0	2590
APPROACH %'s :	0.00%	99.82%	0.18%	0.00%	1.17%	98.83%	0.00%	0.00%					8.33%	0.00%	91.67%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	597	0	0	4	795	0	0	0	0	0	0	1	0	2	0	1399
PEAK HR FACTOR :	0.00	0.921	0.000	0.000	0.333	0.916	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.916
		0.921				0.908								0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	230	0	0	1	224	0	0	0	0	0	0	1	0	0	0	456
4:15 PM	0	206	0	0	0	233	0	0	0	0	0	0	0	0	0	0	439
4:30 PM	0	189	0	0	1	239	0	0	0	0	0	0	1	0	0	0	430
4:45 PM	0	207	3	0	0	235	0	0	0	0	0	0	2	1	2	0	450
5:00 PM	0	247	0	0	1	270	0	0	0	0	0	0	1	0	2	0	521
5:15 PM	0	271	3	0	1	331	0	0	0	0	0	0	1	0	3	0	610
5:30 PM	0	233	0	0	1	301	0	0	0	0	0	0	1	0	1	0	537
5:45 PM	0	227	0	0	0	268	0	0	0	0	0	0	0	0	0	0	495
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1810	6	0	5	2101	0	0	0	0	0	0	7	1	8	0	3938
APPROACH %'s :	0.00%	99.67%	0.33%	0.00%	0.24%	99.76%	0.00%	0.00%					43.75%	6.25%	50.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	978	3	0	3	1170	0	0	0	0	0	0	3	0	6	0	2163
PEAK HR FACTOR :	0.00	0.902	0.250	0.000	0.750	0.884	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.500	0.000	0.886
		0.895				0.883								0.563			

National Data & Surveying Services Intersection Turning Movement Count

Location: Riverside Ave at North Central Transport Dwy & Drop Lot Dwy
City: Bloomington
Control: No Control

Project ID: 18-06047-005
Date: 4/12/2018

2axle

NS/EW Streets:	Riverside Ave at North Central Transport Dwy				Riverside Ave at North Central Transport Dwy				Drop Lot Dwy				Drop Lot Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	10	0	0	0	7	0	0	0	0	0	0	0	0	0	0	17
7:15 AM	0	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	15
7:30 AM	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0	13
7:45 AM	0	10	0	0	0	8	0	0	0	0	0	0	0	0	0	0	18
8:00 AM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	12
8:15 AM	0	5	0	0	0	9	0	0	0	0	0	0	0	0	0	0	14
8:30 AM	0	6	0	0	0	9	0	0	0	0	0	0	0	0	0	0	15
8:45 AM	0	14	0	0	0	9	0	0	0	0	0	0	0	0	0	0	23
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	66	0	0	0	61	0	0	0	0	0	0	0	0	0	0	127
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	31	0	0	0	27	0	0	0	0	0	0	0	0	0	0	58
PEAK HR FACTOR :	0.000	0.775	0.000	0.000	0.000	0.844	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.806
		0.775				0.844											

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	5	0	0	0	9	0	0	0	0	1	0	0	0	0	0	15
4:15 PM	0	5	0	0	0	11	0	0	0	0	0	0	0	0	0	0	16
4:30 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12
4:45 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11
5:00 PM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	11
5:30 PM	0	4	0	0	0	5	0	0	0	0	0	0	0	1	0	0	10
5:45 PM	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	10
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	35	0	0	0	52	0	0	0	0	1	0	0	1	0	0	89
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	16	0	0	0	18	0	0	0	0	0	0	0	1	0	0	35
PEAK HR FACTOR :	0.00	0.800	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.795
		0.800				0.750								0.250			

National Data & Surveying Services Intersection Turning Movement Count

Location: Riverside Ave at North Central Transport Dwy & Drop Lot Dwy
City: Bloomington
Control: No Control

Project ID: 18-06047-005
Date: 4/12/2018

3axle

NS/EW Streets:	Riverside Ave at North Central Transport Dwy				Riverside Ave at North Central Transport Dwy				Drop Lot Dwy				Drop Lot Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	5	0	0	0	4	0	0	0	1	0	0	0	1	0	0	14
7:15 AM	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	11
7:30 AM	0	6	0	0	0	5	0	0	0	0	0	0	0	0	0	0	11
7:45 AM	0	8	0	0	1	8	0	0	0	0	0	0	0	0	0	0	17
8:00 AM	0	10	0	0	1	7	0	0	0	0	1	0	0	0	0	0	19
8:15 AM	1	5	0	0	0	13	0	0	0	0	0	0	0	0	0	0	19
8:30 AM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	14
8:45 AM	0	10	0	0	1	6	0	0	0	0	0	0	0	0	0	0	17
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	56	0	0	3	56	0	0	0	1	1	0	0	1	0	0	122
APPROACH %'s :	6.67%	93.33%	0.00%	0.00%	5.08%	94.92%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	29	0	0	2	26	0	0	0	0	1	0	0	0	0	0	58
PEAK HR FACTOR :	0.000	0.725	0.000	0.000	0.500	0.813	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.763
	0.725				0.778				0.250								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11
4:15 PM	1	8	0	0	0	13	0	0	0	1	0	0	0	0	0	0	23
4:30 PM	0	4	0	0	1	6	0	0	0	0	0	0	0	0	0	0	11
4:45 PM	0	9	0	0	0	5	0	0	0	0	0	0	0	0	0	0	14
5:00 PM	0	5	0	0	0	11	0	0	0	0	0	0	0	0	0	0	16
5:15 PM	0	6	0	0	0	12	0	0	0	0	0	0	0	0	0	0	18
5:30 PM	1	4	0	0	0	9	0	0	0	0	1	0	0	0	0	0	15
5:45 PM	0	4	0	0	0	10	0	0	0	0	1	0	0	0	0	0	15
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	44	0	0	1	73	0	0	0	1	2	0	0	0	0	0	123
APPROACH %'s :	4.35%	95.65%	0.00%	0.00%	1.35%	98.65%	0.00%	0.00%	0.00%	33.33%	66.67%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	19	0	0	0	42	0	0	0	0	2	0	0	0	0	0	64
PEAK HR FACTOR :	0.25	0.792	0.000	0.000	0.000	0.875	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.889
	0.833				0.875				0.500								

National Data & Surveying Services Intersection Turning Movement Count

Location: Riverside Ave at North Central Transport Dwy & Drop Lot Dwy
City: Bloomington
Control: No Control

Project ID: 18-06047-005
Date: 4/12/2018

4axle

NS/EW Streets:	Riverside Ave at North Central Transport Dwy				Riverside Ave at North Central Transport Dwy				Drop Lot Dwy				Drop Lot Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	24	0	0	0	22	0	0	0	0	1	0	0	1	0	0	48
7:15 AM	0	23	1	0	1	20	0	0	2	0	1	0	0	1	1	0	50
7:30 AM	0	18	0	0	0	19	0	0	0	0	1	0	0	0	1	0	39
7:45 AM	0	31	1	0	0	21	0	0	0	0	1	0	0	1	1	0	56
8:00 AM	0	26	0	0	0	20	1	0	0	0	0	0	0	0	0	0	47
8:15 AM	0	37	0	0	1	29	0	0	0	0	1	0	0	1	0	0	69
8:30 AM	1	42	0	0	0	35	0	0	0	0	1	0	0	1	0	0	80
8:45 AM	1	29	1	0	1	32	0	0	1	0	1	0	0	0	0	0	66
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	230	3	0	3	198	1	0	3	0	7	0	0	5	3	0	455
APPROACH %'s :	0.85%	97.87%	1.28%	0.00%	1.49%	98.02%	0.50%	0.00%	30.00%	0.00%	70.00%	0.00%	0.00%	62.50%	37.50%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	98	2	0	1	80	1	0	2	0	3	0	0	2	3	0	192
PEAK HR FACTOR :	0.000	0.790	0.500	0.000	0.250	0.952	0.250	0.000	0.250	0.000	0.750	0.000	0.000	0.500	0.750	0.000	0.857
	0.781				0.976				0.417				0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	21	0	0	0	25	1	0	0	0	0	0	0	0	0	0	47
4:15 PM	0	18	0	0	0	27	0	0	0	0	0	0	0	0	0	0	45
4:30 PM	0	15	0	0	1	28	0	0	0	0	1	0	0	0	0	0	45
4:45 PM	0	18	0	0	0	20	0	0	1	0	0	0	0	0	0	0	39
5:00 PM	0	14	0	0	0	24	0	0	0	0	0	0	0	0	0	0	38
5:15 PM	0	13	0	0	0	22	1	0	0	0	1	0	0	1	0	0	38
5:30 PM	0	16	0	0	1	27	0	0	0	0	1	0	0	0	0	0	45
5:45 PM	0	22	0	0	1	28	0	0	0	0	0	0	0	0	0	0	51
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	137	0	0	3	201	2	0	1	0	3	0	0	1	0	0	348
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	1.46%	97.57%	0.97%	0.00%	25.00%	0.00%	75.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	65	0	0	2	101	1	0	0	0	2	0	0	1	0	0	172
PEAK HR FACTOR :	0.00	0.739	0.000	0.000	0.500	0.902	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.250	0.000	0.000	0.843
	0.739				0.897				0.500				0.250				

Prepared by National Data & Surveying Services

S Riverside Ave & Industrial Dr

Peak Hour Turning Movement Count

ID: 18-06047-006
City: Bloomington

Day: Thursday
Date: 04/12/2018

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

S Riverside Ave — SOUTHBOUND

AM	0	918	34	0	740	AM
NOON	0	0	0	0	0	NOON
PM	0	1328	18	1	1070	PM

Industrial Dr — EASTBOUND

AM	NOON	PM	
0	0	0	⇦
0	0	0	↶ 0
0	0	0	↱ 0
0	0	0	→ 0
0	0	0	↷ 0
AM	NOON	PM	

WESTBOUND — Industrial Dr

PM	NOON	AM	
22	0	25	0 ↷
0	0	0	1 ←
3	0	1	0 ↶
0	0	0	0 ↶
25	0	37	⇨
PM	NOON	AM	

CONTROL

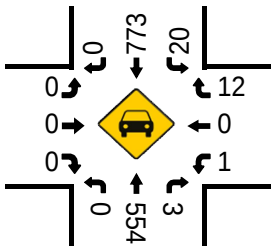
1-Way Stop (WB)

TEV	1696 AM	0 NOON	2426 PM
PHF	0.95		0.92

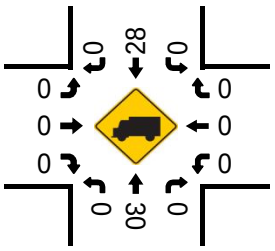
NORTHBOUND — S Riverside Ave

PM	1331	0	0	1047	7	PM
NOON	0	0	0	0	0	NOON
AM	919	0	0	715	3	AM

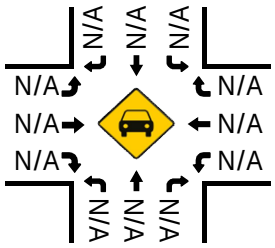
Cars (AM)



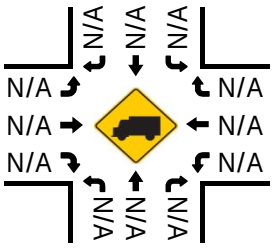
2axle (AM)



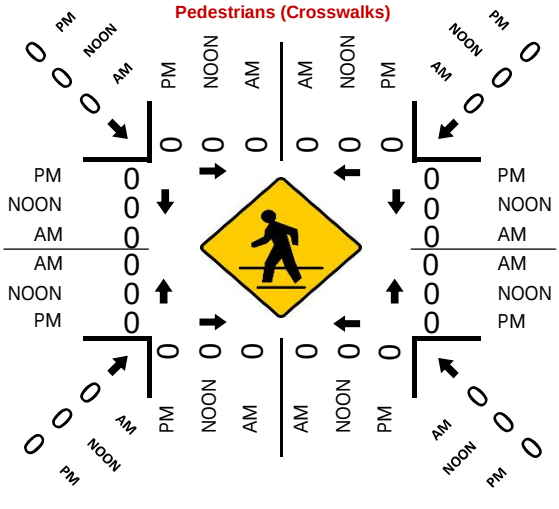
Cars (NOON)



2axle (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Industrial Dr
City: Bloomington
Control: 1-Way Stop (WB)

Project ID: 18-06047-006
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Industrial Dr				Industrial Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	174	0	0	8	189	0	0	0	0	0	0	0	0	8	0	379
7:15 AM	0	160	2	0	5	226	0	0	0	0	0	0	0	0	2	0	395
7:30 AM	0	201	2	0	6	233	0	0	0	0	0	0	0	0	3	0	445
7:45 AM	0	194	1	0	6	232	0	0	0	0	0	0	0	0	4	0	437
8:00 AM	0	177	0	0	9	217	0	0	0	0	0	0	0	0	7	0	410
8:15 AM	0	143	0	0	13	236	0	0	0	0	0	0	1	0	11	0	404
8:30 AM	0	173	0	0	10	187	0	0	0	0	0	0	1	0	7	0	378
8:45 AM	0	217	2	0	6	181	0	0	0	0	0	0	1	0	6	0	413
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1439	7	0	63	1701	0	0	0	0	0	0	3	0	48	0	3261
APPROACH %'s :	0.00%	99.52%	0.48%	0.00%	3.57%	96.43%	0.00%	0.00%					5.88%	0.00%	94.12%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	715	3	0	34	918	0	0	0	0	0	0	1	0	25	0	1696
PEAK HR FACTOR :	0.000	0.889	0.375	0.000	0.654	0.972	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.568	0.000	0.953
		0.884				0.956								0.542			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	250	1	0	8	254	0	0	0	0	0	0	1	0	6	0	520
4:15 PM	0	231	2	0	7	274	0	0	0	0	0	0	0	0	11	0	525
4:30 PM	0	204	2	0	5	268	0	0	0	0	0	0	0	0	18	0	497
4:45 PM	0	239	0	0	3	278	0	0	0	0	0	0	2	0	6	0	528
5:00 PM	0	266	0	0	3	309	0	1	0	0	0	0	1	0	10	0	590
5:15 PM	0	271	2	0	5	379	0	0	0	0	0	0	2	0	2	0	661
5:30 PM	0	273	2	0	7	335	0	0	0	0	0	0	0	0	3	0	620
5:45 PM	0	237	3	0	3	305	0	0	0	0	0	0	0	0	7	0	555
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1971	12	0	41	2402	0	1	0	0	0	0	6	0	63	0	4496
APPROACH %'s :	0.00%	99.39%	0.61%	0.00%	1.68%	98.28%	0.00%	0.04%					8.70%	0.00%	91.30%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	1047	7	0	18	1328	0	1	0	0	0	0	3	0	22	0	2426
PEAK HR FACTOR :	0.000	0.959	0.583	0.000	0.643	0.876	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.550	0.000	0.918
		0.958				0.877								0.568			

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Industrial Dr
City: Bloomington
Control: 1-Way Stop (WB)

Project ID: 18-06047-006
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Industrial Dr				Industrial Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	139	0	0	5	155	0	0	0	0	0	0	0	0	4	0	303
7:15 AM	0	125	1	0	4	196	0	0	0	0	0	0	0	0	0	0	326
7:30 AM	0	169	2	0	4	202	0	0	0	0	0	0	0	0	1	0	378
7:45 AM	0	149	1	0	3	200	0	0	0	0	0	0	0	0	2	0	355
8:00 AM	0	137	0	0	5	186	0	0	0	0	0	0	0	0	4	0	332
8:15 AM	0	99	0	0	8	185	0	0	0	0	0	0	1	0	5	0	298
8:30 AM	0	117	0	0	4	146	0	0	0	0	0	0	0	0	4	0	271
8:45 AM	0	172	1	0	3	135	0	0	0	0	0	0	0	0	0	0	311
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1107	5	0	36	1405	0	0	0	0	0	0	1	0	20	0	2574
APPROACH %'s :	0.00%	99.55%	0.45%	0.00%	2.50%	97.50%	0.00%	0.00%					4.76%	0.00%	95.24%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	554	3	0	20	773	0	0	0	0	0	0	1	0	12	0	1363
PEAK HR FACTOR :	0.00	0.820	0.375	0.000	0.625	0.957	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.600	0.000	0.901
		0.814				0.962								0.542			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	227	0	0	4	216	0	0	0	0	0	0	1	0	3	0	451
4:15 PM	0	200	2	0	1	224	0	0	0	0	0	0	0	0	8	0	435
4:30 PM	0	184	2	0	2	235	0	0	0	0	0	0	0	0	16	0	439
4:45 PM	0	210	0	0	0	244	0	0	0	0	0	0	2	0	3	0	459
5:00 PM	0	246	0	0	2	275	0	1	0	0	0	0	1	0	10	0	535
5:15 PM	0	248	2	0	3	340	0	0	0	0	0	0	2	0	0	0	595
5:30 PM	0	248	2	0	2	298	0	0	0	0	0	0	0	0	2	0	552
5:45 PM	0	207	2	0	2	261	0	0	0	0	0	0	0	0	2	0	474
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1770	10	0	16	2093	0	1	0	0	0	0	6	0	44	0	3940
APPROACH %'s :	0.00%	99.44%	0.56%	0.00%	0.76%	99.19%	0.00%	0.05%					12.00%	0.00%	88.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	949	6	0	9	1174	0	1	0	0	0	0	3	0	14	0	2156
PEAK HR FACTOR :	0.00	0.957	0.750	0.000	0.750	0.863	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.350	0.000	0.906
		0.955				0.863								0.386			

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Industrial Dr
City: Bloomington
Control: 1-Way Stop (WB)

Project ID: 18-06047-006
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Industrial Dr				Industrial Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	15
7:15 AM	0	7	0	0	0	9	0	0	0	0	0	0	0	0	0	0	16
7:30 AM	0	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	15
7:45 AM	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	15
8:00 AM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	12
8:15 AM	0	7	0	0	0	9	0	0	0	0	0	0	0	0	0	0	16
8:30 AM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	14
8:45 AM	0	11	1	0	1	10	0	0	0	0	0	0	0	0	1	0	24
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	63	1	0	1	61	0	0	0	0	0	0	0	0	1	0	127
APPROACH %'s :	0.00%	98.44%	1.56%	0.00%	1.61%	98.39%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	30	0	0	0	28	0	0	0	0	0	0	0	0	0	0	58
PEAK HR FACTOR :	0.000	0.833	0.000	0.000	0.000	0.778	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.906
		0.833				0.778											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	3	0	0	1	8	0	0	0	0	0	0	0	0	0	0	12
4:15 PM	0	5	0	0	0	13	0	0	0	0	0	0	0	0	0	0	18
4:30 PM	0	6	0	0	1	4	0	0	0	0	0	0	0	0	0	0	11
4:45 PM	0	3	0	0	0	7	0	0	0	0	0	0	0	0	0	0	10
5:00 PM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
5:15 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11
5:30 PM	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	9
5:45 PM	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	34	0	0	2	53	0	0	0	0	0	0	0	0	0	0	89
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	3.64%	96.36%	0.00%	0.00%									
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	17	0	0	0	21	0	0	0	0	0	0	0	0	0	0	38
PEAK HR FACTOR :	0.00	0.850	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.864
		0.850				0.750											

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Industrial Dr
City: Bloomington
Control: 1-Way Stop (WB)

Project ID: 18-06047-006
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Industrial Dr				Industrial Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	2	0	10
7:15 AM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	12
7:30 AM	0	8	0	0	1	4	0	0	0	0	0	0	0	0	1	0	14
7:45 AM	0	6	0	0	0	8	0	0	0	0	0	0	0	0	0	0	14
8:00 AM	0	9	0	0	3	5	0	0	0	0	0	0	0	0	1	0	18
8:15 AM	0	4	0	0	0	13	0	0	0	0	0	0	0	0	2	0	19
8:30 AM	0	7	0	0	1	6	0	0	0	0	0	0	0	0	0	0	14
8:45 AM	0	8	0	0	0	6	0	0	0	0	0	0	0	0	1	0	15
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	52	0	0	5	52	0	0	0	0	0	0	0	0	7	0	116
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	8.77%	91.23%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	27	0	0	4	30	0	0	0	0	0	0	0	0	4	0	65
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.333	0.577	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.855
		0.750				0.654								0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	3	0	0	0	7	0	0	0	0	0	0	0	0	1	0	11
4:15 PM	0	7	0	0	1	13	0	0	0	0	0	0	0	0	1	0	22
4:30 PM	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8
4:45 PM	0	7	0	0	2	6	0	0	0	0	0	0	0	0	2	0	17
5:00 PM	0	5	0	0	0	11	0	0	0	0	0	0	0	0	0	0	16
5:15 PM	0	6	0	0	0	11	0	0	0	0	0	0	0	0	1	0	18
5:30 PM	0	4	0	0	1	9	0	0	0	0	0	0	0	0	1	0	15
5:45 PM	0	4	0	0	1	8	0	0	0	0	0	0	0	0	2	0	15
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	39	0	0	5	70	0	0	0	0	0	0	0	0	8	0	122
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	6.67%	93.33%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	19	0	0	2	39	0	0	0	0	0	0	0	0	4	0	64
PEAK HR FACTOR :	0.00	0.792	0.000	0.000	0.500	0.886	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.889
		0.792				0.932								0.500			

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & Industrial Dr
City: Bloomington
Control: 1-Way Stop (WB)

Project ID: 18-06047-006
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				Industrial Dr				Industrial Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	23	0	0	3	23	0	0	0	0	0	0	0	0	2	0	51
7:15 AM	0	22	1	0	1	15	0	0	0	0	0	0	0	0	2	0	41
7:30 AM	0	15	0	0	1	21	0	0	0	0	0	0	0	0	1	0	38
7:45 AM	0	31	0	0	3	17	0	0	0	0	0	0	0	0	2	0	53
8:00 AM	0	25	0	0	1	20	0	0	0	0	0	0	0	0	2	0	48
8:15 AM	0	33	0	0	5	29	0	0	0	0	0	0	0	0	4	0	71
8:30 AM	0	42	0	0	5	28	0	0	0	0	0	0	1	0	3	0	79
8:45 AM	0	26	0	0	2	30	0	0	0	0	0	0	1	0	4	0	63
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	217	1	0	21	183	0	0	0	0	0	0	2	0	20	0	444
APPROACH %'s :	0.00%	99.54%	0.46%	0.00%	10.29%	89.71%	0.00%	0.00%					9.09%	0.00%	90.91%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	104	0	0	10	87	0	0	0	0	0	0	0	0	9	0	210
PEAK HR FACTOR :	0.000	0.788	0.000	0.000	0.500	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.739
		0.788				0.713									0.563		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	17	1	0	3	23	0	0	0	0	0	0	0	0	2	0	46
4:15 PM	0	19	0	0	5	24	0	0	0	0	0	0	0	0	2	0	50
4:30 PM	0	11	0	0	2	24	0	0	0	0	0	0	0	0	2	0	39
4:45 PM	0	19	0	0	1	21	0	0	0	0	0	0	0	0	1	0	42
5:00 PM	0	11	0	0	1	20	0	0	0	0	0	0	0	0	0	0	32
5:15 PM	0	13	0	0	2	21	0	0	0	0	0	0	0	0	1	0	37
5:30 PM	0	17	0	0	4	23	0	0	0	0	0	0	0	0	0	0	44
5:45 PM	0	21	1	0	0	30	0	0	0	0	0	0	0	0	3	0	55
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	128	2	0	18	186	0	0	0	0	0	0	0	0	11	0	345
APPROACH %'s :	0.00%	98.46%	1.54%	0.00%	8.82%	91.18%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	62	1	0	7	94	0	0	0	0	0	0	0	0	4	0	168
PEAK HR FACTOR :	0.00	0.738	0.250	0.000	0.438	0.783	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.764
		0.716				0.842									0.333		

Prepared by National Data & Surveying Services

S Riverside Ave & S Jurupa Ave

Peak Hour Turning Movement Count

ID: 18-06047-007
City: Bloomington

Day: Thursday
Date: 04/12/2018

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — S Riverside Ave

AM	44	879	0	0	736	AM
NOON	0	0	0	0	0	NOON
PM	39	1290	0	0	1052	PM

EASTBOUND — S Jurupa Ave

AM	NOON	PM	
119	0	117	
0	0	0	0
32	0	29	1
0	0	0	0
79	0	137	1

WESTBOUND — S Jurupa Ave

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

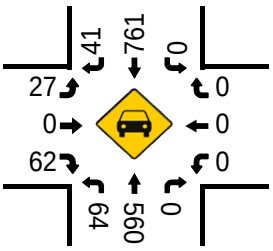
NORTHBOUND — S Riverside Ave

PM	1429	2	78	1023	0	PM
NOON	0	0	0	0	0	NOON
AM	961	3	75	704	0	AM

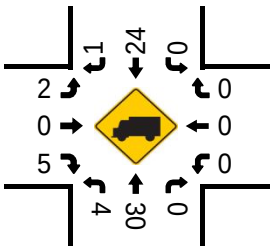
	AM	NOON	PM
Turning Movements	0	2	0	0
	0	1	2	0

CONTROL			
Signalized			
TEV	1816	0	2598
	AM	NOON	PM
PHF	0.95		0.90

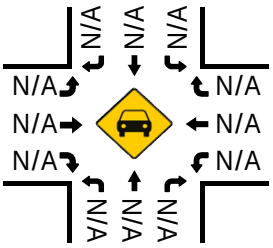
Cars (AM)



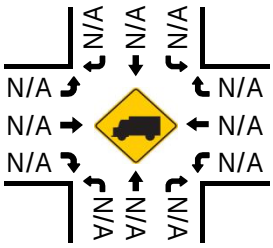
2axle (AM)



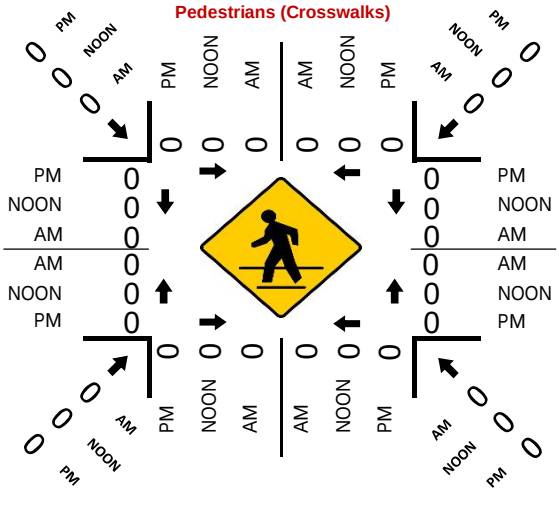
Cars (NOON)



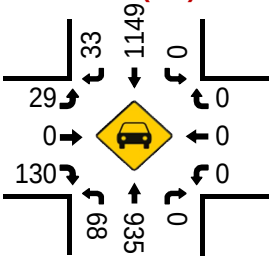
2axle (NOON)



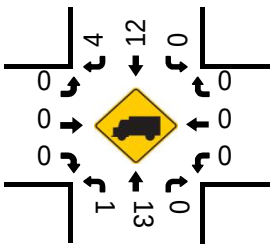
Pedestrians (Crosswalks)



Cars (PM)



2axle (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

Total

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	178	0	0	0	174	9	0	5	0	20	0	0	0	0	0	405
7:15 AM	22	161	0	0	0	207	12	0	4	0	13	0	0	0	0	0	419
7:30 AM	21	181	0	2	0	227	11	0	6	0	18	0	0	0	0	0	466
7:45 AM	16	197	0	1	0	225	10	0	9	0	19	0	0	0	0	0	477
8:00 AM	16	165	0	0	0	220	11	0	13	0	29	0	0	0	0	0	454
8:15 AM	14	138	0	0	0	218	7	0	9	0	13	0	0	0	0	0	399
8:30 AM	17	155	0	0	0	192	8	0	7	0	26	0	0	0	0	0	405
8:45 AM	17	192	0	0	0	165	9	0	15	0	23	0	0	0	0	0	421
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	142	1367	0	3	0	1628	77	0	68	0	161	0	0	0	0	0	3446
APPROACH %'s :	9.39%	90.41%	0.00%	0.20%	0.00%	95.48%	4.52%	0.00%	29.69%	0.00%	70.31%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	75	704	0	3	0	879	44	0	32	0	79	0	0	0	0	0	1816
PEAK HR FACTOR :	0.852	0.893	0.000	0.375	0.000	0.968	0.917	0.000	0.615	0.000	0.681	0.000	0.000	0.000	0.000	0.000	0.952
	0.914				0.970				0.661								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	239	0	2	0	261	14	0	14	0	36	0	0	0	0	0	589
4:15 PM	17	208	0	2	0	265	14	0	17	0	46	0	0	0	0	0	569
4:30 PM	11	186	0	0	0	258	9	0	9	0	42	0	0	0	0	0	515
4:45 PM	20	226	0	0	0	246	15	0	10	0	22	0	0	0	0	0	539
5:00 PM	22	238	0	0	0	289	8	0	12	0	39	0	0	0	0	0	608
5:15 PM	14	291	0	1	0	364	13	0	4	0	31	0	0	0	0	0	718
5:30 PM	22	252	0	1	0	355	8	0	4	0	41	0	0	0	0	0	683
5:45 PM	20	242	0	0	0	282	10	0	9	0	26	0	0	0	0	0	589
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	149	1882	0	6	0	2320	91	0	79	0	283	0	0	0	0	0	4810
APPROACH %'s :	7.31%	92.39%	0.00%	0.29%	0.00%	96.23%	3.77%	0.00%	21.82%	0.00%	78.18%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	78	1023	0	2	0	1290	39	0	29	0	137	0	0	0	0	0	2598
PEAK HR FACTOR :	0.886	0.879	0.000	0.500	0.000	0.886	0.750	0.000	0.604	0.000	0.835	0.000	0.000	0.000	0.000	0.000	0.905
	0.901				0.881				0.814								

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

Cars

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	141	0	0	0	143	9	0	4	0	15	0	0	0	0	0	331
7:15 AM	20	127	0	0	0	178	12	0	3	0	10	0	0	0	0	0	350
7:30 AM	17	152	0	0	0	198	10	0	6	0	14	0	0	0	0	0	397
7:45 AM	14	152	0	1	0	194	10	0	7	0	15	0	0	0	0	0	393
8:00 AM	13	129	0	0	0	191	9	0	11	0	23	0	0	0	0	0	376
8:15 AM	12	97	0	0	0	171	6	0	8	0	10	0	0	0	0	0	304
8:30 AM	15	103	0	0	0	148	8	0	5	0	12	0	0	0	0	0	291
8:45 AM	16	147	0	0	0	122	8	0	11	0	14	0	0	0	0	0	318
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	126	1048	0	1	0	1345	72	0	55	0	113	0	0	0	0	0	2760
APPROACH %'s :	10.72%	89.19%	0.00%	0.09%	0.00%	94.92%	5.08%	0.00%	32.74%	0.00%	67.26%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	64	560	0	1	0	761	41	0	27	0	62	0	0	0	0	0	1516
PEAK HR FACTOR :	0.80	0.921	0.000	0.250	0.000	0.961	0.854	0.000	0.614	0.000	0.674	0.000	0.000	0.000	0.000	0.000	0.955
	0.925				0.964				0.654								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	20	215	0	2	0	224	14	0	13	0	31	0	0	0	0	0	519
4:15 PM	12	179	0	2	0	224	12	0	17	0	41	0	0	0	0	0	487
4:30 PM	7	166	0	0	0	226	8	0	9	0	38	0	0	0	0	0	454
4:45 PM	16	197	0	0	0	219	12	0	9	0	21	0	0	0	0	0	474
5:00 PM	18	218	0	0	0	258	8	0	12	0	36	0	0	0	0	0	550
5:15 PM	13	270	0	1	0	329	9	0	4	0	27	0	0	0	0	0	653
5:30 PM	19	230	0	1	0	319	8	0	4	0	41	0	0	0	0	0	622
5:45 PM	18	217	0	0	0	243	8	0	9	0	26	0	0	0	0	0	521
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	123	1692	0	6	0	2042	79	0	77	0	261	0	0	0	0	0	4280
APPROACH %'s :	6.75%	92.92%	0.00%	0.33%	0.00%	96.28%	3.72%	0.00%	22.78%	0.00%	77.22%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	68	935	0	2	0	1149	33	0	29	0	130	0	0	0	0	0	2346
PEAK HR FACTOR :	0.89	0.866	0.000	0.500	0.000	0.873	0.917	0.000	0.604	0.000	0.793	0.000	0.000	0.000	0.000	0.000	0.898
	0.885				0.874				0.828								

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

2axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	10	0	0	0	6	0	0	0	0	3	0	0	0	0	0	19
7:15 AM	1	7	0	0	0	4	0	0	1	0	1	0	0	0	0	0	14
7:30 AM	2	8	0	2	0	7	0	0	0	0	2	0	0	0	0	0	21
7:45 AM	0	10	0	0	0	7	0	0	1	0	2	0	0	0	0	0	20
8:00 AM	1	5	0	0	0	6	1	0	0	0	0	0	0	0	0	0	13
8:15 AM	1	6	0	0	0	8	1	0	0	0	1	0	0	0	0	0	17
8:30 AM	1	7	0	0	0	8	0	0	0	0	6	0	0	0	0	0	22
8:45 AM	1	11	0	0	0	6	0	0	3	0	6	0	0	0	0	0	27
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	64	0	2	0	52	2	0	5	0	21	0	0	0	0	0	153
APPROACH %'s :	9.59%	87.67%	0.00%	2.74%	0.00%	96.30%	3.70%	0.00%	19.23%	0.00%	80.77%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	4	30	0	2	0	24	1	0	2	0	5	0	0	0	0	0	68
PEAK HR FACTOR :	0.500	0.750	0.000	0.250	0.000	0.857	0.250	0.000	0.500	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.810
	0.750				0.893				0.583								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	3	0	0	0	7	0	0	1	0	0	0	0	0	0	0	11
4:15 PM	1	4	0	0	0	7	1	0	0	0	2	0	0	0	0	0	15
4:30 PM	1	4	0	0	0	4	1	0	0	0	2	0	0	0	0	0	12
4:45 PM	3	5	0	0	0	3	3	0	0	0	1	0	0	0	0	0	15
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	1	5	0	0	0	3	3	0	0	0	0	0	0	0	0	0	12
5:30 PM	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	3	0	0	0	4	1	0	0	0	0	0	0	0	0	0	8
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	29	0	0	0	33	9	0	1	0	5	0	0	0	0	0	83
APPROACH %'s :	17.14%	82.86%	0.00%	0.00%	0.00%	78.57%	21.43%	0.00%	16.67%	0.00%	83.33%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	13	0	0	0	12	4	0	0	0	0	0	0	0	0	0	30
PEAK HR FACTOR :	0.25	0.650	0.000	0.000	0.000	0.600	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
	0.583				0.667												

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

3axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	5	0	0	0	4	0	0	1	0	1	0	0	0	0	0	11
7:15 AM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
7:30 AM	1	6	0	0	0	5	0	0	0	0	1	0	0	0	0	0	13
7:45 AM	0	6	0	0	0	5	0	0	0	0	1	0	0	0	0	0	12
8:00 AM	1	8	0	0	0	7	0	0	2	0	1	0	0	0	0	0	19
8:15 AM	0	2	0	0	0	11	0	0	0	0	2	0	0	0	0	0	15
8:30 AM	1	8	0	0	0	6	0	0	0	0	2	0	0	0	0	0	17
8:45 AM	0	9	0	0	0	7	0	0	1	0	1	0	0	0	0	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	49	0	0	0	50	0	0	4	0	9	0	0	0	0	0	115
APPROACH %'s :	5.77%	94.23%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	30.77%	0.00%	69.23%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	2	25	0	0	0	22	0	0	2	0	3	0	0	0	0	0	54
PEAK HR FACTOR :	0.500	0.781	0.000	0.000	0.000	0.786	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.711
	0.750				0.786				0.417								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	4	0	0	0	6	0	0	0	0	3	0	0	0	0	0	13
4:15 PM	0	10	0	0	0	13	0	0	0	0	1	0	0	0	0	0	24
4:30 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11
4:45 PM	0	10	0	0	0	4	0	0	0	0	0	0	0	0	0	0	14
5:00 PM	1	4	0	0	0	10	0	0	0	0	1	0	0	0	0	0	16
5:15 PM	0	4	0	0	0	13	0	0	0	0	1	0	0	0	0	0	18
5:30 PM	1	6	0	0	0	10	0	0	0	0	0	0	0	0	0	0	17
5:45 PM	1	3	0	0	0	9	0	0	0	0	0	0	0	0	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	45	0	0	0	72	0	0	0	0	6	0	0	0	0	0	126
APPROACH %'s :	6.25%	93.75%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	3	17	0	0	0	42	0	0	0	0	2	0	0	0	0	0	64
PEAK HR FACTOR :	0.75	0.708	0.000	0.000	0.000	0.808	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.889
	0.714				0.808				0.500								

National Data & Surveying Services Intersection Turning Movement Count

Location: S Riverside Ave & S Jurupa Ave
City: Bloomington
Control: Signalized

Project ID: 18-06047-007
Date: 4/12/2018

4axle

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	22	0	0	0	21	0	0	0	0	1	0	0	0	0	0	44
7:15 AM	1	22	0	0	0	20	0	0	0	0	2	0	0	0	0	0	45
7:30 AM	1	15	0	0	0	17	1	0	0	0	1	0	0	0	0	0	35
7:45 AM	2	29	0	0	0	19	0	0	1	0	1	0	0	0	0	0	52
8:00 AM	1	23	0	0	0	16	1	0	0	0	5	0	0	0	0	0	46
8:15 AM	1	33	0	0	0	28	0	0	1	0	0	0	0	0	0	0	63
8:30 AM	0	37	0	0	0	30	0	0	2	0	6	0	0	0	0	0	75
8:45 AM	0	25	0	0	0	30	1	0	0	0	2	0	0	0	0	0	58
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	206	0	0	0	181	3	0	4	0	18	0	0	0	0	0	418
APPROACH %'s :	2.83%	97.17%	0.00%	0.00%	0.00%	98.37%	1.63%	0.00%	18.18%	0.00%	81.82%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	5	89	0	0	0	72	2	0	1	0	9	0	0	0	0	0	178
PEAK HR FACTOR :	0.625	0.767	0.000	0.000	0.000	0.900	0.500	0.000	0.250	0.000	0.450	0.000	0.000	0.000	0.000	0.000	0.856
	0.758				0.925				0.500								

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	17	0	0	0	24	0	0	0	0	2	0	0	0	0	0	46
4:15 PM	4	15	0	0	0	21	1	0	0	0	2	0	0	0	0	0	43
4:30 PM	3	12	0	0	0	21	0	0	0	0	2	0	0	0	0	0	38
4:45 PM	1	14	0	0	0	20	0	0	1	0	0	0	0	0	0	0	36
5:00 PM	3	14	0	0	0	21	0	0	0	0	2	0	0	0	0	0	40
5:15 PM	0	12	0	0	0	19	1	0	0	0	3	0	0	0	0	0	35
5:30 PM	2	13	0	0	0	21	0	0	0	0	0	0	0	0	0	0	36
5:45 PM	1	19	0	0	0	26	1	0	0	0	0	0	0	0	0	0	47
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	17	116	0	0	0	173	3	0	1	0	11	0	0	0	0	0	321
APPROACH %'s :	12.78%	87.22%	0.00%	0.00%	0.00%	98.30%	1.70%	0.00%	8.33%	0.00%	91.67%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	6	58	0	0	0	87	2	0	0	0	5	0	0	0	0	0	158
PEAK HR FACTOR :	0.50	0.763	0.000	0.000	0.000	0.837	0.500	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.840
	0.800				0.824				0.417								

Prepared by National Data & Surveying Services

CLASSIFICATION

S Riverside Ave S/O W Santa Ana Ave

Day: Thursday
Date: 4/12/2018

City: Bloomington
Project #: CA18_6048_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	419	72	0	65	13	0	9	85	0	18	0	0	681
01:00	0	315	61	0	58	3	0	6	50	0	14	0	0	507
02:00	0	337	53	0	59	10	0	12	61	0	31	0	0	563
03:00	0	517	104	2	99	7	0	18	63	0	15	0	0	825
04:00	0	527	112	2	105	11	0	8	60	0	19	0	0	844
05:00	0	804	181	4	156	19	0	27	106	0	42	0	0	1339
06:00	7	868	188	7	194	24	0	12	92	0	51	0	0	1443
07:00	7	1033	207	4	218	17	2	16	104	0	49	0	0	1657
08:00	6	1036	224	6	236	22	4	9	132	3	53	0	0	1731
09:00	7	876	183	8	213	20	4	13	145	2	47	0	0	1518
10:00	7	797	188	5	203	18	3	9	118	3	47	0	0	1398
11:00	5	868	176	7	209	30	6	26	120	5	64	0	0	1516
12:00 PM	8	940	177	7	194	21	2	28	137	4	48	0	0	1566
13:00	8	984	190	7	184	11	6	44	133	5	39	0	0	1611
14:00	11	1119	217	4	196	25	5	34	107	3	43	0	0	1764
15:00	3	1202	257	7	208	17	2	46	135	3	38	0	0	1918
16:00	10	1253	261	7	232	16	5	43	123	6	32	0	0	1988
17:00	3	1465	284	6	234	14	4	41	137	1	63	0	0	2252
18:00	4	1023	199	2	159	16	2	42	96	2	30	0	0	1575
19:00	5	727	136	4	104	11	0	29	71	1	28	0	0	1116
20:00	2	620	117	5	97	8	0	18	73	0	23	0	0	963
21:00	1	667	126	5	114	18	0	24	84	0	33	0	0	1072
22:00	1	725	134	2	128	16	0	18	110	0	42	0	0	1176
23:00	0	434	60	0	38	8	0	9	61	0	16	0	0	626
Totals	95	19556	3907	101	3703	375	45	541	2403	38	885			31649
% of Totals	0%	62%	12%	0%	12%	1%	0%	2%	8%	0%	3%			100%
		19651			7711	375				3912				
		1.0			1.5	2.0				3.0				
		19651			11567	750				11736				43704 SUM

AM Volumes	39	8397	1749	45	1815	194	19	165	1136	13	450	0	0	14022
% AM	0%	27%	6%	0%	6%	1%	0%	1%	4%	0%	1%			44%
AM Peak Hour	06:00	08:00	08:00	09:00	08:00	11:00	11:00	05:00	09:00	11:00	11:00			08:00
Volume	7	1036	224	8	236	30	6	27	145	5	64			1731
PM Volumes	56	11159	2158	56	1888	181	26	376	1267	25	435	0	0	17627
% PM	0%	35%	7%	0%	6%	1%	0%	1%	4%	0%	1%			56%
PM Peak Hour	14:00	17:00	17:00	12:00	17:00	14:00	13:00	15:00	12:00	16:00	17:00			17:00
Volume	11	1465	284	7	234	25	6	46	137	6	63			2252

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	3388	11%	3177	10%	4240	13%	20844	66%

Classification Definitions

1 Motorcycles	4 Buses	7 > =4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

APPENDIX C

PCE WORKSHEETS

Existing Peak Hour Volumes - Classification Counts

1 Riverside Avenue at I-10 Westbound Ramps

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	68	18	17	58	93	57.8%	235	2.5	303	189	6	9	37	52	21.6%	138	2.7	327
NT	769	23	4	24	51	6.2%	115	2.3	884	1,431	25	6	10	41	2.8%	80	2.0	1,511
NR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
SL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ST	972	18	2	5	25	2.5%	46	1.8	1,018	1,091	10	8	10	28	2.5%	61	2.2	1,152
SR	507	5	0	6	11	2.1%	26	2.4	533	363	2	5	4	11	2.9%	25	2.3	388
EL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ET	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ER	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WL	350	19	7	44	70	16.7%	175	2.5	525	345	14	9	56	79	18.6%	207	2.6	552
WT	5	0	0	0	0	0.0%	0	0.0	5	2	0	0	0	0	0.0%	0	0.0	2
WR	337	11	0	2	13	3.7%	23	1.8	360	497	7	1	3	11	2.2%	22	2.0	519
									3,628									4,451
North Leg Volumes																		
Approach	1,479	23	2	11	36		72		1,551	1,454	12	13	14	39		86		1,540
Depart	1,106	34	4	26	64		138		1,244	1,928	32	7	13	52		102		2,030
Total	2,585	57	6	37	100	3.7%	210	2.1	2,795	3,382	44	20	27	91	2.6%	188	2.1	3,570
South Leg Volumes																		
Approach	837	41	21	82	144		350		1,187	1,620	31	15	47	93		218		1,838
Depart	1,322	37	9	49	95		221		1,543	1,436	24	17	66	107		268		1,704
Total	2,159	78	30	131	239	10.0%	571	2.4	2,730	3,056	55	32	113	200	6.1%	486	2.4	3,542
East Leg Volumes																		
Approach	692	30	7	46	83		198		890	844	21	10	59	90		229		1,073
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	692	30	7	46	83	10.7%	198	2.4	890	844	21	10	59	90	9.6%	229	2.5	1,073
West Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	580	23	17	64	104		261		841	554	8	14	41	63		163		717
Total	580	23	17	64	104	15.2%	261	2.5	841	554	8	14	41	63	10.2%	163	2.6	717
All Legs																		
Approach	3,008	94	30	139	263		620		3,628	3,918	64	38	120	222		533		4,451
Depart	3,008	94	30	139	263		620		3,628	3,918	64	38	120	222		533		4,451
Total	6,016	188	60	278	526	8.0%	1,240	2.4	7,256	7,836	128	76	240	444	5.4%	1,066	2.4	8,902

Existing Peak Hour Volumes - Classification Counts

2 Riverside Avenue at I-10 Eastbound Ramps

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
NT	535	34	20	79	133	19.9%	328	2.5	863	1,103	13	15	39	67	5.7%	167	2.5	1,270
NR	195	12	10	51	73	27.2%	191	2.6	386	427	9	10	45	64	13.0%	169	2.6	596
SL	364	8	1	2	11	2.9%	20	1.8	384	432	2	0	3	5	1.1%	12	2.4	444
ST	963	27	10	46	83	7.9%	199	2.4	1,162	1,015	21	20	66	107	9.5%	270	2.5	1,285
SR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
EL	299	9	2	2	13	4.2%	24	1.8	323	558	2	2	2	6	1.1%	13	2.2	571
ET	5	2	0	0	2	28.6%	3	1.5	8	0	0	0	0	0	0.0%	0	0.0	0
ER	246	11	10	56	77	23.8%	205	2.7	451	231	7	18	50	75	24.5%	197	2.6	428
WL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WT	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
									3,577									4,594
North Leg Volumes																		
Approach	1,327	35	11	48	94		219		1,546	1,447	23	20	69	112		282		1,729
Depart	834	43	22	81	146		352		1,186	1,661	15	17	41	73		180		1,841
Total	2,161	78	33	129	240	10.0%	571	2.4	2,732	3,108	38	37	110	185	5.6%	462	2.5	3,570
South Leg Volumes																		
Approach	730	46	30	130	206		519		1,249	1,530	22	25	84	131		336		1,866
Depart	1,209	38	20	102	160		404		1,613	1,246	28	38	116	182		467		1,713
Total	1,939	84	50	232	366	15.9%	923	2.5	2,862	2,776	50	63	200	313	10.1%	803	2.6	3,579
East Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	564	22	11	53	86		214		778	859	11	10	48	69		181		1,040
Total	564	22	11	53	86	13.2%	214	2.5	778	859	11	10	48	69	7.4%	181	2.6	1,040
West Leg Volumes																		
Approach	550	22	12	58	92		232		782	789	9	20	52	81		210		999
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	550	22	12	58	92	14.3%	232	2.5	782	789	9	20	52	81	9.3%	210	2.6	999
All Legs																		
Approach	2,607	103	53	236	392		970		3,577	3,766	54	65	205	324		828		4,594
Depart	2,607	103	53	236	392		970		3,577	3,766	54	65	205	324		828		4,594
Total	5,214	206	106	472	784	13.1%	1,940	2.5	7,154	7,532	108	130	410	648	7.9%	1,656	2.6	9,188

Existing Peak Hour Volumes - Classification Counts

3 Riverside Avenue at Slover Avenue

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	43	3	2	5	10	18.9%	24	2.4	67	23	2	1	2	5	17.9%	11	2.2	34
NT	487	33	24	119	176	26.5%	455	2.6	942	1,066	15	19	71	105	9.0%	274	2.6	1,340
NR	6	1	1	5	7	53.8%	19	2.7	25	10	0	1	3	4	28.6%	11	2.8	21
SL	20	3	3	5	11	35.5%	26	2.4	46	5	3	2	4	9	64.3%	21	2.3	26
ST	869	31	14	84	129	12.9%	327	2.5	1,196	1,035	23	31	92	146	12.4%	373	2.6	1,408
SR	321	8	1	21	30	8.5%	77	2.6	398	194	6	6	20	32	14.2%	81	2.5	275
EL	184	7	8	7	22	10.7%	48	2.2	232	361	6	5	6	17	4.5%	37	2.2	398
ET	15	2	0	0	2	11.8%	3	1.5	18	102	2	0	3	5	4.7%	12	2.4	114
ER	20	3	8	9	20	50.0%	48	2.4	68	97	2	5	11	18	15.7%	46	2.6	143
WL	11	2	2	4	8	42.1%	19	2.4	30	4	1	4	6	11	73.3%	28	2.5	32
WT	8	0	1	2	3	27.3%	8	2.7	16	4	2	2	6	10	71.4%	25	2.5	29
WR	10	3	3	4	10	50.0%	23	2.3	33	50	1	0	6	7	12.3%	20	2.9	70
									3,071									3,890
North Leg Volumes																		
Approach	1,210	42	18	110	170		430		1,640	1,234	32	39	116	187		475		1,709
Depart	681	43	35	130	208		526		1,207	1,477	22	24	83	129		331		1,808
Total	1,891	85	53	240	378	16.7%	956	2.5	2,847	2,711	54	63	199	316	10.4%	806	2.6	3,517
South Leg Volumes																		
Approach	536	37	27	129	193		498		1,034	1,099	17	21	76	114		296		1,395
Depart	900	36	24	97	157		394		1,294	1,136	26	40	109	175		447		1,583
Total	1,436	73	51	226	350	19.6%	892	2.5	2,328	2,235	43	61	185	289	11.5%	743	2.6	2,978
East Leg Volumes																		
Approach	29	5	6	10	21		50		79	58	4	6	18	28		73		131
Depart	41	6	4	10	20		48		89	117	5	3	10	18		44		161
Total	70	11	10	20	41	36.9%	98	2.4	168	175	9	9	28	46	20.8%	117	2.5	292
West Leg Volumes																		
Approach	219	12	16	16	44		99		318	560	10	10	20	40		95		655
Depart	372	11	4	28	43		109		481	221	10	9	28	47		117		338
Total	591	23	20	44	87	12.8%	208	2.4	799	781	20	19	48	87	10.0%	212	2.4	993
All Legs																		
Approach	1,994	96	67	265	428		1,077		3,071	2,951	63	76	230	369		939		3,890
Depart	1,994	96	67	265	428		1,077		3,071	2,951	63	76	230	369		939		3,890
Total	3,988	192	134	530	856	17.7%	2,154	2.5	6,142	5,902	126	152	460	738	11.1%	1,878	2.5	7,780

Existing Peak Hour Volumes - Classification Counts

4 Riverside Avenue at Santa Ana Avenue

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	44	8	2	2	12	21.4%	22	1.8	66	63	1	1	5	7	10.0%	19	2.7	82
NT	517	24	25	100	149	22.4%	386	2.6	903	952	14	20	63	97	9.2%	250	2.6	1,202
NR	9	0	3	13	16	64.0%	45	2.8	54	4	0	1	4	5	55.6%	14	2.8	18
SL	12	2	3	17	22	64.7%	60	2.7	72	14	3	5	8	16	53.3%	39	2.4	53
ST	766	32	27	87	146	16.0%	363	2.5	1,129	1,076	21	35	90	146	11.9%	372	2.5	1,448
SR	81	6	1	7	14	14.7%	32	2.3	113	61	4	1	2	7	10.3%	14	2.0	75
EL	48	6	2	7	15	23.8%	34	2.3	82	78	0	2	7	9	10.3%	25	2.8	103
ET	3	1	8	2	11	78.6%	24	2.2	27	7	0	2	1	3	30.0%	7	2.3	14
ER	39	2	3	4	9	18.8%	21	2.3	60	63	0	3	7	10	13.7%	27	2.7	90
WL	4	0	4	8	12	75.0%	32	2.7	36	18	0	5	3	8	30.8%	19	2.4	37
WT	0	0	0	12	12	100.0%	36	3.0	36	11	1	1	1	3	21.4%	7	2.3	18
WR	5	3	1	18	22	81.5%	61	2.8	66	46	1	1	4	6	11.5%	16	2.7	62
									2,644									3,202
North Leg Volumes																		
Approach	859	40	31	111	182		455		1,314	1,151	28	41	100	169		425		1,576
Depart	570	33	28	125	186		481		1,051	1,076	15	23	74	112		291		1,367
Total	1,429	73	59	236	368	20.5%	936	2.5	2,365	2,227	43	64	174	281	11.2%	716	2.5	2,943
South Leg Volumes																		
Approach	570	32	30	115	177		453		1,023	1,019	15	22	72	109		283		1,302
Depart	809	34	34	99	167		416		1,225	1,157	21	43	100	164		418		1,575
Total	1,379	66	64	214	344	20.0%	869	2.5	2,248	2,176	36	65	172	273	11.1%	701	2.6	2,877
East Leg Volumes																		
Approach	9	3	5	38	46		129		138	75	2	7	8	17		42		117
Depart	24	3	14	32	49		129		153	25	3	8	13	24		60		85
Total	33	6	19	70	95	74.2%	258	2.7	291	100	5	15	21	41	29.1%	102	2.5	202
West Leg Volumes																		
Approach	90	9	13	13	35		79		169	148	0	7	15	22		59		207
Depart	125	14	3	21	38		90		215	135	6	3	8	17		40		175
Total	215	23	16	34	73	25.3%	169	2.3	384	283	6	10	23	39	12.1%	99	2.5	382
All Legs																		
Approach	1,528	84	79	277	440		1,116		2,644	2,393	45	77	195	317		809		3,202
Depart	1,528	84	79	277	440		1,116		2,644	2,393	45	77	195	317		809		3,202
Total	3,056	168	158	554	880	22.4%	2,232	2.5	5,288	4,786	90	154	390	634	11.7%	1,618	2.6	6,404

Existing Peak Hour Volumes - Classification Counts

5 Riverside Avenue at Central Transport Driveway

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	0	0	0	0	0	0.0%	0	0.0	0	0	0	1	0	1	100.0%	2	2.0	2
NT	597	31	29	98	158	20.9%	399	2.5	996	978	16	19	65	100	9.3%	257	2.6	1,235
NR	0	0	0	2	2	100.0%	6	3.0	6	3	0	0	0	0	0.0%	0	0.0	3
SL	4	0	2	1	3	42.9%	7	2.3	11	3	0	0	2	2	40.0%	6	3.0	9
ST	795	27	26	80	133	14.3%	333	2.5	1,128	1,170	18	42	101	161	12.1%	414	2.6	1,584
SR	0	0	0	1	1	100.0%	3	3.0	3	0	0	0	1	1	100.0%	3	3.0	3
EL	0	0	0	2	2	100.0%	6	3.0	6	0	0	0	0	0	0.0%	0	0.0	0
ET	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ER	0	0	1	3	4	100.0%	11	2.8	11	0	0	2	2	4	100.0%	10	2.5	10
WL	1	0	0	0	0	0.0%	0	0.0	1	3	0	0	0	0	0.0%	0	0.0	3
WT	0	0	0	2	2	100.0%	6	3.0	6	0	1	0	1	2	100.0%	5	2.5	5
WR	2	0	0	3	3	60.0%	9	3.0	11	6	0	0	0	0	0.0%	0	0.0	6
									2,179									2,860
North Leg Volumes																		
Approach	799	27	28	82	137		343		1,142	1,173	18	42	104	164		423		1,596
Depart	599	31	29	103	163		414		1,013	984	16	19	65	100		257		1,241
Total	1,398	58	57	185	300	17.7%	757	2.5	2,155	2,157	34	61	169	264	10.9%	680	2.6	2,837
South Leg Volumes																		
Approach	597	31	29	100	160		405		1,002	981	16	20	65	101		259		1,240
Depart	796	27	27	83	137		344		1,140	1,173	18	44	103	165		424		1,597
Total	1,393	58	56	183	297	17.6%	749	2.5	2,142	2,154	34	64	168	266	11.0%	683	2.6	2,837
East Leg Volumes																		
Approach	3	0	0	5	5		15		18	9	1	0	1	2		5		14
Depart	4	0	2	3	5		13		17	6	0	0	2	2		6		12
Total	7	0	2	8	10	58.8%	28	2.8	35	15	1	0	3	4	21.1%	11	2.8	26
West Leg Volumes																		
Approach	0	0	1	5	6		17		17	0	0	2	2	4		10		10
Depart	0	0	0	3	3		9		9	0	1	1	2	4		10		10
Total	0	0	1	8	9	100.0%	26	2.9	26	0	1	3	4	8	100.0%	20	2.5	20
All Legs																		
Approach	1,399	58	58	192	308		780		2,179	2,163	35	64	172	271		697		2,860
Depart	1,399	58	58	192	308		780		2,179	2,163	35	64	172	271		697		2,860
Total	2,798	116	116	384	616	18.0%	1,560	2.5	4,358	4,326	70	128	344	542	11.1%	1,394	2.6	5,720

Existing Peak Hour Volumes - Classification Counts

6 Riverside Avenue at Industrial Drive

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
NT	554	30	27	217	274	33.1%	750	2.7	1,304	949	17	19	62	98	9.4%	250	2.6	1,199
NR	3	0	0	1	1	25.0%	3	3.0	6	6	0	0	1	1	14.3%	3	3.0	9
SL	20	0	4	10	14	41.2%	38	2.7	58	10	0	2	7	9	47.4%	25	2.8	35
ST	773	28	30	87	145	15.8%	363	2.5	1,136	1,174	21	39	94	154	11.6%	392	2.5	1,566
SR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
EL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ET	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ER	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WL	1	0	0	0	0	0.0%	0	0.0	1	3	0	0	0	0	0.0%	0	0.0	3
WT	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WR	12	1	4	9	14	53.8%	37	2.6	49	14	0	4	4	8	36.4%	20	2.5	34
									2,554									2,846
North Leg Volumes																		
Approach	793	28	34	97	159		401		1,194	1,184	21	41	101	163		417		1,601
Depart	566	31	31	226	288		787		1,353	963	17	23	66	106		270		1,233
Total	1,359	59	65	323	447	24.8%	1,188	2.7	2,547	2,147	38	64	167	269	11.1%	687	2.6	2,834
South Leg Volumes																		
Approach	557	30	27	218	275		753		1,310	955	17	19	63	99		253		1,208
Depart	774	28	30	87	145		363		1,137	1,177	21	39	94	154		392		1,569
Total	1,331	58	57	305	420	24.0%	1,116	2.7	2,447	2,132	38	58	157	253	10.6%	645	2.5	2,777
East Leg Volumes																		
Approach	13	1	4	9	14		37		50	17	0	4	4	8		20		37
Depart	23	0	4	11	15		41		64	16	0	2	8	10		28		44
Total	36	1	8	20	29	44.6%	78	2.7	114	33	0	6	12	18	35.3%	48	2.7	81
West Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
All Legs																		
Approach	1,363	59	65	324	448		1,191		2,554	2,156	38	64	168	270		690		2,846
Depart	1,363	59	65	324	448		1,191		2,554	2,156	38	64	168	270		690		2,846
Total	2,726	118	130	648	896	24.7%	2,382	2.7	5,108	4,312	76	128	336	540	11.1%	1,380	2.6	5,692

Existing Peak Hour Volumes - Classification Counts

7 Riverside Avenue at Jurupa Avenue

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	65	6	2	5	13	16.7%	28	2.2	93	70	1	3	6	10	12.5%	26	2.6	96
NT	560	30	25	89	144	20.5%	362	2.5	922	935	13	17	58	88	8.6%	228	2.6	1,163
NR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
SL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ST	761	24	22	72	118	13.4%	296	2.5	1,057	1,149	12	42	87	141	10.9%	363	2.6	1,512
SR	41	1	0	2	3	6.8%	8	2.7	49	33	4	0	2	6	15.4%	12	2.0	45
EL	27	2	2	1	5	15.6%	10	2.0	37	29	0	0	0	0	0.0%	0	0.0	29
ET	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ER	62	5	3	9	17	21.5%	41	2.4	103	130	0	2	5	7	5.1%	19	2.7	149
WL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WT	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
									2,261									2,994
North Leg Volumes																		
Approach	802	25	22	74	121		304		1,106	1,182	16	42	89	147		375		1,557
Depart	587	32	27	90	149		372		959	964	13	17	58	88		228		1,192
Total	1,389	57	49	164	270	16.3%	676	2.5	2,065	2,146	29	59	147	235	9.9%	603	2.6	2,749
South Leg Volumes																		
Approach	625	36	27	94	157		390		1,015	1,005	14	20	64	98		254		1,259
Depart	823	29	25	81	135		337		1,160	1,279	12	44	92	148		382		1,661
Total	1,448	65	52	175	292	16.8%	727	2.5	2,175	2,284	26	64	156	246	9.7%	636	2.6	2,920
East Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
West Leg Volumes																		
Approach	89	7	5	10	22		51		140	159	0	2	5	7		19		178
Depart	106	7	2	7	16		36		142	103	5	3	8	16		38		141
Total	195	14	7	17	38	16.3%	87	2.3	282	262	5	5	13	23	8.1%	57	2.5	319
All Legs																		
Approach	1,516	68	54	178	300		745		2,261	2,346	30	64	158	252		648		2,994
Depart	1,516	68	54	178	300		745		2,261	2,346	30	64	158	252		648		2,994
Total	3,032	136	108	356	600	16.5%	1,490	2.5	4,522	4,692	60	128	316	504	9.7%	1,296	2.6	5,988

Existing AM PCE Volumes

Int	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	303	884	0	0	1018	533	0	0	0	525	5	360	Riverside Avenue at I-10 Westbound Ramps
2	0	863	386	384	1162	0	323	8	451	0	0	0	Riverside Avenue at I-10 Eastbound Ramps
3	67	942	25	46	1196	398	232	18	68	30	16	33	Riverside Avenue at Slover Avenue
4	66	903	54	72	1129	113	82	27	60	36	36	66	Riverside Avenue at Santa Ana Avenue
5	0	996	6	11	1128	3	6	0	11	1	6	11	Riverside Avenue at Central Transport Driveway
6	0	1304	6	58	1136	0	0	0	0	1	0	49	Riverside Avenue at Industrial Drive
7	93	922	0	0	1057	49	37	0	103	0	0	0	Riverside Avenue at Jurupa Avenue

Existing PM PCE Volumes

Int	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	327	1511	0	0	1152	388	0	0	0	552	2	519	Riverside Avenue at I-10 Westbound Ramps
2	0	1270	596	444	1285	0	571	0	428	0	0	0	Riverside Avenue at I-10 Eastbound Ramps
3	34	1340	21	26	1408	275	398	114	143	32	29	70	Riverside Avenue at Slover Avenue
4	82	1202	18	53	1448	75	103	14	90	37	18	62	Riverside Avenue at Santa Ana Avenue
5	2	1235	3	9	1584	3	0	0	10	3	5	6	Riverside Avenue at Central Transport Driveway
6	0	1199	9	35	1566	0	0	0	0	3	0	34	Riverside Avenue at Industrial Drive
7	96	1163	0	0	1512	45	29	0	149	0	0	0	Riverside Avenue at Jurupa Avenue

APPENDIX **D**

INTERSECTION ANALYSIS WORKSHEETS

APPENDIX D-1

INTERSECTION ANALYSIS WORKSHEETS - EXISTING CONDITIONS

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_AM.vistro
Report File: K:\...\1 - EX AM.pdf

Scenario 1 EX AM
5/30/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	NB Left	0.692	21.0	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	SB Left	0.638	20.9	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	NB Left	0.792	23.5	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	SB Left	0.600	19.7	B
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	0.141	84.0	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.025	96.3	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.487	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.692

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Peak Hour Factor	0.9800	0.9800	1.0000	1.0000	0.9800	0.9800	1.0000	1.0000	1.0000	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	226	0	0	260	136	0	0	0	134	1	92
Total Analysis Volume [veh/h]	309	902	0	0	1039	544	0	0	0	536	5	367
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	19	69	0	0	50	0	0	0	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	72	58	58		22	22	22
g / C, Green / Cycle	0.11	0.72	0.58	0.58		0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.15	0.34		0.17	0.17	0.18
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1762	1615
c, Capacity [veh/h]	390	3749	4025	942		390	380	348
d1, Uniform Delay [s]	43.32	4.60	10.22	13.09		37.04	37.19	37.71
k, delay calibration	0.11	0.50	0.50	0.50		0.14	0.15	0.18
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	3.64	0.15	0.16	2.58		4.66	5.50	9.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.24	0.26	0.58		0.79	0.80	0.85
d, Delay for Lane Group [s/veh]	46.96	4.75	10.37	15.67		41.70	42.69	47.26
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.89	1.79	2.69	7.78		7.48	7.54	7.81
50th-Percentile Queue Length [ft/ln]	97.35	44.65	67.32	194.54		187.09	188.48	195.36
95th-Percentile Queue Length [veh/ln]	7.01	3.21	4.85	12.36		11.97	12.04	12.40
95th-Percentile Queue Length [ft/ln]	175.23	80.36	121.18	308.91		299.25	301.05	309.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.96	4.75	0.00	0.00	10.37	15.67	0.00	0.00	0.00	42.13	42.69	46.45
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	15.52			12.19			0.00			43.85		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	21.05											
Intersection LOS	C											
Intersection V/C	0.692											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	232	104	103	312	0	87	2	121	0	0	0
Total Analysis Volume [veh/h]	0	928	415	413	1249	0	347	9	485	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	28	62	0	0	38	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	56	56	14	74	20	20	20	
g / C, Green / Cycle	0.56	0.56	0.14	0.74	0.20	0.20	0.20	
(v / s)_i Volume / Saturation Flow Rate	0.25	0.27	0.12	0.35	0.16	0.17	0.17	
s, saturation flow rate [veh/h]	3618	1633	3514	3618	1810	1660	1615	
c, Capacity [veh/h]	2030	916	508	2661	370	339	330	
d1, Uniform Delay [s]	12.80	13.27	41.47	5.34	37.67	38.00	38.10	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.70	1.86	3.22	0.60	3.65	4.86	5.34	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.44	0.49	0.81	0.47	0.78	0.82	0.83	
d, Delay for Lane Group [s/veh]	13.50	15.13	44.69	5.94	41.33	42.86	43.44	
Lane Group LOS	B	B	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	5.72	6.20	5.12	4.47	7.00	6.87	6.83	
50th-Percentile Queue Length [ft/ln]	143.04	155.04	127.89	111.67	175.11	171.66	170.68	
95th-Percentile Queue Length [veh/ln]	9.64	10.29	8.83	7.93	11.34	11.16	11.11	
95th-Percentile Queue Length [ft/ln]	241.11	257.15	220.63	198.33	283.62	279.09	277.81	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.56	15.13	44.69	5.94	0.00	41.61	42.86	43.19	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	14.04			15.57			42.52			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.93											
Intersection LOS	C											
Intersection V/C	0.638											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.792

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	251	7	12	318	106	62	5	18	8	4	9
Total Analysis Volume [veh/h]	71	1002	27	49	1272	423	247	19	72	32	17	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	61	0	10	61	0	0	29	0	0	29	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	5	58	58	5	58	58	23	23	23	23	23	23
g / C, Green / Cycle	0.05	0.58	0.58	0.05	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.27	0.03	0.45	0.48	0.18	0.01	0.04	0.02	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1882	1810	1900	1744	1374	1900	1615	1326	1900	1615
c, Capacity [veh/h]	95	1108	1098	84	1096	1006	343	441	375	309	441	375
d1, Uniform Delay [s]	46.70	11.93	11.93	46.72	16.36	17.14	39.27	29.77	30.85	34.55	29.74	30.12
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.19	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.99	1.41	1.43	6.22	5.68	7.84	4.83	0.06	0.35	0.21	0.05	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.47	0.47	0.58	0.79	0.83	0.72	0.04	0.19	0.10	0.04	0.09
d, Delay for Lane Group [s/veh]	61.69	13.34	13.36	52.94	22.05	24.98	44.10	29.82	31.20	34.76	29.79	30.28
Lane Group LOS	E	B	B	D	C	C	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.13	6.59	6.53	1.34	15.68	16.33	6.31	0.36	1.43	0.67	0.32	0.68
50th-Percentile Queue Length [ft/ln]	53.24	164.73	163.35	33.39	392.00	408.23	157.63	9.02	35.65	16.78	8.06	16.89
95th-Percentile Queue Length [veh/ln]	3.83	10.80	10.73	2.40	22.17	22.96	10.42	0.65	2.57	1.21	0.58	1.22
95th-Percentile Queue Length [ft/ln]	95.83	269.98	268.15	60.10	554.35	573.91	260.59	16.24	64.18	30.20	14.51	30.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.69	13.35	13.36	52.94	22.99	24.98	44.10	29.82	31.20	34.76	29.79	30.28
Movement LOS	E	B	B	D	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	16.47			24.32			40.55			31.88		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	23.55											
Intersection LOS	C											
Intersection V/C	0.792											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	19.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	243	15	19	303	30	22	7	16	10	10	18
Total Analysis Volume [veh/h]	71	971	58	77	1214	122	88	29	65	39	39	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	34	0	26	49	0	0	40	0	0	40	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	58	58	6	58	58	21	21	21	21
g / C, Green / Cycle	0.06	0.58	0.58	0.06	0.58	0.58	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.27	0.04	0.36	0.36	0.13	0.03	0.02	0.04
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1840	1394	1323	1900	1615
c, Capacity [veh/h]	109	1104	1082	112	1107	1072	348	140	401	341
d1, Uniform Delay [s]	45.96	12.07	12.07	45.96	13.52	13.57	36.61	46.38	31.78	32.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.23	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.39	1.44	1.47	7.29	2.52	2.64	2.60	2.29	0.22	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

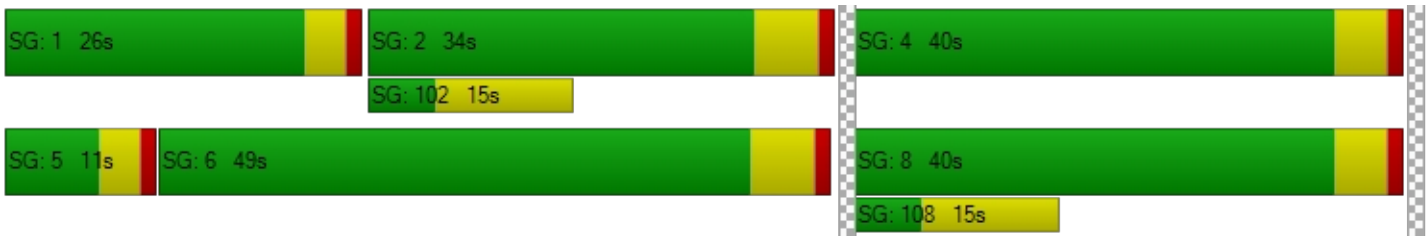
X, volume / capacity	0.65	0.47	0.47	0.69	0.61	0.62	0.52	0.28	0.10	0.21
d, Delay for Lane Group [s/veh]	52.35	13.51	13.54	53.26	16.04	16.21	39.21	48.67	32.00	33.20
Lane Group LOS	D	B	B	D	B	B	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.91	6.70	6.58	2.09	9.93	9.75	4.29	1.03	0.78	1.47
50th-Percentile Queue Length [ft/ln]	47.74	167.62	164.61	52.27	248.32	243.64	107.23	25.79	19.56	36.84
95th-Percentile Queue Length [veh/ln]	3.44	10.95	10.79	3.76	15.10	14.87	7.69	1.86	1.41	2.65
95th-Percentile Queue Length [ft/ln]	85.93	273.78	269.82	94.08	377.54	371.63	192.14	46.43	35.20	66.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.35	13.53	13.54	53.26	16.12	16.21	39.21	39.21	39.21	48.67	32.00	33.20
Movement LOS	D	B	B	D	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	16.03			18.15			39.21			36.93		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	19.66											
Intersection LOS	B											
Intersection V/C	0.600											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	84.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.141

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1002	0	0	1135	3	6	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1002	0	0	1135	3	6	0	11	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	278	0	0	315	1	2	0	3	0	0	0
Total Analysis Volume [veh/h]	0	1113	0	0	1261	3	7	0	12	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.14	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.47	0.00	0.00	0.00	0.00	0.00	84.04	0.00	19.83	0.00	0.00	0.00
Movement LOS	B	A			A	A	F		C			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.58	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	14.55	0.00	14.55	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			43.49			0.00		
Approach LOS	A			A			E			A		
d_I, Intersection Delay [s/veh]	0.34											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	96.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1304	6	58	1136	1	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1304	6	58	1136	1	49
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	343	2	15	299	0	13
Total Analysis Volume [veh/h]	1373	6	61	1196	1	52
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.12	0.01	0.02	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	13.13	0.00	96.33	15.57
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.41	0.00	0.07	0.45
95th-Percentile Queue Length [ft/ln]	0.00	0.00	10.26	0.00	1.87	11.33
d_A, Approach Delay [s/veh]	0.00		0.64		17.09	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	93	922	1057	49	37	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	922	1057	49	37	103
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	243	278	13	10	27
Total Analysis Volume [veh/h]	98	971	1113	52	39	108
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	18	82	64	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	85	75	75	9	9
g / C, Green / Cycle	0.07	0.85	0.75	0.75	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.31	0.03	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	127	3088	2726	1217	156	139
d1, Uniform Delay [s]	45.70	1.46	4.39	3.14	42.66	44.73
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.43	0.27	0.46	0.07	0.83	8.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.31	0.41	0.04	0.25	0.77
d, Delay for Lane Group [s/veh]	55.13	1.73	4.85	3.21	43.48	53.55
Lane Group LOS	E	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.71	0.89	3.34	0.23	0.93	2.95
50th-Percentile Queue Length [ft/ln]	67.79	22.29	83.53	5.85	23.32	73.66
95th-Percentile Queue Length [veh/ln]	4.88	1.60	6.01	0.42	1.68	5.30
95th-Percentile Queue Length [ft/ln]	122.02	40.12	150.35	10.54	41.98	132.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.13	1.73	4.85	3.21	43.48	53.55
Movement LOS	E	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.63		4.77		50.88	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.45					
Intersection LOS	A					
Intersection V/C	0.487					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_PM.vistro
Report File: K:\...\1 - EX PM.pdf

Scenario 1 EX PM
5/30/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	WB Right	0.650	22.0	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	SB Left	0.838	24.9	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	0.952	42.9	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	NB Left	0.727	23.0	C
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	0.000	231.3	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.087	119.5	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.712	10.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.650

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	1.0000	1.0000	1.0000	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	389	0	0	297	100	0	0	0	142	1	134
Total Analysis Volume [veh/h]	337	1558	0	0	1188	400	0	0	0	569	2	535
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	19	69	0	0	50	0	0	0	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	12	69	54	54		25	25	25
g / C, Green / Cycle	0.12	0.69	0.54	0.54		0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.10	0.30	0.17	0.25		0.20	0.21	0.23
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1717	1615
c, Capacity [veh/h]	417	3546	3702	866		461	438	412
d1, Uniform Delay [s]	42.95	7.09	12.98	14.28		34.86	35.35	35.97
k, delay calibration	0.11	0.50	0.50	0.50		0.23	0.26	0.29
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	3.76	0.40	0.23	1.77		6.69	10.00	16.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.44	0.32	0.46		0.80	0.84	0.90
d, Delay for Lane Group [s/veh]	46.71	7.49	13.21	16.05		41.56	45.35	52.30
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.24	4.48	3.64	5.73		9.11	9.58	10.38
50th-Percentile Queue Length [ft/ln]	106.12	112.09	90.97	143.27		227.67	239.50	259.47
95th-Percentile Queue Length [veh/ln]	7.62	7.96	6.55	9.66		14.06	14.66	15.66
95th-Percentile Queue Length [ft/ln]	190.59	198.90	163.74	241.42		351.40	366.41	391.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.71	7.49	0.00	0.00	13.21	16.05	0.00	0.00	0.00	42.89	45.35	50.14
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	14.46			13.93			0.00			46.40		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	21.98											
Intersection LOS	C											
Intersection V/C	0.650											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			No			No			Yes	

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Peak Hour Factor	1.0000	0.9700	0.9700	0.9700	0.9700	1.0000	0.9700	0.9700	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	327	154	114	331	0	147	0	110	0	0	0
Total Analysis Volume [veh/h]	0	1309	614	458	1325	0	589	0	441	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	28	62	0	0	38	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	51	51	16	69	25	25	25	
g / C, Green / Cycle	0.51	0.51	0.16	0.69	0.25	0.25	0.25	
(v / s)_i Volume / Saturation Flow Rate	0.35	0.39	0.13	0.37	0.19	0.20	0.21	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1750	1615	
c, Capacity [veh/h]	1825	820	553	2503	449	434	401	
d1, Uniform Delay [s]	19.01	20.26	40.82	7.48	34.90	35.18	35.91	
k, delay calibration	0.50	0.50	0.11	0.50	0.13	0.14	0.18	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.29	7.31	3.25	0.81	3.27	4.31	8.53	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.70	0.78	0.83	0.53	0.77	0.79	0.86	
d, Delay for Lane Group [s/veh]	21.29	27.57	44.07	8.29	38.17	39.49	44.44	
Lane Group LOS	C	C	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.37	13.16	5.66	6.20	8.04	8.21	8.80	
50th-Percentile Queue Length [ft/ln]	284.13	329.08	141.39	155.09	200.99	205.32	220.04	
95th-Percentile Queue Length [veh/ln]	16.89	19.11	9.56	10.29	12.69	12.91	13.67	
95th-Percentile Queue Length [ft/ln]	422.35	477.84	238.90	257.21	317.24	322.81	341.67	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.42	27.57	44.07	8.29	0.00	38.72	39.49	43.34	0.00	0.00	0.00
Movement LOS		C	C	D	A		D	D	D			
d_A, Approach Delay [s/veh]	23.39			17.48			40.70			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	24.93											
Intersection LOS	C											
Intersection V/C	0.838											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	42.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.952

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	356	6	7	374	73	106	30	38	9	8	19
Total Analysis Volume [veh/h]	36	1426	22	28	1498	293	423	121	152	34	31	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	61	0	10	61	0	0	29	0	0	29	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	4	59	59	3	58	58	24	24	24	24	24	24
g / C, Green / Cycle	0.04	0.59	0.59	0.03	0.58	0.58	0.24	0.24	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.02	0.38	0.38	0.02	0.47	0.50	0.32	0.06	0.09	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1796	1309	1900	1615	1124	1900	1615
c, Capacity [veh/h]	71	1115	1109	62	1105	1044	314	458	389	232	458	389
d1, Uniform Delay [s]	47.08	13.81	13.82	47.38	16.65	17.33	42.88	30.76	31.80	37.91	29.28	30.19
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.49	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.72	2.95	2.98	5.11	6.68	8.73	175.70	0.43	0.91	0.41	0.09	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.65	0.65	0.45	0.82	0.85	1.35	0.26	0.39	0.15	0.07	0.19
d, Delay for Lane Group [s/veh]	54.80	16.76	16.80	52.48	23.33	26.06	218.58	31.20	32.71	38.32	29.37	30.52
Lane Group LOS	D	B	B	D	C	C	F	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.03	10.97	10.94	0.77	17.01	17.89	23.13	2.41	3.15	0.76	0.58	1.45
50th-Percentile Queue Length [ft/ln]	25.69	274.20	273.55	19.23	425.33	447.16	578.35	60.18	78.80	19.01	14.62	36.19
95th-Percentile Queue Length [veh/ln]	1.85	16.40	16.37	1.38	23.78	24.82	35.92	4.33	5.67	1.37	1.05	2.61
95th-Percentile Queue Length [ft/ln]	46.24	409.99	409.17	34.62	594.44	620.56	897.95	108.32	141.84	34.22	26.31	65.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.80	16.78	16.80	52.48	24.42	26.06	218.58	31.20	32.71	38.32	29.37	30.52
Movement LOS	D	B	B	D	C	C	F	C	C	D	C	C
d_A, Approach Delay [s/veh]	17.70			25.12			145.41			32.17		
Approach LOS	B			C			F			C		
d_I, Intersection Delay [s/veh]	42.93											
Intersection LOS	D											
Intersection V/C	0.952											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	323	5	14	389	20	28	4	24	10	5	17
Total Analysis Volume [veh/h]	88	1292	19	57	1557	81	111	15	97	40	19	67
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	34	0	26	49	0	0	40	0	0	40	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	57	57	6	56	56	23	23	23	23
g / C, Green / Cycle	0.06	0.57	0.57	0.06	0.56	0.56	0.23	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.35	0.35	0.03	0.43	0.44	0.15	0.03	0.01	0.04
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1867	1448	1301	1900	1615
c, Capacity [veh/h]	116	1087	1081	101	1071	1052	382	135	430	366
d1, Uniform Delay [s]	46.05	14.01	14.02	46.03	16.78	16.91	35.87	46.69	30.22	31.21
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.23	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.80	2.50	2.52	4.90	5.29	5.59	3.01	2.56	0.09	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

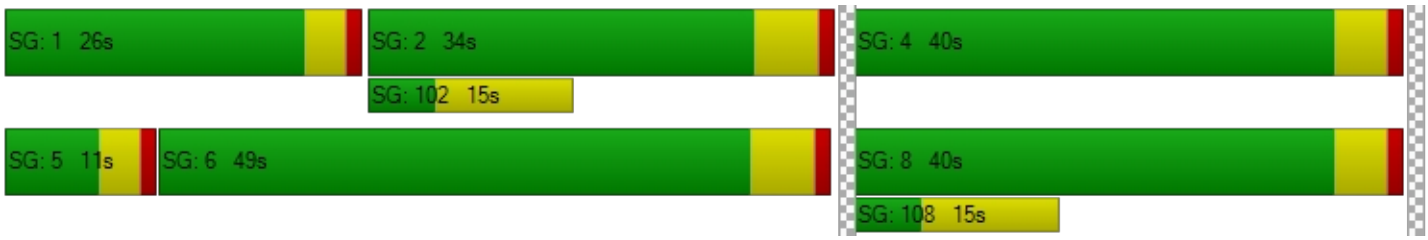
X, volume / capacity	0.76	0.60	0.61	0.57	0.77	0.78	0.58	0.30	0.04	0.18
d, Delay for Lane Group [s/veh]	55.85	16.51	16.53	50.93	22.07	22.49	38.88	49.25	30.31	31.72
Lane Group LOS	E	B	B	D	C	C	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.45	9.79	9.76	1.51	14.95	15.00	5.26	1.07	0.37	1.35
50th-Percentile Queue Length [ft/ln]	61.33	244.67	243.90	37.78	373.69	375.02	131.58	26.70	9.20	33.82
95th-Percentile Queue Length [veh/ln]	4.42	14.92	14.88	2.72	21.29	21.35	9.03	1.92	0.66	2.44
95th-Percentile Queue Length [ft/ln]	110.39	372.94	371.96	68.00	532.21	533.82	225.63	48.07	16.56	60.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.85	16.52	16.53	50.93	22.27	22.49	38.88	38.88	38.88	49.25	30.31	31.72
Movement LOS	E	B	B	D	C	C	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	18.99			23.25			38.88			37.07		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	23.04											
Intersection LOS	C											
Intersection V/C	0.727											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	231.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	2	1238	0	0	1592	3	0	0	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1238	0	0	1592	3	0	0	10	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	344	0	0	442	1	0	0	3	0	0	0
Total Analysis Volume [veh/h]	2	1376	0	0	1769	3	0	0	11	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.17	0.00	0.00	0.00	0.00	0.00	231.34	0.00	17.83	0.00	0.00	0.00
Movement LOS	C	A			A	A	F		C			
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.42	0.00	0.00	0.00	0.00	0.00	2.93	0.00	2.93	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.02			0.00			17.83			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	0.07											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	119.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1199	9	35	1566	3	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1199	9	35	1566	3	34
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	326	2	10	426	1	9
Total Analysis Volume [veh/h]	1303	10	38	1702	3	37
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.07	0.02	0.09	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	12.27	0.00	119.51	14.58
Movement LOS	A	A	B	A	F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.23	0.00	0.27	0.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.73	0.00	6.71	7.34
d_A, Approach Delay [s/veh]	0.00		0.27		22.45	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.44					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	10.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	96	1163	1512	45	29	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	1163	1512	45	29	149
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	323	420	13	8	41
Total Analysis Volume [veh/h]	107	1292	1680	50	32	166
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	18	82	64	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	82	71	71	12	12
g / C, Green / Cycle	0.08	0.82	0.71	0.71	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.06	0.36	0.46	0.03	0.02	0.10
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	137	2960	2577	1150	220	197
d1, Uniform Delay [s]	45.38	2.57	7.72	4.27	39.26	42.99
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.15	0.47	1.30	0.07	0.30	9.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.44	0.65	0.04	0.15	0.84
d, Delay for Lane Group [s/veh]	54.53	3.04	9.02	4.34	39.56	52.45
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.94	2.36	8.45	0.29	0.72	4.50
50th-Percentile Queue Length [ft/ln]	73.54	59.10	211.17	7.13	17.98	112.43
95th-Percentile Queue Length [veh/ln]	5.29	4.26	13.21	0.51	1.29	7.98
95th-Percentile Queue Length [ft/ln]	132.37	106.38	330.33	12.84	32.37	199.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.53	3.04	9.02	4.34	39.56	52.45
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.98		8.88		50.36	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.55					
Intersection LOS	B					
Intersection V/C	0.712					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-2

INTERSECTION ANALYSIS WORKSHEETS - OPENING YEAR 2019 EXISTING PLUS GROWTH

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_AM.vistro
Report File: K:\...\2 - OY AM.pdf

Scenario 3 OY AM
5/30/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	NB Left	0.707	20.6	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	SB Left	0.651	21.4	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	NB Left	0.810	22.7	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Left	0.615	18.2	B
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	0.151	89.8	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.027	103.1	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.497	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	309	902	0	0	1038	544	0	0	0	536	5	367
Peak Hour Factor	0.9800	0.9800	1.0000	1.0000	0.9800	0.9800	1.0000	1.0000	1.0000	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	230	0	0	265	139	0	0	0	137	1	94
Total Analysis Volume [veh/h]	315	920	0	0	1059	555	0	0	0	547	5	374
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	14	56	0	0	42	0	0	0	0	0	44	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	72	58	58		22	22	22
g / C, Green / Cycle	0.11	0.72	0.58	0.58		0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.15	0.34		0.17	0.18	0.19
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1763	1615
c, Capacity [veh/h]	380	3696	3975	930		409	398	365
d1, Uniform Delay [s]	43.69	4.97	10.62	13.70		36.19	36.35	36.92
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.69	0.16	0.16	2.82		2.96	3.31	5.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.25	0.27	0.60		0.76	0.78	0.83
d, Delay for Lane Group [s/veh]	48.38	5.13	10.78	16.52		39.15	39.66	41.95
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.03	1.93	2.82	8.23		7.35	7.38	7.51
50th-Percentile Queue Length [ft/ln]	100.87	48.30	70.46	205.65		183.81	184.46	187.67
95th-Percentile Queue Length [veh/ln]	7.26	3.48	5.07	12.93		11.80	11.83	12.00
95th-Percentile Queue Length [ft/ln]	181.56	86.93	126.83	323.25		294.99	295.83	300.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.38	5.13	0.00	0.00	10.78	16.52	0.00	0.00	0.00	39.37	39.66	41.55
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	16.16			12.76			0.00			40.24		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.61											
Intersection LOS	C											
Intersection V/C	0.707											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			No			No			Yes	

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	880	394	392	1185	0	329	8	460	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	237	106	105	319	0	88	2	124	0	0	0
Total Analysis Volume [veh/h]	0	946	424	422	1274	0	354	9	495	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	45	0	21	66	0	0	34	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	56	56	14	73	21	21	21	
g / C, Green / Cycle	0.56	0.56	0.14	0.73	0.21	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.25	0.28	0.12	0.35	0.16	0.17	0.17	
s, saturation flow rate [veh/h]	3618	1633	3514	3618	1810	1660	1615	
c, Capacity [veh/h]	2023	913	503	2649	376	345	335	
d1, Uniform Delay [s]	13.00	13.49	41.72	5.53	37.49	37.86	37.98	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.13	0.14	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.73	1.96	3.82	0.63	3.83	6.04	6.99	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.45	0.50	0.84	0.48	0.78	0.82	0.83	
d, Delay for Lane Group [s/veh]	13.73	15.44	45.54	6.16	41.32	43.90	44.97	
Lane Group LOS	B	B	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	5.91	6.41	5.29	4.69	7.13	7.12	7.14	
50th-Percentile Queue Length [ft/ln]	147.67	160.34	132.13	117.19	178.31	178.11	178.39	
95th-Percentile Queue Length [veh/ln]	9.89	10.57	9.06	8.24	11.51	11.50	11.52	
95th-Percentile Queue Length [ft/ln]	247.31	264.17	226.38	205.96	287.81	287.55	287.91	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.79	15.44	45.54	6.16	0.00	41.80	43.90	44.51	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	14.30			15.96			43.36			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.37											
Intersection LOS	C											
Intersection V/C	0.651											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	961	26	47	1220	406	237	18	69	31	16	34
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	256	7	13	324	108	63	5	18	8	4	9
Total Analysis Volume [veh/h]	72	1022	28	50	1298	432	252	19	73	33	17	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	62	0	12	64	0	0	26	0	0	26	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	5	61	61	5	60	60	21	21	21	21	21	21
g / C, Green / Cycle	0.05	0.61	0.61	0.05	0.60	0.60	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.28	0.28	0.03	0.46	0.49	0.18	0.01	0.05	0.02	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1882	1810	1900	1744	1373	1900	1615	1325	1900	1615
c, Capacity [veh/h]	94	1149	1138	83	1138	1045	310	401	341	276	401	341
d1, Uniform Delay [s]	46.78	10.81	10.81	46.79	14.94	15.75	41.84	31.44	32.60	36.72	31.41	31.84
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.19	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.41	1.32	1.33	6.71	5.07	7.07	8.93	0.07	0.44	0.27	0.06	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.46	0.46	0.60	0.77	0.82	0.81	0.05	0.21	0.12	0.04	0.11
d, Delay for Lane Group [s/veh]	63.19	12.13	12.14	53.50	20.01	22.82	50.78	31.51	33.04	37.00	31.47	32.03
Lane Group LOS	E	B	B	D	C	C	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.19	6.32	6.26	1.37	15.04	15.84	6.97	0.37	1.50	0.72	0.33	0.72
50th-Percentile Queue Length [ft/ln]	54.71	157.95	156.62	34.26	376.11	395.93	174.20	9.32	37.43	17.97	8.33	17.97
95th-Percentile Queue Length [veh/ln]	3.94	10.44	10.37	2.47	21.41	22.36	11.30	0.67	2.69	1.29	0.60	1.29
95th-Percentile Queue Length [ft/ln]	98.47	261.01	259.24	61.67	535.14	559.10	282.43	16.78	67.37	32.35	15.00	32.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.19	12.13	12.14	53.50	20.92	22.82	50.78	31.51	33.04	37.00	31.47	32.03
Movement LOS	E	B	B	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.41			22.30			45.95			33.82		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	22.72											
Intersection LOS	C											
Intersection V/C	0.810											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	921	55	73	1152	115	84	28	61	37	37	67
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	248	15	20	310	31	23	8	16	10	10	18
Total Analysis Volume [veh/h]	72	990	59	78	1239	124	90	30	66	40	40	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	47	0	31	67	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	62	62	6	62	62	17	17	17	17
g / C, Green / Cycle	0.06	0.62	0.62	0.06	0.62	0.62	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.28	0.28	0.04	0.36	0.37	0.14	0.03	0.02	0.04
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1840	1367	1320	1900	1615
c, Capacity [veh/h]	110	1177	1154	115	1183	1146	287	92	325	276
d1, Uniform Delay [s]	45.95	10.03	10.04	45.82	11.19	11.23	40.55	49.63	35.11	35.98
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.23	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.51	1.24	1.27	6.79	2.11	2.21	5.17	6.85	0.36	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

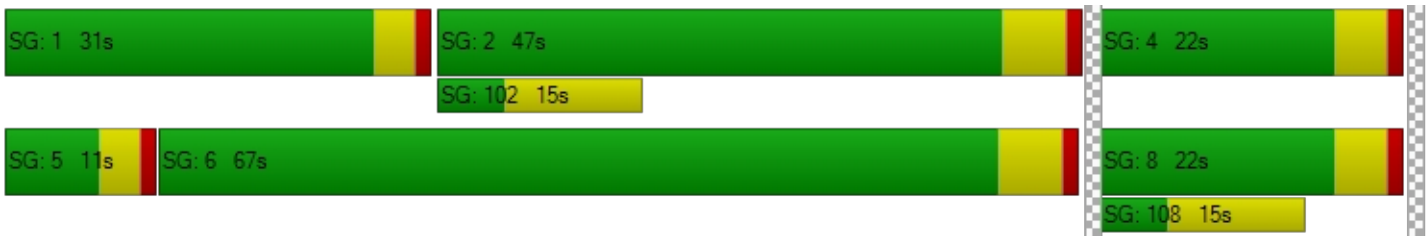
X, volume / capacity	0.66	0.45	0.45	0.68	0.58	0.59	0.65	0.44	0.12	0.26
d, Delay for Lane Group [s/veh]	52.46	11.28	11.31	52.60	13.29	13.44	45.73	56.48	35.47	37.04
Lane Group LOS	D	B	B	D	B	B	D	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.94	6.03	5.93	2.10	8.93	8.77	4.79	1.17	0.86	1.60
50th-Percentile Queue Length [ft/ln]	48.47	150.85	148.18	52.60	223.17	219.29	119.63	29.25	21.39	39.99
95th-Percentile Queue Length [veh/ln]	3.49	10.06	9.92	3.79	13.83	13.63	8.37	2.11	1.54	2.88
95th-Percentile Queue Length [ft/ln]	87.24	251.56	248.00	94.68	345.67	340.72	209.32	52.65	38.50	71.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.46	11.29	11.31	52.60	13.36	13.44	45.73	45.73	45.73	56.48	35.47	37.04
Movement LOS	D	B	B	D	B	B	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	13.94			15.49			45.73			41.74		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.21											
Intersection LOS	B											
Intersection V/C	0.615											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	89.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.151

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1002	0	0	1135	3	6	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1022	0	0	1158	3	6	0	11	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	284	0	0	322	1	2	0	3	0	0	0
Total Analysis Volume [veh/h]	0	1136	0	0	1287	3	7	0	12	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.15	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.61	0.00	0.00	0.00	0.00	0.00	89.77	0.00	20.85	0.00	0.00	0.00
Movement LOS	B	A			A	A	F		C			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.62	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	15.50	0.00	15.50	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			46.25			0.00		
Approach LOS	A			A			E			A		
d_I, Intersection Delay [s/veh]	0.36											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	103.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1304	6	58	1136	1	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1330	6	59	1159	1	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	350	2	16	305	0	13
Total Analysis Volume [veh/h]	1400	6	62	1220	1	53
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.13	0.01	0.03	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	13.37	0.00	103.08	15.85
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.43	0.00	0.08	0.47
95th-Percentile Queue Length [ft/ln]	0.00	0.00	10.73	0.00	2.01	11.85
d_A, Approach Delay [s/veh]	0.00		0.65		17.46	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.65					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	93	922	1057	49	37	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	940	1078	50	38	105
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	247	284	13	10	28
Total Analysis Volume [veh/h]	100	989	1135	53	40	111
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	18	79	61	0	21	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	85	75	75	9	9
g / C, Green / Cycle	0.07	0.85	0.75	0.75	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.31	0.03	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	129	3078	2711	1210	161	144
d1, Uniform Delay [s]	45.63	1.53	4.57	3.25	42.43	44.55
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.36	0.28	0.48	0.07	0.80	8.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.32	0.42	0.04	0.25	0.77
d, Delay for Lane Group [s/veh]	54.99	1.81	5.05	3.31	43.23	53.01
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.76	0.96	3.53	0.24	0.95	3.01
50th-Percentile Queue Length [ft/ln]	69.07	24.09	88.20	6.12	23.83	75.29
95th-Percentile Queue Length [veh/ln]	4.97	1.73	6.35	0.44	1.72	5.42
95th-Percentile Queue Length [ft/ln]	124.32	43.36	158.76	11.01	42.90	135.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.99	1.81	5.05	3.31	43.23	53.01
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.69		4.97		50.42	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.57					
Intersection LOS	A					
Intersection V/C	0.497					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_PM.vistro
Report File: K:\...\2 - OY PM.pdf

Scenario 3 OY PM
5/30/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	NB Left	0.663	20.6	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	EB Right	0.855	25.9	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	0.974	43.7	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Left	0.749	20.6	C
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	0.000	251.7	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.094	129.2	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.725	10.8	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.663

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	334	1541	0	0	1175	396	0	0	0	563	2	529
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	1.0000	1.0000	1.0000	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	397	0	0	303	102	0	0	0	145	1	136
Total Analysis Volume [veh/h]	344	1589	0	0	1211	408	0	0	0	580	2	545
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	17	47	0	0	30	0	0	0	0	0	53	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	12	67	52	52		27	27	27
g / C, Green / Cycle	0.12	0.67	0.52	0.52		0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.31	0.18	0.25		0.21	0.22	0.23
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1717	1615
c, Capacity [veh/h]	417	3449	3572	836		495	470	442
d1, Uniform Delay [s]	43.04	8.03	14.11	15.56		33.30	33.78	34.38
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.16	0.44	0.26	2.03		2.42	3.20	4.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.46	0.34	0.49		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	47.20	8.47	14.37	17.60		35.72	36.97	39.06
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.36	5.00	3.91	6.20		8.54	8.74	9.05
50th-Percentile Queue Length [ft/ln]	108.99	125.08	97.86	154.92		213.55	218.61	226.26
95th-Percentile Queue Length [veh/ln]	7.78	8.67	7.05	10.28		13.34	13.59	13.98
95th-Percentile Queue Length [ft/ln]	194.59	216.79	176.14	256.98		333.38	339.85	349.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.20	8.47	0.00	0.00	14.37	17.60	0.00	0.00	0.00	36.16	36.97	38.41
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	15.36			15.18			0.00			37.25		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.57											
Intersection LOS	C											
Intersection V/C	0.663											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.855

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			No			No			Yes	

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1295	608	453	1311	0	582	0	437	0	0	0
Peak Hour Factor	1.0000	0.9700	0.9700	0.9700	0.9700	1.0000	0.9700	0.9700	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	334	157	117	338	0	150	0	113	0	0	0
Total Analysis Volume [veh/h]	0	1335	627	467	1352	0	600	0	451	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	49	0	19	68	0	0	32	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	51	51	15	69	25	25	25	
g / C, Green / Cycle	0.51	0.51	0.15	0.69	0.25	0.25	0.25	
(v / s)_i Volume / Saturation Flow Rate	0.36	0.40	0.13	0.37	0.19	0.20	0.22	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1749	1615	
c, Capacity [veh/h]	1846	829	535	2505	448	433	400	
d1, Uniform Delay [s]	18.78	20.06	41.46	7.55	35.10	35.40	36.15	
k, delay calibration	0.50	0.50	0.11	0.50	0.21	0.22	0.26	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.33	7.50	4.65	0.84	5.61	7.23	13.56	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.71	0.79	0.87	0.54	0.78	0.81	0.88	
d, Delay for Lane Group [s/veh]	21.11	27.57	46.11	8.39	40.71	42.63	49.71	
Lane Group LOS	C	C	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.55	13.44	5.91	6.38	8.53	8.77	9.57	
50th-Percentile Queue Length [ft/ln]	288.87	335.90	147.81	159.58	213.31	219.25	239.35	
95th-Percentile Queue Length [veh/ln]	17.13	19.45	9.90	10.53	13.32	13.63	14.65	
95th-Percentile Queue Length [ft/ln]	428.24	486.19	247.50	263.16	333.07	340.67	366.21	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.24	27.57	46.11	8.39	0.00	41.51	42.63	48.13	0.00	0.00	0.00
Movement LOS		C	C	D	A		D	D	D			
d_A, Approach Delay [s/veh]	23.26			18.07			44.35			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	25.90											
Intersection LOS	C											
Intersection V/C	0.855											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	43.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.974

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	1367	21	27	1436	281	406	116	146	33	30	71
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	364	6	7	382	75	108	31	39	9	8	19
Total Analysis Volume [veh/h]	37	1454	22	29	1528	299	432	123	155	35	32	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	53	0	10	53	0	0	37	0	0	37	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	4	51	51	3	50	50	32	32	32	32	32	32
g / C, Green / Cycle	0.04	0.51	0.51	0.03	0.50	0.50	0.32	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.39	0.39	0.02	0.48	0.51	0.33	0.06	0.10	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1796	1306	1900	1615	1119	1900	1615
c, Capacity [veh/h]	72	962	957	63	952	900	422	610	518	328	610	518
d1, Uniform Delay [s]	47.05	19.96	19.98	47.33	24.08	24.94	38.90	24.65	25.50	30.66	23.45	24.19
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.46	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.81	5.89	5.96	5.14	21.71	32.47	48.63	0.23	0.46	0.20	0.05	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

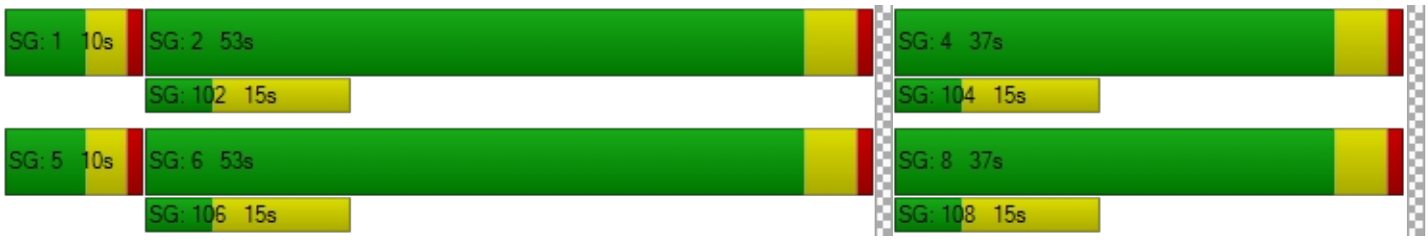
X, volume / capacity	0.51	0.77	0.77	0.46	0.96	1.01	1.02	0.20	0.30	0.11	0.05	0.15
d, Delay for Lane Group [s/veh]	54.86	25.85	25.94	52.47	45.80	57.42	87.53	24.88	25.95	30.86	23.50	24.37
Lane Group LOS	D	C	C	D	D	F	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.06	14.66	14.63	0.80	25.21	27.88	16.19	2.14	2.80	0.69	0.53	1.30
50th-Percentile Queue Length [ft/ln]	26.39	366.46	365.85	19.90	630.18	696.95	404.66	53.50	70.12	17.19	13.21	32.52
95th-Percentile Queue Length [veh/ln]	1.90	20.94	20.91	1.43	33.44	36.83	23.15	3.85	5.05	1.24	0.95	2.34
95th-Percentile Queue Length [ft/ln]	47.50	523.43	522.69	35.81	836.02	920.81	578.74	96.30	126.22	30.94	23.78	58.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.86	25.90	25.94	52.47	50.43	57.42	87.53	24.88	25.95	30.86	23.50	24.37
Movement LOS	D	C	C	D	D	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	26.61			51.59			63.23			25.77		
Approach LOS	C			D			E			C		
d_I, Intersection Delay [s/veh]	43.72											
Intersection LOS	D											
Intersection V/C	0.974											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.749

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	1226	18	54	1477	77	105	14	92	38	18	63
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	330	5	15	397	21	28	4	25	10	5	17
Total Analysis Volume [veh/h]	90	1318	19	58	1588	83	113	15	99	41	19	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	54	0	23	63	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	62	62	6	61	61	18	18	18	18
g / C, Green / Cycle	0.06	0.62	0.62	0.06	0.61	0.61	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.05	0.35	0.35	0.03	0.44	0.45	0.16	0.03	0.01	0.04
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1867	1392	1299	1900	1615
c, Capacity [veh/h]	117	1170	1164	103	1156	1136	306	73	344	292
d1, Uniform Delay [s]	46.05	11.39	11.40	45.93	13.72	13.83	40.79	50.00	33.88	35.01
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.23	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.19	2.04	2.05	4.71	3.98	4.20	7.36	13.87	0.14	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.57	0.57	0.56	0.73	0.73	0.74	0.56	0.06	0.23
d, Delay for Lane Group [s/veh]	56.23	13.43	13.45	50.64	17.70	18.03	48.15	63.87	34.02	35.87
Lane Group LOS	E	B	B	D	B	B	D	E	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.52	8.70	8.68	1.53	13.26	13.33	6.04	1.30	0.39	1.48
50th-Percentile Queue Length [ft/ln]	62.97	217.51	216.88	38.32	331.61	333.21	151.01	32.51	9.87	37.00
95th-Percentile Queue Length [veh/ln]	4.53	13.54	13.51	2.76	19.24	19.32	10.07	2.34	0.71	2.66
95th-Percentile Queue Length [ft/ln]	113.34	338.44	337.64	68.97	480.93	482.89	251.78	58.52	17.77	66.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.23	13.44	13.45	50.64	17.86	18.03	48.15	48.15	48.15	63.87	34.02	35.87
Movement LOS	E	B	B	D	B	B	D	D	D	E	C	D
d_A, Approach Delay [s/veh]	16.14			18.97			48.15			44.56		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	20.64											
Intersection LOS	C											
Intersection V/C	0.749											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	251.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	2	1238	0	0	1592	3	0	0	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1263	0	0	1624	3	0	0	10	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	351	0	0	451	1	0	0	3	0	0	0
Total Analysis Volume [veh/h]	2	1403	0	0	1804	3	0	0	11	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.49	0.00	0.00	0.00	0.00	0.00	251.73	0.00	18.19	0.00	0.00	0.00
Movement LOS	C	A			A	A	F		C			
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.44	0.00	0.00	0.00	0.00	0.00	3.01	0.00	3.01	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.02			0.00			18.19			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	0.07											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	129.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.094

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1199	9	35	1566	3	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1223	9	36	1597	3	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	332	2	10	434	1	10
Total Analysis Volume [veh/h]	1329	10	39	1736	3	38
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.07	0.02	0.09	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	12.46	0.00	129.21	14.82
Movement LOS	A	A	B	A	F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.24	0.00	0.29	0.31
95th-Percentile Queue Length [ft/ln]	0.00	0.00	6.04	0.00	7.21	7.72
d_A, Approach Delay [s/veh]	0.00		0.27		23.19	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.46					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	96	1163	1512	45	29	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1186	1542	46	30	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	329	428	13	8	42
Total Analysis Volume [veh/h]	109	1318	1713	51	33	169
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	82	71	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	82	71	71	12	12
g / C, Green / Cycle	0.08	0.82	0.71	0.71	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.06	0.36	0.47	0.03	0.02	0.10
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	137	2951	2568	1147	225	201
d1, Uniform Delay [s]	45.46	2.67	7.99	4.34	39.05	42.82
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.00	0.49	1.39	0.07	0.30	9.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.45	0.67	0.04	0.15	0.84
d, Delay for Lane Group [s/veh]	55.46	3.17	9.38	4.42	39.35	51.93
Lane Group LOS	E	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.02	2.50	8.88	0.29	0.74	4.56
50th-Percentile Queue Length [ft/ln]	75.61	62.60	221.97	7.37	18.49	113.95
95th-Percentile Queue Length [veh/ln]	5.44	4.51	13.77	0.53	1.33	8.06
95th-Percentile Queue Length [ft/ln]	136.10	112.68	344.14	13.26	33.29	201.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.46	3.17	9.38	4.42	39.35	51.93
Movement LOS	E	A	A	A	D	D
d_A, Approach Delay [s/veh]	7.16		9.24		49.87	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.78					
Intersection LOS	B					
Intersection V/C	0.725					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-3

INTERSECTION ANALYSIS WORKSHEETS - OPENING YEAR 2019 EXISTING PLUS GROWTH PLUS PROJECT

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_AM.vistro
Report File: K:\...\3 - OY WP AM - ALT A.pdf

Scenario 4 OY WP AM - ALT A
5/30/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	NB Left	0.711	20.8	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	SB Left	0.659	21.4	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	NB Left	0.815	22.9	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Left	0.621	18.2	B
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	0.625	161.3	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.030	117.4	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.497	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	311	902	0	0	1038	544	0	0	0	550	5	367
Peak Hour Factor	0.9800	0.9800	1.0000	1.0000	0.9800	0.9800	1.0000	1.0000	1.0000	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	230	0	0	265	139	0	0	0	140	1	94
Total Analysis Volume [veh/h]	317	920	0	0	1059	555	0	0	0	561	5	374
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	14	56	0	0	42	0	0	0	0	0	44	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	71	57	57		23	23	23
g / C, Green / Cycle	0.11	0.71	0.57	0.57		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.15	0.34		0.17	0.18	0.19
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1768	1615
c, Capacity [veh/h]	382	3677	3946	924		415	406	371
d1, Uniform Delay [s]	43.67	5.10	10.83	13.96		35.94	36.10	36.74
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.71	0.16	0.17	2.89		2.88	3.19	5.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.25	0.27	0.60		0.76	0.77	0.84
d, Delay for Lane Group [s/veh]	48.38	5.26	10.99	16.85		38.82	39.29	41.77
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.06	1.97	2.86	8.34		7.41	7.45	7.64
50th-Percentile Queue Length [ft/ln]	101.53	49.25	71.38	208.41		185.35	186.25	191.00
95th-Percentile Queue Length [veh/ln]	7.31	3.55	5.14	13.07		11.88	11.93	12.17
95th-Percentile Queue Length [ft/ln]	182.75	88.66	128.48	326.79		296.99	298.16	304.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.38	5.26	0.00	0.00	10.99	16.85	0.00	0.00	0.00	39.03	39.29	41.37
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	16.31			13.01			0.00			39.95		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.77											
Intersection LOS	C											
Intersection V/C	0.711											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	21	0	14	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	882	415	392	1199	0	329	8	462	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	237	112	105	322	0	88	2	124	0	0	0
Total Analysis Volume [veh/h]	0	948	446	422	1289	0	354	9	497	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	45	0	21	66	0	0	34	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	56	56	14	73	21	21	21	
g / C, Green / Cycle	0.56	0.56	0.14	0.73	0.21	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.29	0.12	0.36	0.16	0.17	0.17	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1660	1615	
c, Capacity [veh/h]	2021	908	503	2648	377	345	336	
d1, Uniform Delay [s]	13.10	13.64	41.72	5.58	37.46	37.83	37.95	
k, delay calibration	0.50	0.50	0.11	0.50	0.12	0.14	0.14	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.76	2.06	3.82	0.64	3.84	6.09	7.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.46	0.51	0.84	0.49	0.78	0.82	0.84	
d, Delay for Lane Group [s/veh]	13.86	15.69	45.54	6.23	41.31	43.93	45.00	
Lane Group LOS	B	B	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.06	6.60	5.29	4.79	7.15	7.15	7.16	
50th-Percentile Queue Length [ft/ln]	151.41	165.04	132.13	119.69	178.64	178.63	178.97	
95th-Percentile Queue Length [veh/ln]	10.09	10.82	9.06	8.38	11.53	11.53	11.55	
95th-Percentile Queue Length [ft/ln]	252.30	270.39	226.38	209.41	288.24	288.22	288.67	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.89	15.69	45.54	6.23	0.00	41.79	43.93	44.54	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	14.47			15.92			43.38			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.37											
Intersection LOS	C											
Intersection V/C	0.659											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	16	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	984	26	47	1236	406	237	18	69	31	16	34
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	262	7	13	329	108	63	5	18	8	4	9
Total Analysis Volume [veh/h]	72	1047	28	50	1315	432	252	19	73	33	17	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	62	0	12	64	0	0	26	0	0	26	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	5	61	61	5	60	60	21	21	21	21	21	21
g / C, Green / Cycle	0.05	0.61	0.61	0.05	0.60	0.60	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.28	0.28	0.03	0.47	0.49	0.18	0.01	0.05	0.02	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1883	1810	1900	1746	1373	1900	1615	1325	1900	1615
c, Capacity [veh/h]	94	1149	1139	83	1138	1045	310	401	341	276	401	341
d1, Uniform Delay [s]	46.78	10.91	10.91	46.79	15.05	15.91	41.84	31.44	32.60	36.72	31.41	31.84
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.19	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.41	1.38	1.39	6.71	5.24	7.43	8.93	0.07	0.44	0.27	0.06	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.47	0.47	0.60	0.78	0.83	0.81	0.05	0.21	0.12	0.04	0.11
d, Delay for Lane Group [s/veh]	63.19	12.28	12.30	53.50	20.29	23.33	50.78	31.51	33.04	37.00	31.47	32.03
Lane Group LOS	E	B	B	D	C	C	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.19	6.53	6.48	1.37	15.31	16.24	6.97	0.37	1.50	0.72	0.33	0.72
50th-Percentile Queue Length [ft/ln]	54.71	163.29	161.97	34.26	382.79	405.91	174.20	9.32	37.43	17.97	8.33	17.97
95th-Percentile Queue Length [veh/ln]	3.94	10.72	10.65	2.47	21.73	22.84	11.30	0.67	2.69	1.29	0.60	1.29
95th-Percentile Queue Length [ft/ln]	98.47	268.08	266.33	61.67	543.22	571.12	282.43	16.78	67.37	32.35	15.00	32.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.19	12.29	12.30	53.50	21.29	23.33	50.78	31.51	33.04	37.00	31.47	32.03
Movement LOS	E	B	B	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.49			22.68			45.95			33.82		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	22.89											
Intersection LOS	C											
Intersection V/C	0.815											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	16	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	944	55	73	1168	115	84	28	61	37	37	67
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	254	15	20	314	31	23	8	16	10	10	18
Total Analysis Volume [veh/h]	72	1015	59	78	1256	124	90	30	66	40	40	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	47	0	31	67	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	62	62	6	62	62	17	17	17	17
g / C, Green / Cycle	0.06	0.62	0.62	0.06	0.62	0.62	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.29	0.29	0.04	0.37	0.37	0.14	0.03	0.02	0.04
s, saturation flow rate [veh/h]	1810	1900	1864	1810	1900	1841	1367	1320	1900	1615
c, Capacity [veh/h]	110	1177	1155	115	1183	1146	287	92	325	276
d1, Uniform Delay [s]	45.95	10.13	10.13	45.82	11.26	11.31	40.55	49.63	35.11	35.98
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.23	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.51	1.30	1.33	6.79	2.17	2.28	5.17	6.85	0.36	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

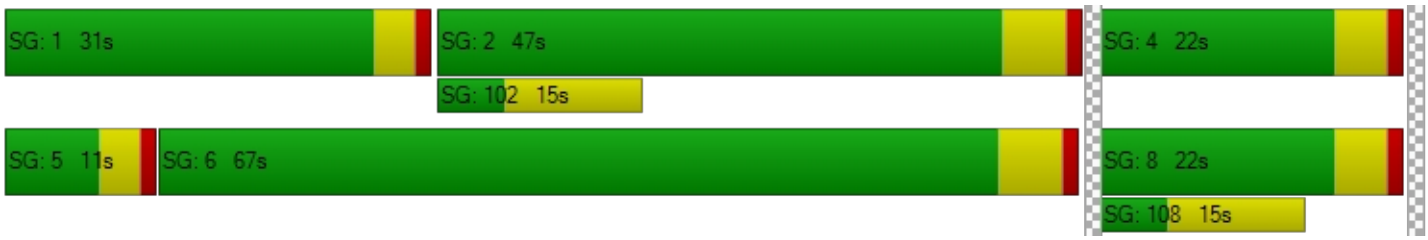
X, volume / capacity	0.66	0.46	0.46	0.68	0.59	0.59	0.65	0.44	0.12	0.26
d, Delay for Lane Group [s/veh]	52.46	11.43	11.45	52.60	13.43	13.59	45.73	56.48	35.47	37.04
Lane Group LOS	D	B	B	D	B	B	D	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.94	6.24	6.13	2.10	9.10	8.96	4.79	1.17	0.86	1.60
50th-Percentile Queue Length [ft/ln]	48.47	155.92	153.26	52.60	227.59	223.91	119.63	29.25	21.39	39.99
95th-Percentile Queue Length [veh/ln]	3.49	10.33	10.19	3.79	14.05	13.86	8.37	2.11	1.54	2.88
95th-Percentile Queue Length [ft/ln]	87.24	258.31	254.77	94.68	351.30	346.61	209.32	52.65	38.50	71.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.46	11.44	11.45	52.60	13.50	13.59	45.73	45.73	45.73	56.48	35.47	37.04
Movement LOS	D	B	B	D	B	B	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	14.02			15.60			45.73			41.74		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.24											
Intersection LOS	B											
Intersection V/C	0.621											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	161.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1002	0	0	1135	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	16	23	0	23	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	1022	0	0	1158	16	23	0	23	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	284	0	0	322	4	6	0	6	0	0	0
Total Analysis Volume [veh/h]	18	1136	0	0	1287	18	26	0	26	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.01	0.00	0.62	0.00	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.93	0.00	0.00	0.00	0.00	0.00	161.34	0.00	83.53	0.00	0.00	0.00
Movement LOS	B	A			A	A	F		F			
95th-Percentile Queue Length [veh/ln]	0.10	0.00	0.00	0.00	0.00	0.00	3.18	0.00	3.18	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.60	0.00	0.00	0.00	0.00	0.00	79.45	0.00	79.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.19			0.00			122.44			0.00		
Approach LOS	A			A			F			A		
d_I, Intersection Delay [s/veh]	2.62											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	117.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1304	6	58	1136	1	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	23	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1330	6	82	1159	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	350	2	22	305	0	17
Total Analysis Volume [veh/h]	1400	6	86	1220	1	69
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.17	0.01	0.03	0.18
d_M, Delay for Movement [s/veh]	0.00	0.00	13.87	0.00	117.39	16.39
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.63	0.00	0.09	0.65
95th-Percentile Queue Length [ft/ln]	0.00	0.00	15.70	0.00	2.29	16.13
d_A, Approach Delay [s/veh]	0.00		0.91		17.84	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.88					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	93	922	1057	49	37	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	940	1078	50	38	105
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	247	284	13	10	28
Total Analysis Volume [veh/h]	100	989	1135	53	40	111
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	18	79	61	0	21	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	85	75	75	9	9
g / C, Green / Cycle	0.07	0.85	0.75	0.75	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.31	0.03	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	129	3078	2711	1210	161	144
d1, Uniform Delay [s]	45.63	1.53	4.57	3.25	42.43	44.55
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.36	0.28	0.48	0.07	0.80	8.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.32	0.42	0.04	0.25	0.77
d, Delay for Lane Group [s/veh]	54.99	1.81	5.05	3.31	43.23	53.01
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.76	0.96	3.53	0.24	0.95	3.01
50th-Percentile Queue Length [ft/ln]	69.07	24.09	88.20	6.12	23.83	75.29
95th-Percentile Queue Length [veh/ln]	4.97	1.73	6.35	0.44	1.72	5.42
95th-Percentile Queue Length [ft/ln]	124.32	43.36	158.76	11.01	42.90	135.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.99	1.81	5.05	3.31	43.23	53.01
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.69		4.97		50.42	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.57					
Intersection LOS	A					
Intersection V/C	0.497					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_AM.vistro
Report File: K:\...\3 - OY WP AM - ALT B.pdf

Scenario 7 OY WP AM - ALT B
6/12/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	NB Left	0.711	20.8	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	SB Left	0.659	21.4	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	NB Left	0.815	22.9	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Left	0.655	19.6	B
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Right	0.125	15.0	C
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.031	119.6	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.497	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	311	902	0	0	1038	544	0	0	0	550	5	367
Peak Hour Factor	0.9800	0.9800	1.0000	1.0000	0.9800	0.9800	1.0000	1.0000	1.0000	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	230	0	0	265	139	0	0	0	140	1	94
Total Analysis Volume [veh/h]	317	920	0	0	1059	555	0	0	0	561	5	374
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	14	56	0	0	42	0	0	0	0	0	44	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	11	71	57	57		23	23	23
g / C, Green / Cycle	0.11	0.71	0.57	0.57		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.15	0.34		0.17	0.18	0.19
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1768	1615
c, Capacity [veh/h]	382	3677	3946	924		415	406	371
d1, Uniform Delay [s]	43.67	5.10	10.83	13.96		35.94	36.10	36.74
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.71	0.16	0.17	2.89		2.88	3.19	5.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.25	0.27	0.60		0.76	0.77	0.84
d, Delay for Lane Group [s/veh]	48.38	5.26	10.99	16.85		38.82	39.29	41.77
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.06	1.97	2.86	8.34		7.41	7.45	7.64
50th-Percentile Queue Length [ft/ln]	101.53	49.25	71.38	208.41		185.35	186.25	191.00
95th-Percentile Queue Length [veh/ln]	7.31	3.55	5.14	13.07		11.88	11.93	12.17
95th-Percentile Queue Length [ft/ln]	182.75	88.66	128.48	326.79		296.99	298.16	304.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.38	5.26	0.00	0.00	10.99	16.85	0.00	0.00	0.00	39.03	39.29	41.37
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	16.31			13.01			0.00			39.95		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.77											
Intersection LOS	C											
Intersection V/C	0.711											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	21	0	14	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	882	415	392	1199	0	329	8	462	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	237	112	105	322	0	88	2	124	0	0	0
Total Analysis Volume [veh/h]	0	948	446	422	1289	0	354	9	497	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	45	0	21	66	0	0	34	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	56	56	14	73	21	21	21	
g / C, Green / Cycle	0.56	0.56	0.14	0.73	0.21	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.29	0.12	0.36	0.16	0.17	0.17	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1660	1615	
c, Capacity [veh/h]	2021	908	503	2648	377	345	336	
d1, Uniform Delay [s]	13.10	13.64	41.72	5.58	37.46	37.83	37.95	
k, delay calibration	0.50	0.50	0.11	0.50	0.12	0.14	0.14	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.76	2.06	3.82	0.64	3.84	6.09	7.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.46	0.51	0.84	0.49	0.78	0.82	0.84	
d, Delay for Lane Group [s/veh]	13.86	15.69	45.54	6.23	41.31	43.93	45.00	
Lane Group LOS	B	B	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.06	6.60	5.29	4.79	7.15	7.15	7.16	
50th-Percentile Queue Length [ft/ln]	151.41	165.04	132.13	119.69	178.64	178.63	178.97	
95th-Percentile Queue Length [veh/ln]	10.09	10.82	9.06	8.38	11.53	11.53	11.55	
95th-Percentile Queue Length [ft/ln]	252.30	270.39	226.38	209.41	288.24	288.22	288.67	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.89	15.69	45.54	6.23	0.00	41.79	43.93	44.54	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	14.47			15.92			43.38			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.37											
Intersection LOS	C											
Intersection V/C	0.659											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	16	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	984	26	47	1236	406	237	18	69	31	16	34
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	262	7	13	329	108	63	5	18	8	4	9
Total Analysis Volume [veh/h]	72	1047	28	50	1315	432	252	19	73	33	17	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	62	0	12	64	0	0	26	0	0	26	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	5	61	61	5	60	60	21	21	21	21	21	21
g / C, Green / Cycle	0.05	0.61	0.61	0.05	0.60	0.60	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.28	0.28	0.03	0.47	0.49	0.18	0.01	0.05	0.02	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1883	1810	1900	1746	1373	1900	1615	1325	1900	1615
c, Capacity [veh/h]	94	1149	1139	83	1138	1045	310	401	341	276	401	341
d1, Uniform Delay [s]	46.78	10.91	10.91	46.79	15.05	15.91	41.84	31.44	32.60	36.72	31.41	31.84
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.19	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.41	1.38	1.39	6.71	5.24	7.43	8.93	0.07	0.44	0.27	0.06	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.47	0.47	0.60	0.78	0.83	0.81	0.05	0.21	0.12	0.04	0.11
d, Delay for Lane Group [s/veh]	63.19	12.28	12.30	53.50	20.29	23.33	50.78	31.51	33.04	37.00	31.47	32.03
Lane Group LOS	E	B	B	D	C	C	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.19	6.53	6.48	1.37	15.31	16.24	6.97	0.37	1.50	0.72	0.33	0.72
50th-Percentile Queue Length [ft/ln]	54.71	163.29	161.97	34.26	382.79	405.91	174.20	9.32	37.43	17.97	8.33	17.97
95th-Percentile Queue Length [veh/ln]	3.94	10.72	10.65	2.47	21.73	22.84	11.30	0.67	2.69	1.29	0.60	1.29
95th-Percentile Queue Length [ft/ln]	98.47	268.08	266.33	61.67	543.22	571.12	282.43	16.78	67.37	32.35	15.00	32.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.19	12.29	12.30	53.50	21.29	23.33	50.78	31.51	33.04	37.00	31.47	32.03
Movement LOS	E	B	B	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.49			22.68			45.95			33.82		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	22.89											
Intersection LOS	C											
Intersection V/C	0.815											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	16	0	16	0	23	0	0	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	921	71	73	1168	115	107	28	61	53	37	67
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	248	19	20	314	31	29	8	16	14	10	18
Total Analysis Volume [veh/h]	72	990	76	78	1256	124	115	30	66	57	40	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	47	0	31	67	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	62	62	6	62	62	17	17	17	17
g / C, Green / Cycle	0.06	0.62	0.62	0.06	0.62	0.62	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.28	0.28	0.04	0.37	0.37	0.17	0.04	0.02	0.04
s, saturation flow rate [veh/h]	1810	1900	1853	1810	1900	1841	1270	1320	1900	1615
c, Capacity [veh/h]	110	1177	1148	115	1183	1146	273	73	325	276
d1, Uniform Delay [s]	45.95	10.12	10.12	45.82	11.27	11.32	42.41	50.00	35.10	35.97
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.23	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.51	1.29	1.32	6.79	2.17	2.28	9.64	31.60	0.36	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

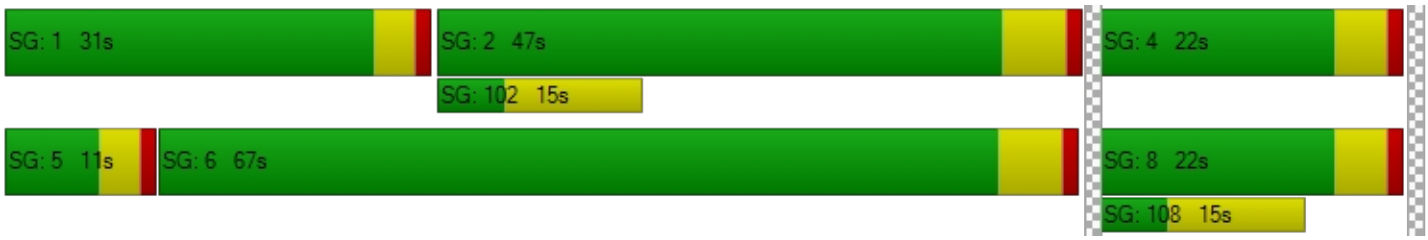
X, volume / capacity	0.66	0.46	0.46	0.68	0.59	0.60	0.77	0.79	0.12	0.26
d, Delay for Lane Group [s/veh]	52.46	11.40	11.44	52.60	13.44	13.60	52.06	81.60	35.46	37.03
Lane Group LOS	D	B	B	D	B	B	D	F	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.94	6.20	6.06	2.10	9.11	8.96	5.86	2.06	0.86	1.60
50th-Percentile Queue Length [ft/ln]	48.47	154.92	151.49	52.60	227.65	223.97	146.42	51.40	21.39	39.98
95th-Percentile Queue Length [veh/ln]	3.49	10.28	10.10	3.79	14.05	13.87	9.83	3.70	1.54	2.88
95th-Percentile Queue Length [ft/ln]	87.24	256.98	252.41	94.68	351.37	346.69	245.65	92.53	38.50	71.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.46	11.42	11.44	52.60	13.51	13.60	52.06	52.06	52.06	81.60	35.46	37.03
Movement LOS	D	B	B	D	B	B	D	D	D	F	D	D
d_A, Approach Delay [s/veh]	14.02			15.61			52.06			51.69		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	19.63											
Intersection LOS	B											
Intersection V/C	0.655											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.125

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1002	0	0	1135	0	6	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	0	0	0	32	0	0	46	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1038	0	0	1158	32	6	0	46	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	288	0	0	322	9	2	0	13	0	0	0
Total Analysis Volume [veh/h]	0	1153	0	0	1287	36	7	0	51	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.12	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.04	0.00	0.00	0.00
Movement LOS		A			A	A			C			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			15.04			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	0.30											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	119.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1304	6	58	1136	1	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	23	23	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1330	6	82	1182	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	350	2	22	311	0	17
Total Analysis Volume [veh/h]	1400	6	86	1244	1	69
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.17	0.01	0.03	0.18
d_M, Delay for Movement [s/veh]	0.00	0.00	13.87	0.00	119.59	16.39
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.63	0.00	0.09	0.65
95th-Percentile Queue Length [ft/ln]	0.00	0.00	15.70	0.00	2.33	16.13
d_A, Approach Delay [s/veh]	0.00		0.90		17.87	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.87					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	93	922	1057	49	37	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	23	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	940	1078	73	38	105
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	247	284	19	10	28
Total Analysis Volume [veh/h]	100	989	1135	77	40	111
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	18	79	61	0	21	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	85	75	75	9	9
g / C, Green / Cycle	0.07	0.85	0.75	0.75	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.31	0.05	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	129	3078	2711	1210	161	144
d1, Uniform Delay [s]	45.63	1.53	4.57	3.30	42.43	44.55
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.36	0.28	0.48	0.10	0.80	8.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.32	0.42	0.06	0.25	0.77
d, Delay for Lane Group [s/veh]	54.99	1.81	5.05	3.40	43.23	53.01
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.76	0.96	3.53	0.36	0.95	3.01
50th-Percentile Queue Length [ft/ln]	69.07	24.09	88.20	9.03	23.83	75.29
95th-Percentile Queue Length [veh/ln]	4.97	1.73	6.35	0.65	1.72	5.42
95th-Percentile Queue Length [ft/ln]	124.32	43.36	158.76	16.26	42.90	135.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.99	1.81	5.05	3.40	43.23	53.01
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.69		4.95		50.42	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.52					
Intersection LOS	A					
Intersection V/C	0.497					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_PM.vistro
Report File: K:\...\3 - OY WP PM - ALT A.pdf

Scenario 4 OY WP PM - ALT A
5/30/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	NB Left	0.667	20.7	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	EB Right	0.861	26.0	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	0.980	44.7	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Left	0.753	20.8	C
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	1.605	798.7	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.104	144.4	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.725	10.8	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.667

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	13	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	1541	0	0	1175	396	0	0	0	576	2	529
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	1.0000	1.0000	1.0000	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	397	0	0	303	102	0	0	0	148	1	136
Total Analysis Volume [veh/h]	346	1589	0	0	1211	408	0	0	0	594	2	545
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	17	47	0	0	30	0	0	0	0	0	53	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	12	66	52	52		28	28	28
g / C, Green / Cycle	0.12	0.66	0.52	0.52		0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.10	0.31	0.18	0.25		0.21	0.22	0.24
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1720	1615
c, Capacity [veh/h]	419	3434	3548	830		500	476	447
d1, Uniform Delay [s]	43.02	8.17	14.31	15.79		33.13	33.59	34.23
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.17	0.45	0.26	2.08		2.41	3.15	4.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.46	0.34	0.49		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	47.19	8.63	14.58	17.87		35.54	36.74	38.89
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.39	5.07	3.95	6.26		8.63	8.83	9.15
50th-Percentile Queue Length [ft/ln]	109.63	126.73	98.79	156.43		215.80	220.74	228.78
95th-Percentile Queue Length [veh/ln]	7.82	8.76	7.11	10.36		13.45	13.70	14.11
95th-Percentile Queue Length [ft/ln]	195.48	219.05	177.82	258.99		336.26	342.57	352.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.19	8.63	0.00	0.00	14.58	17.87	0.00	0.00	0.00	35.97	36.74	38.24
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	15.52			15.41			0.00			37.06		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.71											
Intersection LOS	C											
Intersection V/C	0.667											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			No			No			Yes	

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	17	0	13	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1297	625	453	1324	0	582	0	439	0	0	0
Peak Hour Factor	1.0000	0.9700	0.9700	0.9700	0.9700	1.0000	0.9700	0.9700	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	334	161	117	341	0	150	0	113	0	0	0
Total Analysis Volume [veh/h]	0	1337	644	467	1365	0	600	0	453	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	49	0	19	68	0	0	32	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	51	51	15	69	25	25	25	
g / C, Green / Cycle	0.51	0.51	0.15	0.69	0.25	0.25	0.25	
(v / s)_i Volume / Saturation Flow Rate	0.37	0.41	0.13	0.38	0.19	0.20	0.22	
s, saturation flow rate [veh/h]	3618	1621	3514	3618	1810	1748	1615	
c, Capacity [veh/h]	1845	827	535	2504	449	433	400	
d1, Uniform Delay [s]	18.91	20.26	41.46	7.61	35.09	35.38	36.13	
k, delay calibration	0.50	0.50	0.11	0.50	0.21	0.22	0.27	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.41	7.95	4.65	0.86	5.64	7.29	13.63	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.72	0.80	0.87	0.55	0.78	0.81	0.88	
d, Delay for Lane Group [s/veh]	21.32	28.21	46.11	8.47	40.72	42.67	49.76	
Lane Group LOS	C	C	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.75	13.76	5.91	6.49	8.55	8.79	9.60	
50th-Percentile Queue Length [ft/ln]	293.84	343.88	147.81	162.37	213.77	219.82	239.95	
95th-Percentile Queue Length [veh/ln]	17.38	19.84	9.90	10.67	13.35	13.66	14.68	
95th-Percentile Queue Length [ft/ln]	434.41	495.94	247.50	266.86	333.66	341.39	366.97	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.41	28.21	46.11	8.47	0.00	41.53	42.67	48.16	0.00	0.00	0.00
Movement LOS		C	C	D	A		D	D	D			
d_A, Approach Delay [s/veh]	23.62			18.07			44.38			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	26.02											
Intersection LOS	C											
Intersection V/C	0.861											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	44.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.980

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	1386	21	27	1451	281	406	116	146	33	30	71
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	369	6	7	386	75	108	31	39	9	8	19
Total Analysis Volume [veh/h]	37	1474	22	29	1544	299	432	123	155	35	32	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	53	0	10	53	0	0	37	0	0	37	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	4	51	51	3	50	50	32	32	32	32	32	32
g / C, Green / Cycle	0.04	0.51	0.51	0.03	0.50	0.50	0.32	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.39	0.40	0.02	0.49	0.51	0.33	0.06	0.10	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1797	1306	1900	1615	1119	1900	1615
c, Capacity [veh/h]	72	962	957	63	952	900	422	610	518	328	610	518
d1, Uniform Delay [s]	47.05	20.14	20.16	47.33	24.26	24.94	38.90	24.65	25.50	30.66	23.45	24.19
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.46	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.81	6.22	6.29	5.14	23.11	34.90	48.63	0.23	0.46	0.20	0.05	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

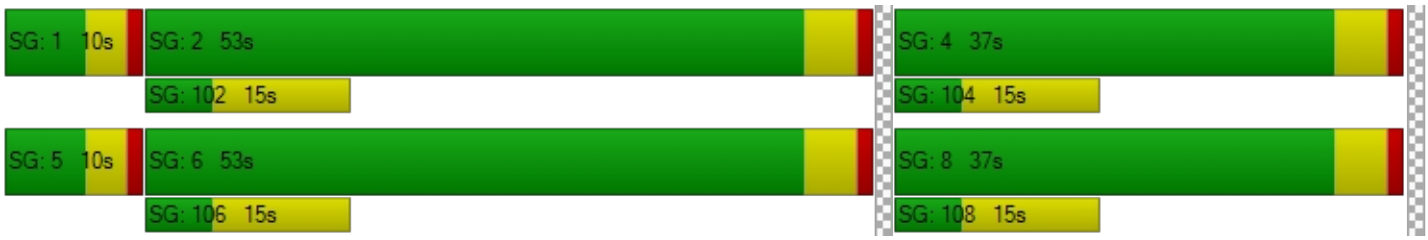
X, volume / capacity	0.51	0.78	0.78	0.46	0.97	1.02	1.02	0.20	0.30	0.11	0.05	0.15
d, Delay for Lane Group [s/veh]	54.86	26.35	26.45	52.47	47.37	59.85	87.53	24.88	25.95	30.86	23.50	24.37
Lane Group LOS	D	C	C	D	D	F	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.06	15.04	15.02	0.80	25.87	28.50	16.19	2.14	2.80	0.69	0.53	1.30
50th-Percentile Queue Length [ft/ln]	26.39	375.90	375.39	19.90	646.87	712.51	404.66	53.50	70.12	17.19	13.21	32.52
95th-Percentile Queue Length [veh/ln]	1.90	21.40	21.37	1.43	34.22	37.83	23.15	3.85	5.05	1.24	0.95	2.34
95th-Percentile Queue Length [ft/ln]	47.50	534.88	534.27	35.81	855.42	945.83	578.74	96.30	126.22	30.94	23.78	58.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.86	26.40	26.45	52.47	52.37	59.85	87.53	24.88	25.95	30.86	23.50	24.37
Movement LOS	D	C	C	D	D	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	27.09			53.57			63.23			25.77		
Approach LOS	C			D			E			C		
d_I, Intersection Delay [s/veh]	44.71											
Intersection LOS	D											
Intersection V/C	0.980											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	1245	18	54	1492	77	105	14	92	38	18	63
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	335	5	15	401	21	28	4	25	10	5	17
Total Analysis Volume [veh/h]	90	1339	19	58	1604	83	113	15	99	41	19	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	54	0	23	63	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	62	62	6	61	61	18	18	18	18
g / C, Green / Cycle	0.06	0.62	0.62	0.06	0.61	0.61	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.05	0.36	0.36	0.03	0.45	0.45	0.16	0.03	0.01	0.04
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1867	1392	1299	1900	1615
c, Capacity [veh/h]	117	1170	1165	103	1156	1136	306	73	344	292
d1, Uniform Delay [s]	46.05	11.49	11.50	45.93	13.82	13.94	40.79	50.00	33.88	35.01
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.23	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.19	2.11	2.13	4.71	4.11	4.35	7.36	13.87	0.14	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.58	0.58	0.56	0.73	0.74	0.74	0.56	0.06	0.23
d, Delay for Lane Group [s/veh]	56.23	13.60	13.62	50.64	17.93	18.29	48.15	63.87	34.02	35.87
Lane Group LOS	E	B	B	D	B	B	D	E	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.52	8.92	8.90	1.53	13.51	13.59	6.04	1.30	0.39	1.48
50th-Percentile Queue Length [ft/ln]	62.97	223.00	222.41	38.32	337.69	339.70	151.01	32.51	9.87	37.00
95th-Percentile Queue Length [veh/ln]	4.53	13.82	13.79	2.76	19.54	19.63	10.07	2.34	0.71	2.66
95th-Percentile Queue Length [ft/ln]	113.34	345.46	344.70	68.97	488.38	490.83	251.78	58.52	17.77	66.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.23	13.61	13.62	50.64	18.10	18.29	48.15	48.15	48.15	63.87	34.02	35.87
Movement LOS	E	B	B	D	B	B	D	D	D	E	C	D
d_A, Approach Delay [s/veh]	16.26			19.19			48.15			44.56		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	20.76											
Intersection LOS	C											
Intersection V/C	0.753											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	798.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.605

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1238	0	0	1592	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	15	19	0	18	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1263	0	0	1624	15	19	0	18	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	351	0	0	451	4	5	0	5	0	0	0
Total Analysis Volume [veh/h]	17	1403	0	0	1804	17	21	0	20	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.01	0.00	0.00	0.02	0.00	1.61	0.00	0.07	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	16.11	0.00	0.00	0.00	0.00	0.00	798.68	0.00	536.32	0.00	0.00	0.00
Movement LOS	C	A			A	A	F		F			
95th-Percentile Queue Length [veh/ln]	0.16	0.00	0.00	0.00	0.00	0.00	5.09	0.00	5.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.92	0.00	0.00	0.00	0.00	0.00	127.23	0.00	127.23	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.19			0.00			670.70			0.00		
Approach LOS	A			A			F			A		
d_I, Intersection Delay [s/veh]	8.46											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	144.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.104

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1199	9	35	1566	3	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	18	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1223	9	54	1597	3	50
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	332	2	15	434	1	14
Total Analysis Volume [veh/h]	1329	10	59	1736	3	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.11	0.02	0.10	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	12.78	0.00	144.45	15.26
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.38	0.00	0.32	0.46
95th-Percentile Queue Length [ft/ln]	0.00	0.00	9.51	0.00	7.96	11.43
d_A, Approach Delay [s/veh]	0.00		0.42		22.06	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	96	1163	1512	45	29	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1186	1542	46	30	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	329	428	13	8	42
Total Analysis Volume [veh/h]	109	1318	1713	51	33	169
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	82	71	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	82	71	71	12	12
g / C, Green / Cycle	0.08	0.82	0.71	0.71	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.06	0.36	0.47	0.03	0.02	0.10
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	137	2951	2568	1147	225	201
d1, Uniform Delay [s]	45.46	2.67	7.99	4.34	39.05	42.82
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.00	0.49	1.39	0.07	0.30	9.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.45	0.67	0.04	0.15	0.84
d, Delay for Lane Group [s/veh]	55.46	3.17	9.38	4.42	39.35	51.93
Lane Group LOS	E	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.02	2.50	8.88	0.29	0.74	4.56
50th-Percentile Queue Length [ft/ln]	75.61	62.60	221.97	7.37	18.49	113.95
95th-Percentile Queue Length [veh/ln]	5.44	4.51	13.77	0.53	1.33	8.06
95th-Percentile Queue Length [ft/ln]	136.10	112.68	344.14	13.26	33.29	201.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.46	3.17	9.38	4.42	39.35	51.93
Movement LOS	E	A	A	A	D	D
d_A, Approach Delay [s/veh]	7.16		9.24		49.87	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.78					
Intersection LOS	B					
Intersection V/C	0.725					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_PM.vistro
Report File: K:\...\3 - OY WP PM - ALT B.pdf

Scenario 7 OY WP PM - ALT B
6/12/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	NB Left	0.667	20.7	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	EB Right	0.861	26.0	C
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	0.980	44.7	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Left	0.779	21.9	C
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Right	0.148	20.2	C
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.106	147.0	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.725	10.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.667

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	13	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	1541	0	0	1175	396	0	0	0	576	2	529
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	1.0000	1.0000	1.0000	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	397	0	0	303	102	0	0	0	148	1	136
Total Analysis Volume [veh/h]	346	1589	0	0	1211	408	0	0	0	594	2	545
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	17	47	0	0	30	0	0	0	0	0	53	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	12	66	52	52		28	28	28
g / C, Green / Cycle	0.12	0.66	0.52	0.52		0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.10	0.31	0.18	0.25		0.21	0.22	0.24
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1720	1615
c, Capacity [veh/h]	419	3434	3548	830		500	476	447
d1, Uniform Delay [s]	43.02	8.17	14.31	15.79		33.13	33.59	34.23
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.17	0.45	0.26	2.08		2.41	3.15	4.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.46	0.34	0.49		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	47.19	8.63	14.58	17.87		35.54	36.74	38.89
Lane Group LOS	D	A	B	B		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.39	5.07	3.95	6.26		8.63	8.83	9.15
50th-Percentile Queue Length [ft/ln]	109.63	126.73	98.79	156.43		215.80	220.74	228.78
95th-Percentile Queue Length [veh/ln]	7.82	8.76	7.11	10.36		13.45	13.70	14.11
95th-Percentile Queue Length [ft/ln]	195.48	219.05	177.82	258.99		336.26	342.57	352.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.19	8.63	0.00	0.00	14.58	17.87	0.00	0.00	0.00	35.97	36.74	38.24
Movement LOS	D	A			B	B				D	D	D
d_A, Approach Delay [s/veh]	15.52			15.41			0.00			37.06		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.71											
Intersection LOS	C											
Intersection V/C	0.667											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	17	0	13	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1297	625	453	1324	0	582	0	439	0	0	0
Peak Hour Factor	1.0000	0.9700	0.9700	0.9700	0.9700	1.0000	0.9700	0.9700	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	334	161	117	341	0	150	0	113	0	0	0
Total Analysis Volume [veh/h]	0	1337	644	467	1365	0	600	0	453	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	49	0	19	68	0	0	32	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	51	51	15	69	25	25	25	
g / C, Green / Cycle	0.51	0.51	0.15	0.69	0.25	0.25	0.25	
(v / s)_i Volume / Saturation Flow Rate	0.37	0.41	0.13	0.38	0.19	0.20	0.22	
s, saturation flow rate [veh/h]	3618	1621	3514	3618	1810	1748	1615	
c, Capacity [veh/h]	1845	827	535	2504	449	433	400	
d1, Uniform Delay [s]	18.91	20.26	41.46	7.61	35.09	35.38	36.13	
k, delay calibration	0.50	0.50	0.11	0.50	0.21	0.22	0.27	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.41	7.95	4.65	0.86	5.64	7.29	13.63	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.72	0.80	0.87	0.55	0.78	0.81	0.88	
d, Delay for Lane Group [s/veh]	21.32	28.21	46.11	8.47	40.72	42.67	49.76	
Lane Group LOS	C	C	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.75	13.76	5.91	6.49	8.55	8.79	9.60	
50th-Percentile Queue Length [ft/ln]	293.84	343.88	147.81	162.37	213.77	219.82	239.95	
95th-Percentile Queue Length [veh/ln]	17.38	19.84	9.90	10.67	13.35	13.66	14.68	
95th-Percentile Queue Length [ft/ln]	434.41	495.94	247.50	266.86	333.66	341.39	366.97	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.41	28.21	46.11	8.47	0.00	41.53	42.67	48.16	0.00	0.00	0.00
Movement LOS		C	C	D	A		D	D	D			
d_A, Approach Delay [s/veh]	23.62			18.07			44.38			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	26.02											
Intersection LOS	C											
Intersection V/C	0.861											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	44.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.980

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	1386	21	27	1451	281	406	116	146	33	30	71
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	369	6	7	386	75	108	31	39	9	8	19
Total Analysis Volume [veh/h]	37	1474	22	29	1544	299	432	123	155	35	32	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	53	0	10	53	0	0	37	0	0	37	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	4	51	51	3	50	50	32	32	32	32	32	32
g / C, Green / Cycle	0.04	0.51	0.51	0.03	0.50	0.50	0.32	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.39	0.40	0.02	0.49	0.51	0.33	0.06	0.10	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1797	1306	1900	1615	1119	1900	1615
c, Capacity [veh/h]	72	962	957	63	952	900	422	610	518	328	610	518
d1, Uniform Delay [s]	47.05	20.14	20.16	47.33	24.26	24.94	38.90	24.65	25.50	30.66	23.45	24.19
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.46	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.81	6.22	6.29	5.14	23.11	34.90	48.63	0.23	0.46	0.20	0.05	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

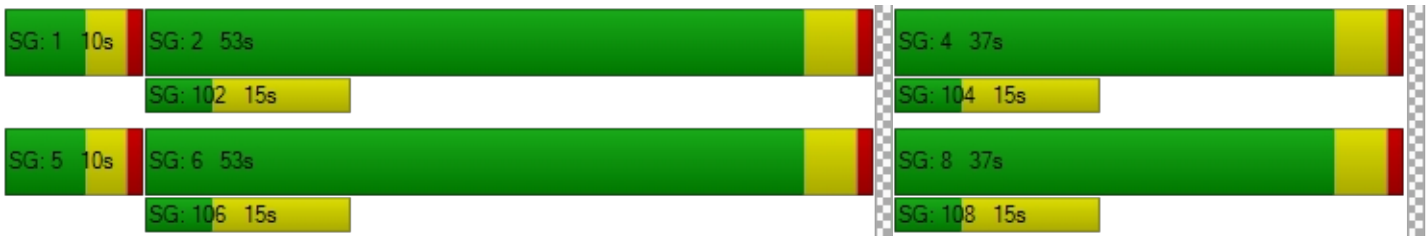
X, volume / capacity	0.51	0.78	0.78	0.46	0.97	1.02	1.02	0.20	0.30	0.11	0.05	0.15
d, Delay for Lane Group [s/veh]	54.86	26.35	26.45	52.47	47.37	59.85	87.53	24.88	25.95	30.86	23.50	24.37
Lane Group LOS	D	C	C	D	D	F	F	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.06	15.04	15.02	0.80	25.87	28.50	16.19	2.14	2.80	0.69	0.53	1.30
50th-Percentile Queue Length [ft/ln]	26.39	375.90	375.39	19.90	646.87	712.51	404.66	53.50	70.12	17.19	13.21	32.52
95th-Percentile Queue Length [veh/ln]	1.90	21.40	21.37	1.43	34.22	37.83	23.15	3.85	5.05	1.24	0.95	2.34
95th-Percentile Queue Length [ft/ln]	47.50	534.88	534.27	35.81	855.42	945.83	578.74	96.30	126.22	30.94	23.78	58.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.86	26.40	26.45	52.47	52.37	59.85	87.53	24.88	25.95	30.86	23.50	24.37
Movement LOS	D	C	C	D	D	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	27.09			53.57			63.23			25.77		
Approach LOS	C			D			E			C		
d_I, Intersection Delay [s/veh]	44.71											
Intersection LOS	D											
Intersection V/C	0.980											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	21.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	15	0	15	0	19	0	0	15	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	1226	33	54	1492	77	124	14	92	53	18	63
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	330	9	15	401	21	33	4	25	14	5	17
Total Analysis Volume [veh/h]	90	1318	35	58	1604	83	133	15	99	57	19	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	54	0	23	63	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	62	62	6	61	61	18	18	18	18
g / C, Green / Cycle	0.06	0.62	0.62	0.06	0.61	0.61	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.05	0.36	0.36	0.03	0.45	0.45	0.19	0.04	0.01	0.04
s, saturation flow rate [veh/h]	1810	1900	1883	1810	1900	1867	1332	1299	1900	1615
c, Capacity [veh/h]	117	1170	1160	103	1156	1136	297	73	344	292
d1, Uniform Delay [s]	46.05	11.48	11.49	45.93	13.82	13.94	42.14	50.00	33.88	35.01
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.27	0.23	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.19	2.10	2.13	4.71	4.11	4.35	13.61	31.73	0.14	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.58	0.58	0.56	0.73	0.74	0.83	0.79	0.06	0.23
d, Delay for Lane Group [s/veh]	56.23	13.58	13.62	50.64	17.93	18.29	55.75	81.73	34.02	35.87
Lane Group LOS	E	B	B	D	B	B	E	F	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.52	8.89	8.85	1.53	13.51	13.59	7.16	2.06	0.39	1.48
50th-Percentile Queue Length [ft/ln]	62.97	222.26	221.15	38.32	337.69	339.70	179.07	51.45	9.87	37.00
95th-Percentile Queue Length [veh/ln]	4.53	13.78	13.72	2.76	19.54	19.63	11.55	3.70	0.71	2.66
95th-Percentile Queue Length [ft/ln]	113.34	344.50	343.09	68.97	488.38	490.83	288.80	92.61	17.77	66.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.23	13.60	13.62	50.64	18.10	18.29	55.75	55.75	55.75	81.73	34.02	35.87
Movement LOS	E	B	B	D	B	B	E	E	E	F	C	D
d_A, Approach Delay [s/veh]	16.26			19.19			55.75			53.78		
Approach LOS	B			B			E			D		
d_I, Intersection Delay [s/veh]	21.92											
Intersection LOS	C											
Intersection V/C	0.779											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.148

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1238	0	0	1592	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	0	30	0	0	37	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1278	0	0	1624	30	0	0	37	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	355	0	0	451	8	0	0	10	0	0	0
Total Analysis Volume [veh/h]	0	1420	0	0	1804	33	0	0	41	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.21	0.00	0.00	0.00
Movement LOS		A			A	A			C			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.78	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			20.21			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	0.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	147.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.106

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1199	9	35	1566	3	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	18	19	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1223	9	54	1616	3	50
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	332	2	15	439	1	14
Total Analysis Volume [veh/h]	1329	10	59	1757	3	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.11	0.02	0.11	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	12.78	0.00	147.02	15.26
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.38	0.00	0.32	0.46
95th-Percentile Queue Length [ft/ln]	0.00	0.00	9.51	0.00	8.08	11.43
d_A, Approach Delay [s/veh]	0.00		0.42		22.20	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	96	1163	1512	45	29	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1186	1542	65	30	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	329	428	18	8	42
Total Analysis Volume [veh/h]	109	1318	1713	72	33	169
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	82	71	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	82	71	71	12	12
g / C, Green / Cycle	0.08	0.82	0.71	0.71	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.06	0.36	0.47	0.04	0.02	0.10
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	137	2951	2568	1147	225	201
d1, Uniform Delay [s]	45.46	2.67	7.99	4.40	39.05	42.82
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.00	0.49	1.39	0.11	0.30	9.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.45	0.67	0.06	0.15	0.84
d, Delay for Lane Group [s/veh]	55.46	3.17	9.38	4.51	39.35	51.93
Lane Group LOS	E	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.02	2.50	8.88	0.42	0.74	4.56
50th-Percentile Queue Length [ft/ln]	75.61	62.60	221.97	10.55	18.49	113.95
95th-Percentile Queue Length [veh/ln]	5.44	4.51	13.77	0.76	1.33	8.06
95th-Percentile Queue Length [ft/ln]	136.10	112.68	344.14	18.98	33.29	201.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.46	3.17	9.38	4.51	39.35	51.93
Movement LOS	E	A	A	A	D	D
d_A, Approach Delay [s/veh]	7.16		9.18		49.87	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.74					
Intersection LOS	B					
Intersection V/C	0.725					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-4

INTERSECTION ANALYSIS WORKSHEETS - OPENING YEAR 2019 CUMULATIVE

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_AM.vistro
Report File: K:\...\4 - OY Cum AM.pdf

Scenario 5 OY Cum AM
10/21/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	WB Thru	0.937	31.6	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	EB Thru	1.077	41.1	D
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	1.190	74.8	E
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Right	0.968	51.6	D
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	0.922	755.9	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.131	539.5	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.685	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	31.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.937

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	209	127	0	0	122	42	0	0	0	486	0	72
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	518	1029	0	0	1160	586	0	0	0	1022	5	439
Peak Hour Factor	0.9800	0.9800	1.0000	1.0000	0.9800	0.9800	1.0000	1.0000	1.0000	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	132	263	0	0	296	149	0	0	0	261	1	112
Total Analysis Volume [veh/h]	529	1050	0	0	1184	598	0	0	0	1043	5	448
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	20	63	0	0	43	0	0	0	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	17	61	41	41		33	33	33
g / C, Green / Cycle	0.17	0.61	0.41	0.41		0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.20	0.17	0.37		0.28	0.30	0.28
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1810	1615
c, Capacity [veh/h]	591	3169	2857	669		593	593	529
d1, Uniform Delay [s]	40.73	9.43	20.72	27.26		31.19	32.44	31.27
k, delay calibration	0.11	0.50	0.50	0.50		0.33	0.40	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.07	0.28	0.44	16.82		9.44	19.07	10.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.33	0.41	0.89		0.84	0.93	0.85
d, Delay for Lane Group [s/veh]	45.80	9.71	21.17	44.08		40.63	51.51	42.18
Lane Group LOS	D	A	C	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.71	3.54	4.87	15.83		12.43	15.60	11.40
50th-Percentile Queue Length [ft/ln]	167.84	88.51	121.70	395.69		310.80	390.11	285.03
95th-Percentile Queue Length [veh/ln]	10.96	6.37	8.49	22.35		18.21	22.08	16.94
95th-Percentile Queue Length [ft/ln]	274.08	159.32	212.16	558.80		455.36	552.07	423.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.80	9.71	0.00	0.00	21.17	44.08	0.00	0.00	0.00	46.31	51.51	42.18
Movement LOS	D	A			C	D				D	D	D
d_A, Approach Delay [s/veh]	21.80			28.85			0.00			45.09		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	31.56											
Intersection LOS	C											
Intersection V/C	0.937											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	41.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.077

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	271	422	42	568	0	66	0	343	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1151	816	434	1753	0	395	8	803	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	309	219	117	471	0	106	2	216	0	0	0
Total Analysis Volume [veh/h]	0	1238	877	467	1885	0	425	9	863	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	55	0	16	71	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	52	52	13	68	26	26	26	
g / C, Green / Cycle	0.52	0.52	0.13	0.68	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.34	0.54	0.13	0.52	0.23	0.27	0.27	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1620	1615	
c, Capacity [veh/h]	1881	840	457	2460	470	421	420	
d1, Uniform Delay [s]	17.51	24.00	43.50	10.69	35.78	37.00	37.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.31	0.40	0.39	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.82	43.23	25.42	2.35	16.16	51.26	46.73	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.66	1.04	1.02	0.77	0.90	1.04	1.03	
d, Delay for Lane Group [s/veh]	19.33	67.23	68.92	13.04	51.95	88.26	83.73	
Lane Group LOS	B	F	F	B	D	F	F	
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	
50th-Percentile Queue Length [veh/ln]	10.31	28.37	7.20	12.62	11.93	16.06	15.48	
50th-Percentile Queue Length [ft/ln]	257.72	709.17	180.01	315.46	298.20	401.38	386.95	
95th-Percentile Queue Length [veh/ln]	15.57	38.41	11.71	18.44	17.59	23.21	22.32	
95th-Percentile Queue Length [ft/ln]	389.35	960.27	292.73	461.10	439.80	580.26	557.89	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.33	67.23	68.92	13.04	0.00	51.95	88.26	85.99	0.00	0.00	0.00
Movement LOS		B	F	F	B		D	F	F			
d_A, Approach Delay [s/veh]	39.19			24.13			74.85			0.00		
Approach LOS	D			C			E			A		
d_I, Intersection Delay [s/veh]	41.07											
Intersection LOS	D											
Intersection V/C	1.077											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	74.8
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.190

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	31	647	0	0	812	119	47	2	23	0	4	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	1608	26	47	2032	525	284	20	92	31	20	34
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	428	7	13	540	140	76	5	24	8	5	9
Total Analysis Volume [veh/h]	105	1711	28	50	2162	559	302	21	98	33	21	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	68	0	10	68	0	0	22	0	0	22	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	65	65	5	63	63	17	17	17	17	17	17
g / C, Green / Cycle	0.06	0.65	0.65	0.05	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.46	0.46	0.03	0.72	0.77	0.22	0.01	0.06	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1889	1810	1900	1772	1368	1900	1615	1293	1900	1615
c, Capacity [veh/h]	109	1224	1217	85	1199	1118	253	325	276	199	325	276
d1, Uniform Delay [s]	46.90	11.68	11.73	46.71	18.45	18.45	45.27	34.75	36.58	41.75	34.75	35.15
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.27	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	40.31	3.52	3.60	6.35	71.39	106.00	106.83	0.12	1.10	0.55	0.12	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.71	0.71	0.59	1.13	1.22	1.19	0.06	0.35	0.17	0.06	0.13
d, Delay for Lane Group [s/veh]	87.21	15.20	15.32	53.06	89.84	124.45	152.10	34.86	37.68	42.30	34.86	35.45
Lane Group LOS	F	B	B	D	F	F	F	C	D	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.80	12.39	12.44	1.36	47.71	55.23	13.80	0.44	2.19	0.78	0.44	0.76
50th-Percentile Queue Length [ft/ln]	95.12	309.82	311.03	34.10	1192.70	1380.72	345.04	10.96	54.65	19.54	10.96	19.12
95th-Percentile Queue Length [veh/ln]	6.85	18.17	18.23	2.46	65.58	78.71	21.57	0.79	3.93	1.41	0.79	1.38
95th-Percentile Queue Length [ft/ln]	171.22	454.15	455.65	61.38	1639.47	1967.64	539.22	19.73	98.37	35.17	19.73	34.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	87.21	15.26	15.32	53.06	102.67	124.45	152.10	34.86	37.68	42.30	34.86	35.45
Movement LOS	F	B	B	D	F	F	F	C	D	D	C	D
d_A, Approach Delay [s/veh]	19.36			106.17			119.62			37.82		
Approach LOS	B			F			F			D		
d_I, Intersection Delay [s/veh]	74.85											
Intersection LOS	E											
Intersection V/C	1.190											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	51.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.968

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	15	560	0	248	631	59	41	33	4	0	36	249
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	1481	55	321	1783	174	125	61	65	37	73	316
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	398	15	86	479	47	34	16	17	10	20	85
Total Analysis Volume [veh/h]	88	1592	59	345	1917	187	134	66	70	40	78	340
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	50	0	24	63	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	44	44	20	58	58	21	21	21	21
g / C, Green / Cycle	0.06	0.44	0.44	0.20	0.58	0.58	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.05	0.44	0.44	0.19	0.55	0.57	0.22	0.03	0.04	0.21
s, saturation flow rate [veh/h]	1810	1900	1876	1810	1900	1842	1213	1273	1900	1615
c, Capacity [veh/h]	118	842	831	362	1097	1064	310	96	401	341
d1, Uniform Delay [s]	45.90	27.48	27.65	39.54	19.99	20.80	41.73	49.43	32.46	39.43
k, delay calibration	0.11	0.50	0.50	0.18	0.50	0.50	0.33	0.23	0.23	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.83	27.19	29.07	19.36	18.88	25.02	19.29	6.04	0.50	37.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.98	0.99	0.95	0.96	0.99	0.87	0.42	0.19	1.00
d, Delay for Lane Group [s/veh]	54.73	54.67	56.71	58.89	38.87	45.82	61.02	55.47	32.96	77.05
Lane Group LOS	D	D	E	E	D	D	E	E	C	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.43	24.81	25.19	10.19	26.57	29.05	8.30	1.16	1.60	11.76
50th-Percentile Queue Length [ft/ln]	60.67	620.26	629.66	254.73	664.16	726.21	207.43	28.92	40.10	293.95
95th-Percentile Queue Length [veh/ln]	4.37	32.98	33.42	15.42	35.02	37.89	13.02	2.08	2.89	17.38
95th-Percentile Queue Length [ft/ln]	109.20	824.48	835.43	385.60	875.48	947.18	325.53	52.06	72.17	434.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.73	55.65	56.71	58.89	42.01	45.82	61.02	61.02	61.02	55.47	32.96	77.05
Movement LOS	D	E	E	E	D	D	E	E	E	E	C	E
d_A, Approach Delay [s/veh]	55.64			44.68			61.02			67.66		
Approach LOS	E			D			E			E		
d_I, Intersection Delay [s/veh]	51.59											
Intersection LOS	D											
Intersection V/C	0.968											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	755.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.922

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1002	0	0	1135	3	6	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	575	0	0	635	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1597	0	0	1793	3	6	0	11	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	444	0	0	498	1	2	0	3	0	0	0
Total Analysis Volume [veh/h]	0	1774	0	0	1992	3	7	0	12	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.02	0.00	0.92	0.00	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	17.33	0.00	0.00	0.00	0.00	0.00	755.89	0.00	296.47	0.00	0.00	0.00
Movement LOS	C	A			A	A	F		F			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	2.63	0.00	2.63	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	65.84	0.00	65.84	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			465.73			0.00		
Approach LOS	A			A			F			A		
d_I, Intersection Delay [s/veh]	2.34											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	539.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1304	6	58	1136	1	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	575	0	0	635	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1905	6	59	1794	1	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	501	2	16	472	0	13
Total Analysis Volume [veh/h]	2005	6	62	1888	1	53
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.22	0.02	0.13	0.22
d_M, Delay for Movement [s/veh]	0.00	0.00	20.91	0.00	539.48	23.90
Movement LOS	A	A	C	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.80	0.00	0.33	0.81
95th-Percentile Queue Length [ft/ln]	0.00	0.00	20.03	0.00	8.14	20.23
d_A, Approach Delay [s/veh]	0.00		0.66		33.44	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.77					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	93	922	1057	49	37	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	3	494	553	66	50	4
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1434	1631	116	88	109
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	377	429	31	23	29
Total Analysis Volume [veh/h]	103	1509	1717	122	93	115
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	21	81	60	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	85	74	74	9	9
g / C, Green / Cycle	0.07	0.85	0.74	0.74	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.06	0.42	0.47	0.08	0.05	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	134	3065	2689	1200	168	150
d1, Uniform Delay [s]	45.46	2.00	6.27	3.56	43.39	44.31
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.93	0.57	1.17	0.17	2.84	7.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.49	0.64	0.10	0.55	0.77
d, Delay for Lane Group [s/veh]	54.40	2.57	7.44	3.73	46.23	52.30
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.83	1.99	7.33	0.61	2.32	3.10
50th-Percentile Queue Length [ft/ln]	70.71	49.68	183.31	15.33	58.04	77.42
95th-Percentile Queue Length [veh/ln]	5.09	3.58	11.77	1.10	4.18	5.57
95th-Percentile Queue Length [ft/ln]	127.28	89.42	294.33	27.60	104.47	139.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.40	2.57	7.44	3.73	46.23	52.30
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	5.88		7.20		49.58	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.03					
Intersection LOS	A					
Intersection V/C	0.685					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_PM.vistro
Report File: K:\...\4 - OY Cum PM.pdf

Scenario 5 OY Cum PM
10/21/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	WB Right	0.939	31.3	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	NB Right	1.336	82.7	F
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	1.334	118.2	F
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	SB Left	1.180	89.1	F
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Right	0.061	26.1	D
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.515	907.8	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.889	13.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	31.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.939

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	319	182	0	0	182	91	0	0	0	336	0	93
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	653	1723	0	0	1357	487	0	0	0	899	2	622
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	1.0000	1.0000	1.0000	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	168	444	0	0	350	126	0	0	0	232	1	160
Total Analysis Volume [veh/h]	673	1776	0	0	1399	502	0	0	0	927	2	641
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	24	62	0	0	38	0	0	0	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	21	60	36	36		34	34	34
g / C, Green / Cycle	0.21	0.60	0.36	0.36		0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.34	0.20	0.31		0.29	0.30	0.32
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1762	1615
c, Capacity [veh/h]	733	3082	2462	576		624	607	557
d1, Uniform Delay [s]	38.74	12.46	25.94	30.01		30.22	30.55	31.77
k, delay calibration	0.11	0.50	0.50	0.50		0.35	0.36	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.22	0.79	0.96	16.45		9.24	11.35	23.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.58	0.57	0.87		0.84	0.86	0.94
d, Delay for Lane Group [s/veh]	43.95	13.25	26.90	46.46		39.46	41.90	54.88
Lane Group LOS	D	B	C	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.48	7.74	6.73	13.53		12.89	13.33	15.45
50th-Percentile Queue Length [ft/ln]	212.06	193.53	168.17	338.27		322.34	333.28	386.18
95th-Percentile Queue Length [veh/ln]	13.26	12.30	10.98	19.56		18.78	19.32	21.89
95th-Percentile Queue Length [ft/ln]	331.47	307.60	274.51	489.09		469.57	482.98	547.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.95	13.25	0.00	0.00	26.90	46.46	0.00	0.00	0.00	40.52	41.90	52.50
Movement LOS	D	B			C	D				D	D	D
d_A, Approach Delay [s/veh]	21.69			32.07			0.00			45.41		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	31.31											
Intersection LOS	C											
Intersection V/C	0.939											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	82.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.336

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	425	543	94	423	0	76	0	221	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1720	1151	547	1734	0	658	0	658	0	0	0
Peak Hour Factor	1.0000	0.9700	0.9700	0.9700	0.9700	1.0000	0.9700	0.9700	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	443	297	141	447	0	170	0	170	0	0	0
Total Analysis Volume [veh/h]	0	1773	1187	564	1788	0	678	0	678	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	59	0	16	75	0	0	25	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	56	56	13	72	22	22	22	
g / C, Green / Cycle	0.56	0.56	0.13	0.72	0.22	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.49	0.73	0.16	0.49	0.25	0.26	0.28	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1707	1615	
c, Capacity [veh/h]	2026	904	457	2605	398	375	355	
d1, Uniform Delay [s]	18.98	22.00	43.50	7.75	39.00	39.00	39.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.35	0.39	0.42	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	5.66	148.53	109.87	1.50	80.81	109.93	140.03	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.88	1.31	1.23	0.69	1.14	1.20	1.27	
d, Delay for Lane Group [s/veh]	24.64	170.53	153.37	9.25	119.81	148.93	179.03	
Lane Group LOS	C	F	F	A	F	F	F	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	17.83	56.51	12.56	9.19	18.52	20.51	22.38	
50th-Percentile Queue Length [ft/ln]	445.69	1412.68	313.97	229.80	463.07	512.68	559.40	
95th-Percentile Queue Length [veh/ln]	24.75	83.49	19.99	14.16	27.38	30.75	33.98	
95th-Percentile Queue Length [ft/ln]	618.80	2087.18	499.78	354.10	684.56	768.70	849.60	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.64	170.53	153.37	9.25	0.00	129.52	148.93	169.00	0.00	0.00	0.00
Movement LOS		C	F	F	A		F	F	F			
d_A, Approach Delay [s/veh]	83.15			43.81			149.26			0.00		
Approach LOS	F			D			F			A		
d_I, Intersection Delay [s/veh]	82.71											
Intersection LOS	F											
Intersection V/C	1.336											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	118.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.334

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	25	839	0	0	601	70	128	4	29	0	2	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	2206	21	27	2037	351	534	120	175	33	32	71
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	587	6	7	542	93	142	32	47	9	9	19
Total Analysis Volume [veh/h]	64	2347	22	29	2167	373	568	128	186	35	34	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	62	0	10	62	0	0	28	0	0	28	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	5	60	60	3	58	58	23	23	23	23	23	23
g / C, Green / Cycle	0.05	0.60	0.60	0.03	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.62	0.63	0.02	0.67	0.70	0.44	0.07	0.12	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1894	1810	1900	1806	1304	1900	1615	1082	1900	1615
c, Capacity [veh/h]	91	1133	1129	63	1103	1049	298	439	373	193	439	373
d1, Uniform Delay [s]	46.73	20.19	20.19	47.33	20.97	20.97	43.43	31.70	33.42	40.80	30.11	31.03
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.50	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.94	39.52	40.66	5.14	78.87	104.00	420.66	0.52	1.47	0.64	0.11	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	1.05	1.05	0.46	1.15	1.21	1.91	0.29	0.50	0.18	0.08	0.20
d, Delay for Lane Group [s/veh]	59.67	59.71	60.85	52.47	99.85	124.98	464.09	32.22	34.88	41.44	30.21	31.41
Lane Group LOS	E	F	F	D	F	F	F	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.89	35.74	35.98	0.80	47.20	52.19	42.21	2.60	4.04	0.82	0.65	1.51
50th-Percentile Queue Length [ft/ln]	47.19	893.57	899.55	19.90	1179.89	1304.75	1055.24	64.98	100.90	20.56	16.31	37.82
95th-Percentile Queue Length [veh/ln]	3.40	47.33	47.74	1.43	65.43	74.19	67.58	4.68	7.27	1.48	1.17	2.72
95th-Percentile Queue Length [ft/ln]	84.94	1183.24	1193.53	35.81	1635.69	1854.73	1689.61	116.96	181.63	37.02	29.37	68.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.67	60.28	60.85	52.47	110.25	124.98	464.09	32.22	34.88	41.44	30.21	31.41
Movement LOS	E	F	E	D	F	F	F	C	C	D	C	C
d_A, Approach Delay [s/veh]	60.27			111.73			310.90			33.55		
Approach LOS	E			F			F			C		
d_I, Intersection Delay [s/veh]	118.22											
Intersection LOS	F											
Intersection V/C	1.334											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	89.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.180

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	5	666	0	204	511	25	138	31	15	0	28	204
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	1892	18	258	1988	102	243	45	107	38	46	267
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	509	5	69	534	27	65	12	29	10	12	72
Total Analysis Volume [veh/h]	96	2034	19	277	2138	110	261	48	115	41	49	287
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	57	0	14	60	0	0	29	0	0	29	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	7	51	51	10	55	55	24	24	24	24
g / C, Green / Cycle	0.07	0.51	0.51	0.10	0.55	0.55	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.05	0.54	0.54	0.15	0.59	0.60	0.34	0.03	0.03	0.18
s, saturation flow rate [veh/h]	1810	1900	1894	1810	1900	1868	1236	1242	1900	1615
c, Capacity [veh/h]	123	975	972	181	1036	1018	356	88	458	389
d1, Uniform Delay [s]	45.88	24.35	24.35	45.00	22.74	22.74	41.60	49.76	29.57	35.03
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.23	0.23	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.27	43.87	45.03	244.90	54.04	61.13	110.37	8.10	0.22	6.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.05	1.06	1.53	1.09	1.10	1.19	0.47	0.11	0.74
d, Delay for Lane Group [s/veh]	56.15	68.22	69.38	289.90	76.78	83.87	151.96	57.86	29.78	41.27
Lane Group LOS	E	F	F	F	F	F	F	E	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.68	33.18	33.38	16.76	37.73	39.10	19.78	1.22	0.94	7.03
50th-Percentile Queue Length [ft/ln]	67.10	829.48	834.61	418.91	943.26	977.41	494.53	30.44	23.58	175.66
95th-Percentile Queue Length [veh/ln]	4.83	44.44	44.80	26.93	51.07	53.41	29.73	2.19	1.70	11.37
95th-Percentile Queue Length [ft/ln]	120.78	1110.99	1119.92	673.33	1276.83	1335.23	743.13	54.79	42.44	284.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.15	68.79	69.38	289.90	80.14	83.87	151.96	151.96	151.96	57.86	29.78	41.27
Movement LOS	E	F	E	F	F	F	F	F	F	E	C	D
d_A, Approach Delay [s/veh]	68.23			103.32			151.96			41.58		
Approach LOS	E			F			F			D		
d_I, Intersection Delay [s/veh]	89.06											
Intersection LOS	F											
Intersection V/C	1.180											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	26.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	2	1238	0	0	1592	3	0	0	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	671	0	0	526	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1934	0	0	2150	3	0	0	10	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	537	0	0	597	1	0	0	3	0	0	0
Total Analysis Volume [veh/h]	2	2149	0	0	2389	3	0	0	11	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	22.80	0.00	0.00	0.00	0.00	0.00	1399.10	0.00	26.12	0.00	0.00	0.00
Movement LOS	C	A			A	A	F		D			
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.19	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.74	0.00	0.00	0.00	0.00	0.00	4.80	0.00	4.80	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.02			0.00			26.12			0.00		
Approach LOS	A			A			D			A		
d_I, Intersection Delay [s/veh]	0.07											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	907.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1199	9	35	1566	3	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	671	0	0	526	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1894	9	36	2123	3	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	515	2	10	577	1	10
Total Analysis Volume [veh/h]	2059	10	39	2308	3	38
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.14	0.02	0.52	0.16
d_M, Delay for Movement [s/veh]	0.00	0.00	20.36	0.00	907.84	23.48
Movement LOS	A	A	C	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.49	0.00	0.90	0.57
95th-Percentile Queue Length [ft/ln]	0.00	0.00	12.28	0.00	22.47	14.32
d_A, Approach Delay [s/veh]	0.00		0.34		88.19	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	0.99					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.889

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	96	1163	1512	45	29	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	4	575	454	52	72	4
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	102	1761	1996	98	102	156
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	489	554	27	28	43
Total Analysis Volume [veh/h]	113	1957	2218	109	113	173
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	82	71	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	81	70	70	13	13
g / C, Green / Cycle	0.08	0.81	0.70	0.70	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.54	0.61	0.07	0.06	0.11
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2939	2548	1138	231	206
d1, Uniform Delay [s]	45.34	3.83	11.29	4.68	40.59	42.62
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.96	1.21	4.41	0.17	1.60	8.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.67	0.87	0.10	0.49	0.84
d, Delay for Lane Group [s/veh]	55.30	5.04	15.70	4.85	42.19	51.43
Lane Group LOS	E	A	B	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.13	5.42	16.78	0.67	2.68	4.64
50th-Percentile Queue Length [ft/ln]	78.25	135.58	419.59	16.84	66.94	116.09
95th-Percentile Queue Length [veh/ln]	5.63	9.24	23.50	1.21	4.82	8.18
95th-Percentile Queue Length [ft/ln]	140.85	231.07	587.55	30.32	120.50	204.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.30	5.04	15.70	4.85	42.19	51.43
Movement LOS	E	A	B	A	D	D
d_A, Approach Delay [s/veh]	7.79		15.19		47.78	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	13.91					
Intersection LOS	B					
Intersection V/C	0.889					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-5

INTERSECTION ANALYSIS WORKSHEETS - OPENING YEAR 2019 CUMULATIVE PLUS PROJECT

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_AM.vistro
Report File: K:\...\5 - OY Cum WP AM - ALT A.pdf

Scenario 6 OY Cum WP AM - ALT A
10/21/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	WB Thru	0.943	31.9	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	EB Thru	1.094	42.7	D
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	1.195	76.3	E
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	WB Right	0.976	53.6	D
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	3.949	2,232.2	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.159	664.3	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.685	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.943

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	209	127	0	0	122	42	0	0	0	486	0	72
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	520	1029	0	0	1160	586	0	0	0	1036	5	439
Peak Hour Factor	0.9800	0.9800	1.0000	1.0000	0.9800	0.9800	1.0000	1.0000	1.0000	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	133	263	0	0	296	149	0	0	0	264	1	112
Total Analysis Volume [veh/h]	531	1050	0	0	1184	598	0	0	0	1057	5	448
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	20	63	0	0	43	0	0	0	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	17	61	41	41		33	33	33
g / C, Green / Cycle	0.17	0.61	0.41	0.41		0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.20	0.17	0.37		0.28	0.31	0.28
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1810	1615
c, Capacity [veh/h]	592	3153	2833	663		599	599	534
d1, Uniform Delay [s]	40.71	9.58	20.97	27.59		31.01	32.38	30.98
k, delay calibration	0.11	0.50	0.50	0.50		0.34	0.41	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.11	0.28	0.46	17.80		9.50	20.31	10.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.33	0.42	0.90		0.84	0.93	0.84
d, Delay for Lane Group [s/veh]	45.83	9.87	21.43	45.38		40.51	52.68	41.30
Lane Group LOS	D	A	C	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.74	3.58	4.91	16.08		12.54	16.07	11.27
50th-Percentile Queue Length [ft/ln]	168.56	89.50	122.64	401.93		313.38	401.85	281.84
95th-Percentile Queue Length [veh/ln]	11.00	6.44	8.54	22.65		18.34	22.65	16.78
95th-Percentile Queue Length [ft/ln]	275.02	161.11	213.45	566.32		458.55	566.23	419.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.83	9.87	0.00	0.00	21.43	45.38	0.00	0.00	0.00	46.89	52.68	41.30
Movement LOS	D	A			C	D				D	D	D
d_A, Approach Delay [s/veh]	21.95			29.47			0.00			45.25		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	31.92											
Intersection LOS	C											
Intersection V/C	0.943											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	42.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.094

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			No			No			Yes	

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	271	422	42	568	0	66	0	343	0	0	0
Site-Generated Trips [veh/h]	0	2	21	0	14	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1153	837	434	1767	0	395	8	805	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	310	225	117	475	0	106	2	216	0	0	0
Total Analysis Volume [veh/h]	0	1240	900	467	1900	0	425	9	866	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	55	0	16	71	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	52	52	13	68	26	26	26	
g / C, Green / Cycle	0.52	0.52	0.13	0.68	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.34	0.56	0.13	0.53	0.23	0.27	0.27	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1620	1615	
c, Capacity [veh/h]	1881	840	457	2460	470	421	420	
d1, Uniform Delay [s]	17.53	24.00	43.50	10.78	35.78	37.00	37.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.31	0.41	0.39	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.83	52.10	25.42	2.43	16.16	52.84	47.48	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.66	1.07	1.02	0.77	0.90	1.05	1.03	
d, Delay for Lane Group [s/veh]	19.36	76.10	68.92	13.21	51.95	89.84	84.48	
Lane Group LOS	B	F	F	B	D	F	F	
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	
50th-Percentile Queue Length [veh/ln]	10.34	30.43	7.20	12.84	11.93	16.24	15.57	
50th-Percentile Queue Length [ft/ln]	258.38	760.87	180.01	321.08	298.20	405.99	389.14	
95th-Percentile Queue Length [veh/ln]	15.61	41.70	11.71	18.72	17.59	23.50	22.45	
95th-Percentile Queue Length [ft/ln]	390.18	1042.40	292.73	468.02	439.80	587.51	561.35	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.36	76.10	68.92	13.21	0.00	51.95	89.84	87.16	0.00	0.00	0.00
Movement LOS		B	F	F	B		D	F	F			
d_A, Approach Delay [s/veh]	43.22			24.20			75.67			0.00		
Approach LOS	D			C			E			A		
d_I, Intersection Delay [s/veh]	42.73											
Intersection LOS	D											
Intersection V/C	1.094											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	76.3
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.195

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	31	647	0	0	812	119	47	2	23	0	4	0
Site-Generated Trips [veh/h]	0	23	0	0	16	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	1631	26	47	2048	525	284	20	92	31	20	34
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	434	7	13	545	140	76	5	24	8	5	9
Total Analysis Volume [veh/h]	105	1735	28	50	2179	559	302	21	98	33	21	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	68	0	10	68	0	0	22	0	0	22	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	65	65	5	63	63	17	17	17	17	17	17
g / C, Green / Cycle	0.06	0.65	0.65	0.05	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.46	0.47	0.03	0.72	0.77	0.22	0.01	0.06	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1889	1810	1900	1772	1368	1900	1615	1293	1900	1615
c, Capacity [veh/h]	109	1224	1217	85	1199	1118	253	325	276	199	325	276
d1, Uniform Delay [s]	46.90	11.82	11.87	46.71	18.45	18.45	45.27	34.75	36.58	41.75	34.75	35.15
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.27	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	40.31	3.69	3.77	6.35	74.24	109.01	106.83	0.12	1.10	0.55	0.12	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.72	0.72	0.59	1.14	1.22	1.19	0.06	0.35	0.17	0.06	0.13
d, Delay for Lane Group [s/veh]	87.21	15.51	15.63	53.06	92.69	127.46	152.10	34.86	37.68	42.30	34.86	35.45
Lane Group LOS	F	B	B	D	F	F	F	C	D	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.80	12.73	12.79	1.36	48.66	56.19	13.80	0.44	2.19	0.78	0.44	0.76
50th-Percentile Queue Length [ft/ln]	95.12	318.35	319.79	34.10	1216.38	1404.64	345.04	10.96	54.65	19.54	10.96	19.12
95th-Percentile Queue Length [veh/ln]	6.85	18.59	18.66	2.46	67.07	80.26	21.57	0.79	3.93	1.41	0.79	1.38
95th-Percentile Queue Length [ft/ln]	171.22	464.66	466.43	61.38	1676.78	2006.51	539.22	19.73	98.37	35.17	19.73	34.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	87.21	15.57	15.63	53.06	105.61	127.46	152.10	34.86	37.68	42.30	34.86	35.45
Movement LOS	F	B	B	D	F	F	F	C	D	D	C	D
d_A, Approach Delay [s/veh]	19.60			109.05			119.62			37.82		
Approach LOS	B			F			F			D		
d_I, Intersection Delay [s/veh]	76.33											
Intersection LOS	E											
Intersection V/C	1.195											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	53.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.976

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	15	560	0	248	631	59	41	33	4	0	36	249
Site-Generated Trips [veh/h]	0	23	0	0	16	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	1504	55	321	1799	174	125	61	65	37	73	316
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	404	15	86	484	47	34	16	17	10	20	85
Total Analysis Volume [veh/h]	88	1617	59	345	1934	187	134	66	70	40	78	340
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	50	0	24	63	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	44	44	20	58	58	21	21	21	21
g / C, Green / Cycle	0.06	0.44	0.44	0.20	0.58	0.58	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.05	0.44	0.45	0.19	0.56	0.58	0.22	0.03	0.04	0.21
s, saturation flow rate [veh/h]	1810	1900	1877	1810	1900	1843	1213	1273	1900	1615
c, Capacity [veh/h]	118	842	831	362	1097	1064	310	96	401	341
d1, Uniform Delay [s]	45.90	27.80	27.85	39.54	20.19	21.02	41.73	49.43	32.46	39.43
k, delay calibration	0.11	0.50	0.50	0.18	0.50	0.50	0.33	0.23	0.23	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.83	30.47	32.66	19.36	20.20	26.76	19.29	6.04	0.50	37.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	1.00	1.01	0.95	0.97	1.00	0.87	0.42	0.19	1.00
d, Delay for Lane Group [s/veh]	54.73	58.27	60.51	58.89	40.40	47.78	61.02	55.47	32.96	77.05
Lane Group LOS	D	E	F	E	D	D	E	E	C	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.43	26.07	26.33	10.19	27.35	29.97	8.30	1.16	1.60	11.76
50th-Percentile Queue Length [ft/ln]	60.67	651.71	658.24	254.73	683.73	749.25	207.43	28.92	40.10	293.95
95th-Percentile Queue Length [veh/ln]	4.37	34.44	34.90	15.42	35.93	38.95	13.02	2.08	2.89	17.38
95th-Percentile Queue Length [ft/ln]	109.20	861.05	872.59	385.60	898.15	973.70	325.53	52.06	72.17	434.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.73	59.35	60.51	58.89	43.73	47.78	61.02	61.02	61.02	55.47	32.96	77.05
Movement LOS	D	E	E	E	D	D	E	E	E	E	C	E
d_A, Approach Delay [s/veh]	59.15			46.16			61.02			67.66		
Approach LOS	E			D			E			E		
d_I, Intersection Delay [s/veh]	53.58											
Intersection LOS	D											
Intersection V/C	0.976											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	2,232.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.949

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1002	0	0	1135	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	575	0	0	635	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	16	23	0	23	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	1597	0	0	1793	16	23	0	23	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	444	0	0	498	4	6	0	6	0	0	0
Total Analysis Volume [veh/h]	18	1774	0	0	1992	18	26	0	26	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.02	0.00	0.00	0.02	0.00	3.95	0.00	0.11	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	18.33	0.00	0.00	0.00	0.00	0.00	2232.19	0.00	1700.15	0.00	0.00	0.00
Movement LOS	C	A			A	A	F		F			
95th-Percentile Queue Length [veh/ln]	0.20	0.00	0.00	0.00	0.00	0.00	7.50	0.00	7.50	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.97	0.00	0.00	0.00	0.00	0.00	187.45	0.00	187.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.18			0.00			1966.17			0.00		
Approach LOS	A			A			F			A		
d_I, Intersection Delay [s/veh]	26.61											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	664.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1304	6	58	1136	1	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	575	0	0	635	0	0
Site-Generated Trips [veh/h]	0	0	23	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1905	6	82	1794	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	501	2	22	472	0	17
Total Analysis Volume [veh/h]	2005	6	86	1888	1	69
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.30	0.02	0.16	0.28
d_M, Delay for Movement [s/veh]	0.00	0.00	22.75	0.00	664.29	25.58
Movement LOS	A	A	C	A	F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.22	0.00	0.37	1.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	30.49	0.00	9.13	28.26
d_A, Approach Delay [s/veh]	0.00		0.99		34.71	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	93	922	1057	49	37	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	3	494	553	66	50	4
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1434	1631	116	88	109
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	377	429	31	23	29
Total Analysis Volume [veh/h]	103	1509	1717	122	93	115
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	21	81	60	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	85	74	74	9	9
g / C, Green / Cycle	0.07	0.85	0.74	0.74	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.06	0.42	0.47	0.08	0.05	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	134	3065	2689	1200	168	150
d1, Uniform Delay [s]	45.46	2.00	6.27	3.56	43.39	44.31
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.93	0.57	1.17	0.17	2.84	7.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.49	0.64	0.10	0.55	0.77
d, Delay for Lane Group [s/veh]	54.40	2.57	7.44	3.73	46.23	52.30
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.83	1.99	7.33	0.61	2.32	3.10
50th-Percentile Queue Length [ft/ln]	70.71	49.68	183.31	15.33	58.04	77.42
95th-Percentile Queue Length [veh/ln]	5.09	3.58	11.77	1.10	4.18	5.57
95th-Percentile Queue Length [ft/ln]	127.28	89.42	294.33	27.60	104.47	139.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.40	2.57	7.44	3.73	46.23	52.30
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	5.88		7.20		49.58	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.03					
Intersection LOS	A					
Intersection V/C	0.685					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_AM.vistro
Report File: K:\...\5 - OY Cum WP AM - ALT B.pdf

Scenario 8 OY Cum WP AM - ALT B
10/21/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	WB Thru	0.943	31.9	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	EB Thru	1.094	42.7	D
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	1.195	76.3	E
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	EB Left	1.014	55.0	D
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Right	0.213	24.0	C
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.162	679.2	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.685	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.943

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	303	884	0	0	1018	533	0	0	0	525	5	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	209	127	0	0	122	42	0	0	0	486	0	72
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	520	1029	0	0	1160	586	0	0	0	1036	5	439
Peak Hour Factor	0.9800	0.9800	1.0000	1.0000	0.9800	0.9800	1.0000	1.0000	1.0000	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	133	263	0	0	296	149	0	0	0	264	1	112
Total Analysis Volume [veh/h]	531	1050	0	0	1184	598	0	0	0	1057	5	448
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	20	63	0	0	43	0	0	0	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	17	61	41	41		33	33	33
g / C, Green / Cycle	0.17	0.61	0.41	0.41		0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.20	0.17	0.37		0.28	0.31	0.28
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1810	1615
c, Capacity [veh/h]	592	3153	2833	663		599	599	534
d1, Uniform Delay [s]	40.71	9.58	20.97	27.59		31.01	32.38	30.98
k, delay calibration	0.11	0.50	0.50	0.50		0.34	0.41	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.11	0.28	0.46	17.80		9.50	20.31	10.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.33	0.42	0.90		0.84	0.93	0.84
d, Delay for Lane Group [s/veh]	45.83	9.87	21.43	45.38		40.51	52.68	41.30
Lane Group LOS	D	A	C	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.74	3.58	4.91	16.08		12.54	16.07	11.27
50th-Percentile Queue Length [ft/ln]	168.56	89.50	122.64	401.93		313.38	401.85	281.84
95th-Percentile Queue Length [veh/ln]	11.00	6.44	8.54	22.65		18.34	22.65	16.78
95th-Percentile Queue Length [ft/ln]	275.02	161.11	213.45	566.32		458.55	566.23	419.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.83	9.87	0.00	0.00	21.43	45.38	0.00	0.00	0.00	46.89	52.68	41.30
Movement LOS	D	A			C	D				D	D	D
d_A, Approach Delay [s/veh]	21.95			29.47			0.00			45.25		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	31.92											
Intersection LOS	C											
Intersection V/C	0.943											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	42.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.094

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	271	422	42	568	0	66	0	343	0	0	0
Site-Generated Trips [veh/h]	0	2	21	0	14	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1153	837	434	1767	0	395	8	805	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	310	225	117	475	0	106	2	216	0	0	0
Total Analysis Volume [veh/h]	0	1240	900	467	1900	0	425	9	866	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	55	0	16	71	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	52	52	13	68	26	26	26	
g / C, Green / Cycle	0.52	0.52	0.13	0.68	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.34	0.56	0.13	0.53	0.23	0.27	0.27	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1620	1615	
c, Capacity [veh/h]	1881	840	457	2460	470	421	420	
d1, Uniform Delay [s]	17.53	24.00	43.50	10.78	35.78	37.00	37.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.31	0.41	0.39	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.83	52.10	25.42	2.43	16.16	52.84	47.48	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.66	1.07	1.02	0.77	0.90	1.05	1.03	
d, Delay for Lane Group [s/veh]	19.36	76.10	68.92	13.21	51.95	89.84	84.48	
Lane Group LOS	B	F	F	B	D	F	F	
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	
50th-Percentile Queue Length [veh/ln]	10.34	30.43	7.20	12.84	11.93	16.24	15.57	
50th-Percentile Queue Length [ft/ln]	258.38	760.87	180.01	321.08	298.20	405.99	389.14	
95th-Percentile Queue Length [veh/ln]	15.61	41.70	11.71	18.72	17.59	23.50	22.45	
95th-Percentile Queue Length [ft/ln]	390.18	1042.40	292.73	468.02	439.80	587.51	561.35	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.36	76.10	68.92	13.21	0.00	51.95	89.84	87.16	0.00	0.00	0.00
Movement LOS		B	F	F	B		D	F	F			
d_A, Approach Delay [s/veh]	43.22			24.20			75.67			0.00		
Approach LOS	D			C			E			A		
d_I, Intersection Delay [s/veh]	42.73											
Intersection LOS	D											
Intersection V/C	1.094											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	76.3
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.195

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	31	647	0	0	812	119	47	2	23	0	4	0
Site-Generated Trips [veh/h]	0	23	0	0	16	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	1631	26	47	2048	525	284	20	92	31	20	34
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	434	7	13	545	140	76	5	24	8	5	9
Total Analysis Volume [veh/h]	105	1735	28	50	2179	559	302	21	98	33	21	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	68	0	10	68	0	0	22	0	0	22	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	65	65	5	63	63	17	17	17	17	17	17
g / C, Green / Cycle	0.06	0.65	0.65	0.05	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.46	0.47	0.03	0.72	0.77	0.22	0.01	0.06	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1889	1810	1900	1772	1368	1900	1615	1293	1900	1615
c, Capacity [veh/h]	109	1224	1217	85	1199	1118	253	325	276	199	325	276
d1, Uniform Delay [s]	46.90	11.82	11.87	46.71	18.45	18.45	45.27	34.75	36.58	41.75	34.75	35.15
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.27	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	40.31	3.69	3.77	6.35	74.24	109.01	106.83	0.12	1.10	0.55	0.12	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.72	0.72	0.59	1.14	1.22	1.19	0.06	0.35	0.17	0.06	0.13
d, Delay for Lane Group [s/veh]	87.21	15.51	15.63	53.06	92.69	127.46	152.10	34.86	37.68	42.30	34.86	35.45
Lane Group LOS	F	B	B	D	F	F	F	C	D	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.80	12.73	12.79	1.36	48.66	56.19	13.80	0.44	2.19	0.78	0.44	0.76
50th-Percentile Queue Length [ft/ln]	95.12	318.35	319.79	34.10	1216.38	1404.64	345.04	10.96	54.65	19.54	10.96	19.12
95th-Percentile Queue Length [veh/ln]	6.85	18.59	18.66	2.46	67.07	80.26	21.57	0.79	3.93	1.41	0.79	1.38
95th-Percentile Queue Length [ft/ln]	171.22	464.66	466.43	61.38	1676.78	2006.51	539.22	19.73	98.37	35.17	19.73	34.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	87.21	15.57	15.63	53.06	105.61	127.46	152.10	34.86	37.68	42.30	34.86	35.45
Movement LOS	F	B	B	D	F	F	F	C	D	D	C	D
d_A, Approach Delay [s/veh]	19.60			109.05			119.62			37.82		
Approach LOS	B			F			F			D		
d_I, Intersection Delay [s/veh]	76.33											
Intersection LOS	E											
Intersection V/C	1.195											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	55.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.014

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	15	560	0	248	631	59	41	33	4	0	36	249
Site-Generated Trips [veh/h]	0	0	16	0	16	0	23	0	0	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	1481	71	321	1799	174	148	61	65	53	73	316
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	398	19	86	484	47	40	16	17	14	20	85
Total Analysis Volume [veh/h]	88	1592	76	345	1934	187	159	66	70	57	78	340
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	50	0	24	63	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	6	44	44	20	58	58	21	21	21	21
g / C, Green / Cycle	0.06	0.44	0.44	0.20	0.58	0.58	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.05	0.44	0.44	0.19	0.56	0.58	0.26	0.04	0.04	0.21
s, saturation flow rate [veh/h]	1810	1900	1870	1810	1900	1843	1150	1273	1900	1615
c, Capacity [veh/h]	118	842	828	362	1097	1064	298	91	401	341
d1, Uniform Delay [s]	45.90	27.71	27.85	39.54	20.19	21.02	43.24	49.75	32.46	39.43
k, delay calibration	0.11	0.50	0.50	0.18	0.50	0.50	0.38	0.23	0.23	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.83	29.53	32.24	19.36	20.20	26.76	43.12	14.18	0.50	37.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.99	1.00	0.95	0.97	1.00	0.99	0.63	0.19	1.00
d, Delay for Lane Group [s/veh]	54.73	57.24	60.09	58.89	40.40	47.78	86.37	63.94	32.96	77.05
Lane Group LOS	D	E	F	E	D	D	F	E	C	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.43	25.71	26.14	10.19	27.35	29.97	10.91	1.78	1.60	11.76
50th-Percentile Queue Length [ft/ln]	60.67	642.77	653.47	254.73	683.73	749.25	272.83	44.43	40.10	293.95
95th-Percentile Queue Length [veh/ln]	4.37	34.03	34.63	15.42	35.93	38.95	16.33	3.20	2.89	17.38
95th-Percentile Queue Length [ft/ln]	109.20	850.66	865.76	385.60	898.15	973.70	408.27	79.97	72.17	434.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.73	58.59	60.09	58.89	43.73	47.78	86.37	86.37	86.37	63.94	32.96	77.05
Movement LOS	D	E	E	E	D	D	F	F	F	E	C	E
d_A, Approach Delay [s/veh]	58.46			46.16			86.37			68.24		
Approach LOS	E			D			F			E		
d_I, Intersection Delay [s/veh]	54.96											
Intersection LOS	D											
Intersection V/C	1.014											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.213

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1002	0	0	1135	0	6	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	575	0	0	635	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	0	0	0	32	0	0	46	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1613	0	0	1793	32	6	0	46	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	448	0	0	498	9	2	0	13	0	0	0
Total Analysis Volume [veh/h]	0	1792	0	0	1992	36	7	0	51	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.21	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.01	0.00	0.00	0.00
Movement LOS		A			A	A			C			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.60	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			24.01			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	0.32											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	679.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.162

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1304	6	58	1136	1	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	575	0	0	635	0	0
Site-Generated Trips [veh/h]	0	0	23	23	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1905	6	82	1817	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	501	2	22	478	0	17
Total Analysis Volume [veh/h]	2005	6	86	1913	1	69
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.30	0.02	0.16	0.28
d_M, Delay for Movement [s/veh]	0.00	0.00	22.75	0.00	679.24	25.58
Movement LOS	A	A	C	A	F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.22	0.00	0.37	1.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	30.49	0.00	9.23	28.26
d_A, Approach Delay [s/veh]	0.00		0.98		34.92	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	93	922	1057	49	37	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	3	494	553	66	50	4
Site-Generated Trips [veh/h]	0	0	0	23	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1434	1631	139	88	109
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	377	429	37	23	29
Total Analysis Volume [veh/h]	103	1509	1717	146	93	115
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	21	81	60	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	85	74	74	9	9
g / C, Green / Cycle	0.07	0.85	0.74	0.74	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.06	0.42	0.47	0.09	0.05	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	134	3065	2689	1200	168	150
d1, Uniform Delay [s]	45.46	2.00	6.27	3.62	43.39	44.31
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.93	0.57	1.17	0.21	2.84	7.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.49	0.64	0.12	0.55	0.77
d, Delay for Lane Group [s/veh]	54.40	2.57	7.44	3.83	46.23	52.30
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.83	1.99	7.33	0.75	2.32	3.10
50th-Percentile Queue Length [ft/ln]	70.71	49.68	183.31	18.66	58.04	77.42
95th-Percentile Queue Length [veh/ln]	5.09	3.58	11.77	1.34	4.18	5.57
95th-Percentile Queue Length [ft/ln]	127.28	89.42	294.33	33.59	104.47	139.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.40	2.57	7.44	3.83	46.23	52.30
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	5.88		7.16		49.58	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.00					
Intersection LOS	A					
Intersection V/C	0.685					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_PM.vistro
Report File: K:\...\5 - OY Cum WP PM - ALT A..pdf

Scenario 6 OY Cum WP PM - ALT A
10/21/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	SB Right	0.943	31.2	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	NB Right	1.348	84.5	F
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	1.339	120.4	F
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	SB Left	1.186	91.5	F
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Left	9.401	6,223.6	F
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.601	1,087.1	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.889	13.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	31.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.943

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	319	182	0	0	182	91	0	0	0	336	0	93
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	13	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	655	1723	0	0	1357	487	0	0	0	912	2	622
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	1.0000	1.0000	1.0000	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	169	444	0	0	350	126	0	0	0	235	1	160
Total Analysis Volume [veh/h]	675	1776	0	0	1399	502	0	0	0	940	2	641
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	24	60	0	0	36	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	21	59	35	35		35	35	35
g / C, Green / Cycle	0.21	0.59	0.35	0.35		0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.19	0.34	0.20	0.31		0.29	0.30	0.33
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1764	1615
c, Capacity [veh/h]	734	3035	2399	561		640	624	571
d1, Uniform Delay [s]	38.74	13.02	26.69	30.88		29.49	29.81	31.03
k, delay calibration	0.11	0.50	0.50	0.50		0.32	0.33	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.31	0.83	1.04	19.29		7.66	9.30	19.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.59	0.58	0.89		0.82	0.85	0.92
d, Delay for Lane Group [s/veh]	44.05	13.86	27.74	50.17		37.15	39.11	50.19
Lane Group LOS	D	B	C	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.52	7.98	6.85	14.10		12.60	12.97	14.86
50th-Percentile Queue Length [ft/ln]	212.95	199.43	171.30	352.42		314.95	324.20	371.55
95th-Percentile Queue Length [veh/ln]	13.30	12.61	11.14	20.25		18.42	18.87	21.18
95th-Percentile Queue Length [ft/ln]	332.61	315.23	278.62	506.36		460.47	471.85	529.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.05	13.86	0.00	0.00	27.74	50.17	0.00	0.00	0.00	38.01	39.11	48.23
Movement LOS	D	B			C	D				D	D	D
d_A, Approach Delay [s/veh]	22.17			33.66			0.00			42.15		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	31.18											
Intersection LOS	C											
Intersection V/C	0.943											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	84.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.348

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	425	543	94	423	0	76	0	221	0	0	0
Site-Generated Trips [veh/h]	0	2	17	0	13	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1722	1168	547	1747	0	658	0	660	0	0	0
Peak Hour Factor	1.0000	0.9700	0.9700	0.9700	0.9700	1.0000	0.9700	0.9700	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	444	301	141	450	0	170	0	170	0	0	0
Total Analysis Volume [veh/h]	0	1775	1204	564	1801	0	678	0	680	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	59	0	16	75	0	0	25	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	56	56	13	72	22	22	22	
g / C, Green / Cycle	0.56	0.56	0.13	0.72	0.22	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.49	0.75	0.16	0.50	0.25	0.27	0.28	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1706	1615	
c, Capacity [veh/h]	2026	904	457	2605	398	375	355	
d1, Uniform Delay [s]	19.00	22.00	43.50	7.81	39.00	39.00	39.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.35	0.39	0.42	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	5.70	156.68	109.87	1.53	81.49	110.81	140.84	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.88	1.33	1.23	0.69	1.14	1.21	1.27	
d, Delay for Lane Group [s/veh]	24.71	178.68	153.37	9.34	120.49	149.81	179.84	
Lane Group LOS	C	F	F	A	F	F	F	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	17.88	58.56	12.56	9.33	18.60	20.59	22.46	
50th-Percentile Queue Length [ft/ln]	446.89	1463.89	313.97	233.24	464.93	514.85	561.40	
95th-Percentile Queue Length [veh/ln]	24.81	86.93	19.99	14.34	27.50	30.89	34.11	
95th-Percentile Queue Length [ft/ln]	620.24	2173.34	499.78	358.47	687.44	772.14	852.79	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.71	178.68	153.37	9.34	0.00	130.23	149.81	169.80	0.00	0.00	0.00
Movement LOS		C	F	F	A		F	F	F			
d_A, Approach Delay [s/veh]	86.94			43.69			150.05			0.00		
Approach LOS	F			D			F			A		
d_I, Intersection Delay [s/veh]	84.46											
Intersection LOS	F											
Intersection V/C	1.348											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	120.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.339

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	25	839	0	0	601	70	128	4	29	0	2	0
Site-Generated Trips [veh/h]	0	19	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	2225	21	27	2052	351	534	120	175	33	32	71
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	592	6	7	546	93	142	32	47	9	9	19
Total Analysis Volume [veh/h]	64	2367	22	29	2183	373	568	128	186	35	34	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	62	0	10	62	0	0	28	0	0	28	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	5	60	60	3	58	58	23	23	23	23	23	23
g / C, Green / Cycle	0.05	0.60	0.60	0.03	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.63	0.63	0.02	0.67	0.71	0.44	0.07	0.12	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1894	1810	1900	1807	1304	1900	1615	1082	1900	1615
c, Capacity [veh/h]	91	1133	1129	63	1103	1049	298	439	373	193	439	373
d1, Uniform Delay [s]	46.73	20.19	20.19	47.33	20.97	20.97	43.43	31.70	33.42	40.80	30.11	31.03
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.50	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.94	42.37	43.55	5.14	81.81	107.06	420.66	0.52	1.47	0.64	0.11	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	1.05	1.06	0.46	1.16	1.22	1.91	0.29	0.50	0.18	0.08	0.20
d, Delay for Lane Group [s/veh]	59.67	62.56	63.74	52.47	102.79	128.03	464.09	32.22	34.88	41.44	30.21	31.41
Lane Group LOS	E	F	F	D	F	F	F	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.89	36.64	36.89	0.80	48.10	53.10	42.21	2.60	4.04	0.82	0.65	1.51
50th-Percentile Queue Length [ft/ln]	47.19	915.98	922.23	19.90	1202.44	1327.42	1055.24	64.98	100.90	20.56	16.31	37.82
95th-Percentile Queue Length [veh/ln]	3.40	48.73	49.15	1.43	66.86	75.66	67.58	4.68	7.27	1.48	1.17	2.72
95th-Percentile Queue Length [ft/ln]	84.94	1218.16	1228.84	35.81	1671.46	1891.45	1689.61	116.96	181.63	37.02	29.37	68.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.67	63.15	63.74	52.47	113.25	128.03	464.09	32.22	34.88	41.44	30.21	31.41
Movement LOS	E	F	E	D	F	F	F	C	C	D	C	C
d_A, Approach Delay [s/veh]	63.06			114.70			310.90			33.55		
Approach LOS	E			F			F			C		
d_I, Intersection Delay [s/veh]	120.41											
Intersection LOS	F											
Intersection V/C	1.339											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	91.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.186

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	5	666	0	204	511	25	138	31	15	0	28	204
Site-Generated Trips [veh/h]	0	19	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	1911	18	258	2003	102	243	45	107	38	46	267
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	514	5	69	538	27	65	12	29	10	12	72
Total Analysis Volume [veh/h]	96	2055	19	277	2154	110	261	48	115	41	49	287
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	57	0	14	60	0	0	29	0	0	29	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	7	51	51	10	55	55	24	24	24	24
g / C, Green / Cycle	0.07	0.51	0.51	0.10	0.55	0.55	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.05	0.55	0.55	0.15	0.60	0.61	0.34	0.03	0.03	0.18
s, saturation flow rate [veh/h]	1810	1900	1894	1810	1900	1868	1236	1242	1900	1615
c, Capacity [veh/h]	123	975	972	181	1036	1018	356	88	458	389
d1, Uniform Delay [s]	45.88	24.35	24.35	45.00	22.74	22.74	41.60	49.76	29.57	35.03
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.23	0.23	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.27	47.41	48.62	244.90	56.84	64.05	110.37	8.10	0.22	6.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.06	1.07	1.53	1.09	1.11	1.19	0.47	0.11	0.74
d, Delay for Lane Group [s/veh]	56.15	71.76	72.97	289.90	79.59	86.79	151.96	57.86	29.78	41.27
Lane Group LOS	E	F	F	F	F	F	F	E	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.68	34.14	34.35	16.76	38.54	39.93	19.78	1.22	0.94	7.03
50th-Percentile Queue Length [ft/ln]	67.10	853.48	858.85	418.91	963.44	998.14	494.53	30.44	23.58	175.66
95th-Percentile Queue Length [veh/ln]	4.83	45.94	46.31	26.93	52.33	54.71	29.73	2.19	1.70	11.37
95th-Percentile Queue Length [ft/ln]	120.78	1148.55	1157.83	673.33	1308.34	1367.70	743.13	54.79	42.44	284.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.15	72.36	72.97	289.90	83.00	86.79	151.96	151.96	151.96	57.86	29.78	41.27
Movement LOS	E	F	E	F	F	F	F	F	F	E	C	D
d_A, Approach Delay [s/veh]	71.65			105.72			151.96			41.58		
Approach LOS	E			F			F			D		
d_I, Intersection Delay [s/veh]	91.48											
Intersection LOS	F											
Intersection V/C	1.186											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	6,223.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	9.401

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1238	0	0	1592	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	671	0	0	526	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	15	19	0	18	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1934	0	0	2150	15	19	0	18	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	537	0	0	597	4	5	0	5	0	0	0
Total Analysis Volume [veh/h]	17	2149	0	0	2389	17	21	0	20	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.02	0.00	0.00	0.02	0.00	9.40	0.00	0.11	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	24.49	0.00	0.00	0.00	0.00	0.00	6223.62	0.00	4631.99	0.00	0.00	0.00
Movement LOS	C	A			A	A	F		F			
95th-Percentile Queue Length [veh/ln]	0.27	0.00	0.00	0.00	0.00	0.00	6.84	0.00	6.84	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.82	0.00	0.00	0.00	0.00	0.00	170.89	0.00	170.89	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.19			0.00			5447.22			0.00		
Approach LOS	A			A			F			A		
d_I, Intersection Delay [s/veh]	48.50											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	1,087.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1199	9	35	1566	3	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	671	0	0	526	0	0
Site-Generated Trips [veh/h]	0	0	18	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1894	9	54	2123	3	50
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	515	2	15	577	1	14
Total Analysis Volume [veh/h]	2059	10	59	2308	3	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.22	0.02	0.60	0.23
d_M, Delay for Movement [s/veh]	0.00	0.00	21.77	0.00	1087.13	25.11
Movement LOS	A	A	C	A	F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.80	0.00	0.94	0.87
95th-Percentile Queue Length [ft/ln]	0.00	0.00	20.05	0.00	23.59	21.83
d_A, Approach Delay [s/veh]	0.00		0.54		81.00	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	1.31					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.889

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	96	1163	1512	45	29	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	4	575	454	52	72	4
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	102	1761	1996	98	102	156
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	489	554	27	28	43
Total Analysis Volume [veh/h]	113	1957	2218	109	113	173
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	82	71	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	81	70	70	13	13
g / C, Green / Cycle	0.08	0.81	0.70	0.70	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.54	0.61	0.07	0.06	0.11
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2939	2548	1138	231	206
d1, Uniform Delay [s]	45.34	3.83	11.29	4.68	40.59	42.62
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.96	1.21	4.41	0.17	1.60	8.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.67	0.87	0.10	0.49	0.84
d, Delay for Lane Group [s/veh]	55.30	5.04	15.70	4.85	42.19	51.43
Lane Group LOS	E	A	B	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.13	5.42	16.78	0.67	2.68	4.64
50th-Percentile Queue Length [ft/ln]	78.25	135.58	419.59	16.84	66.94	116.09
95th-Percentile Queue Length [veh/ln]	5.63	9.24	23.50	1.21	4.82	8.18
95th-Percentile Queue Length [ft/ln]	140.85	231.07	587.55	30.32	120.50	204.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.30	5.04	15.70	4.85	42.19	51.43
Movement LOS	E	A	B	A	D	D
d_A, Approach Delay [s/veh]	7.79		15.19		47.78	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	13.91					
Intersection LOS	B					
Intersection V/C	0.889					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Riverside Ave Storage Lot

Vistro File: K:\...\Rialto_Drop-Lot_PM.vistro
Report File: K:\...\5 - OY Cum WP PM - ALT B.pdf

Scenario 8 OY Cum WP PM - ALT B
10/21/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Riverside Ave / I-10 WB Ramps	Signalized	HCM 2010	WB Right	0.943	31.6	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 2010	NB Right	1.348	84.5	F
3	Riverside Ave / Slover Ave	Signalized	HCM 2010	EB Left	1.339	120.4	F
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 2010	SB Left	1.207	93.5	F
5	Riverside Ave / Project Dwy	Two-way stop	HCM 2010	EB Right	0.231	31.3	D
6	Riverside Ave / Industrial Dr	Two-way stop	HCM 2010	WB Left	0.611	1,107.9	F
7	Riverside Ave / Jurupa Ave	Signalized	HCM 2010	NB Left	0.889	13.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Riverside Ave / I-10 WB Ramps

Control Type:	Signalized	Delay (sec / veh):	31.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.943

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	327	1511	0	0	1152	388	0	0	0	552	2	519
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	319	182	0	0	182	91	0	0	0	336	0	93
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	0	13	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	655	1723	0	0	1357	487	0	0	0	912	2	622
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	1.0000	1.0000	1.0000	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	169	444	0	0	350	126	0	0	0	235	1	160
Total Analysis Volume [veh/h]	675	1776	0	0	1399	502	0	0	0	940	2	641
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	24	62	0	0	38	0	0	0	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R		L	C	R
C, Cycle Length [s]	100	100	100	100		100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00	1.00
g_i, Effective Green Time [s]	21	59	36	36		35	35	35
g / C, Green / Cycle	0.21	0.59	0.36	0.36		0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.19	0.34	0.20	0.31		0.29	0.30	0.33
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1764	1615
c, Capacity [veh/h]	734	3075	2451	574		626	610	559
d1, Uniform Delay [s]	38.73	12.54	26.08	30.17		30.20	30.52	31.78
k, delay calibration	0.11	0.50	0.50	0.50		0.35	0.37	0.43
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.27	0.80	0.97	16.91		9.56	11.63	23.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.58	0.57	0.88		0.84	0.86	0.94
d, Delay for Lane Group [s/veh]	44.00	13.34	27.05	47.07		39.75	42.15	55.74
Lane Group LOS	D	B	C	D		D	D	E
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.51	7.78	6.75	13.63		13.06	13.49	15.71
50th-Percentile Queue Length [ft/ln]	212.85	194.44	168.76	340.70		326.41	337.22	392.69
95th-Percentile Queue Length [veh/ln]	13.30	12.35	11.01	19.68		18.98	19.51	22.21
95th-Percentile Queue Length [ft/ln]	332.49	308.78	275.29	492.06		474.56	487.80	555.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.00	13.34	0.00	0.00	27.05	47.07	0.00	0.00	0.00	40.81	42.15	53.33
Movement LOS	D	B			C	D				D	D	D
d_A, Approach Delay [s/veh]	21.78			32.33			0.00			45.88		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	31.59											
Intersection LOS	C											
Intersection V/C	0.943											

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Riverside Ave / I-10 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	84.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.348

Intersection Setup

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	425	543	94	423	0	76	0	221	0	0	0
Site-Generated Trips [veh/h]	0	2	17	0	13	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1722	1168	547	1747	0	658	0	660	0	0	0
Peak Hour Factor	1.0000	0.9700	0.9700	0.9700	0.9700	1.0000	0.9700	0.9700	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	444	301	141	450	0	170	0	170	0	0	0
Total Analysis Volume [veh/h]	0	1775	1204	564	1801	0	678	0	680	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	59	0	16	75	0	0	25	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	
C, Cycle Length [s]	100	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	56	56	13	72	22	22	22	
g / C, Green / Cycle	0.56	0.56	0.13	0.72	0.22	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.49	0.75	0.16	0.50	0.25	0.27	0.28	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1706	1615	
c, Capacity [veh/h]	2026	904	457	2605	398	375	355	
d1, Uniform Delay [s]	19.00	22.00	43.50	7.81	39.00	39.00	39.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.35	0.39	0.42	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	5.70	156.68	109.87	1.53	81.49	110.81	140.84	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.88	1.33	1.23	0.69	1.14	1.21	1.27	
d, Delay for Lane Group [s/veh]	24.71	178.68	153.37	9.34	120.49	149.81	179.84	
Lane Group LOS	C	F	F	A	F	F	F	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	17.88	58.56	12.56	9.33	18.60	20.59	22.46	
50th-Percentile Queue Length [ft/ln]	446.89	1463.89	313.97	233.24	464.93	514.85	561.40	
95th-Percentile Queue Length [veh/ln]	24.81	86.93	19.99	14.34	27.50	30.89	34.11	
95th-Percentile Queue Length [ft/ln]	620.24	2173.34	499.78	358.47	687.44	772.14	852.79	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.71	178.68	153.37	9.34	0.00	130.23	149.81	169.80	0.00	0.00	0.00
Movement LOS		C	F	F	A		F	F	F			
d_A, Approach Delay [s/veh]	86.94			43.69			150.05			0.00		
Approach LOS	F			D			F			A		
d_I, Intersection Delay [s/veh]	84.46											
Intersection LOS	F											
Intersection V/C	1.348											

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Riverside Ave / Slover Ave

Control Type:	Signalized	Delay (sec / veh):	120.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.339

Intersection Setup

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	25	839	0	0	601	70	128	4	29	0	2	0
Site-Generated Trips [veh/h]	0	19	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	2225	21	27	2052	351	534	120	175	33	32	71
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	592	6	7	546	93	142	32	47	9	9	19
Total Analysis Volume [veh/h]	64	2367	22	29	2183	373	568	128	186	35	34	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	62	0	10	62	0	0	28	0	0	28	0
Vehicle Extension [s]	4.0	4.0	0.0	3.0	3.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.9	0.0	2.0	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.90	4.90	4.00	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.90	2.90	2.00	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	5	60	60	3	58	58	23	23	23	23	23	23
g / C, Green / Cycle	0.05	0.60	0.60	0.03	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.63	0.63	0.02	0.67	0.71	0.44	0.07	0.12	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1894	1810	1900	1807	1304	1900	1615	1082	1900	1615
c, Capacity [veh/h]	91	1133	1129	63	1103	1049	298	439	373	193	439	373
d1, Uniform Delay [s]	46.73	20.19	20.19	47.33	20.97	20.97	43.43	31.70	33.42	40.80	30.11	31.03
k, delay calibration	0.15	0.50	0.50	0.11	0.50	0.50	0.50	0.15	0.15	0.15	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.94	42.37	43.55	5.14	81.81	107.06	420.66	0.52	1.47	0.64	0.11	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	1.05	1.06	0.46	1.16	1.22	1.91	0.29	0.50	0.18	0.08	0.20
d, Delay for Lane Group [s/veh]	59.67	62.56	63.74	52.47	102.79	128.03	464.09	32.22	34.88	41.44	30.21	31.41
Lane Group LOS	E	F	F	D	F	F	F	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.89	36.64	36.89	0.80	48.10	53.10	42.21	2.60	4.04	0.82	0.65	1.51
50th-Percentile Queue Length [ft/ln]	47.19	915.98	922.23	19.90	1202.44	1327.42	1055.24	64.98	100.90	20.56	16.31	37.82
95th-Percentile Queue Length [veh/ln]	3.40	48.73	49.15	1.43	66.86	75.66	67.58	4.68	7.27	1.48	1.17	2.72
95th-Percentile Queue Length [ft/ln]	84.94	1218.16	1228.84	35.81	1671.46	1891.45	1689.61	116.96	181.63	37.02	29.37	68.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.67	63.15	63.74	52.47	113.25	128.03	464.09	32.22	34.88	41.44	30.21	31.41
Movement LOS	E	F	E	D	F	F	F	C	C	D	C	C
d_A, Approach Delay [s/veh]	63.06			114.70			310.90			33.55		
Approach LOS	E			F			F			C		
d_I, Intersection Delay [s/veh]	120.41											
Intersection LOS	F											
Intersection V/C	1.339											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Riverside Ave / Santa Ana Ave

Control Type:	Signalized	Delay (sec / veh):	93.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.207

Intersection Setup

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	5	666	0	204	511	25	138	31	15	0	28	204
Site-Generated Trips [veh/h]	0	0	15	0	15	0	19	0	0	15	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	1892	33	258	2003	102	262	45	107	53	46	267
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	509	9	69	538	27	70	12	29	14	12	72
Total Analysis Volume [veh/h]	96	2034	35	277	2154	110	282	48	115	57	49	287
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	57	0	14	60	0	0	29	0	0	29	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	2.0	3.7	0.0	0.0	2.9	0.0	0.0	2.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.90	4.90	4.90	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.90	2.90	2.90	2.90
g_i, Effective Green Time [s]	7	51	51	10	55	55	24	24	24	24
g / C, Green / Cycle	0.07	0.51	0.51	0.10	0.55	0.55	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.05	0.54	0.55	0.15	0.60	0.61	0.36	0.05	0.03	0.18
s, saturation flow rate [veh/h]	1810	1900	1889	1810	1900	1868	1232	1242	1900	1615
c, Capacity [veh/h]	123	975	969	181	1036	1018	356	86	458	389
d1, Uniform Delay [s]	45.88	24.35	24.35	45.00	22.74	22.74	41.62	49.87	29.57	35.03
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.23	0.23	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.27	46.55	48.76	244.90	56.84	64.05	134.25	17.25	0.22	6.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.06	1.07	1.53	1.09	1.11	1.25	0.66	0.11	0.74
d, Delay for Lane Group [s/veh]	56.15	70.90	73.11	289.90	79.59	86.79	175.87	67.12	29.78	41.27
Lane Group LOS	E	F	F	F	F	F	F	E	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.68	33.91	34.30	16.76	38.54	39.93	22.12	1.83	0.94	7.03
50th-Percentile Queue Length [ft/ln]	67.10	847.68	857.51	418.91	963.44	998.14	552.93	45.75	23.58	175.66
95th-Percentile Queue Length [veh/ln]	4.83	45.58	46.26	26.93	52.33	54.71	33.52	3.29	1.70	11.37
95th-Percentile Queue Length [ft/ln]	120.78	1139.48	1156.49	673.33	1308.34	1367.70	837.99	82.35	42.44	284.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.15	71.99	73.11	289.90	83.00	86.79	175.87	175.87	175.87	67.12	29.78	41.27
Movement LOS	E	F	E	F	F	F	F	F	F	E	C	D
d_A, Approach Delay [s/veh]	71.31			105.72			175.87			43.58		
Approach LOS	E			F			F			D		
d_I, Intersection Delay [s/veh]	93.51											
Intersection LOS	F											
Intersection V/C	1.207											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	31.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.231

Intersection Setup

Name	Riverside Ave			Riverside Ave			Project Dwy					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Project Dwy					
Base Volume Input [veh/h]	0	1238	0	0	1592	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	671	0	0	526	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	0	30	0	0	37	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1949	0	0	2150	30	0	0	37	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	541	0	0	597	8	0	0	10	0	0	0
Total Analysis Volume [veh/h]	0	2166	0	0	2389	33	0	0	41	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.23	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.31	0.00	0.00	0.00
Movement LOS		A			A	A			D			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.48	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			31.31			0.00		
Approach LOS	A			A			D			A		
d_I, Intersection Delay [s/veh]	0.28											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 6: Riverside Ave / Industrial Dr

Control Type:	Two-way stop	Delay (sec / veh):	1,107.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.611

Intersection Setup

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Industrial Dr	
Base Volume Input [veh/h]	1199	9	35	1566	3	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	671	0	0	526	0	0
Site-Generated Trips [veh/h]	0	0	18	19	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1894	9	54	2142	3	50
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	515	2	15	582	1	14
Total Analysis Volume [veh/h]	2059	10	59	2328	3	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.22	0.02	0.61	0.23
d_M, Delay for Movement [s/veh]	0.00	0.00	21.77	0.00	1107.88	25.11
Movement LOS	A	A	C	A	F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.80	0.00	0.95	0.87
95th-Percentile Queue Length [ft/ln]	0.00	0.00	20.05	0.00	23.70	21.83
d_A, Approach Delay [s/veh]	0.00		0.54		82.09	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	1.32					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.889

Intersection Setup

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	96	1163	1512	45	29	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	4	575	454	52	72	4
Site-Generated Trips [veh/h]	0	0	0	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	102	1761	1996	117	102	156
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	489	554	33	28	43
Total Analysis Volume [veh/h]	113	1957	2218	130	113	173
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	2.0	2.0	2.0	0.0	2.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	11	82	71	0	18	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	8	81	70	70	13	13
g / C, Green / Cycle	0.08	0.81	0.70	0.70	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.54	0.61	0.08	0.06	0.11
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2939	2548	1138	231	206
d1, Uniform Delay [s]	45.34	3.83	11.29	4.75	40.59	42.62
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.96	1.21	4.41	0.20	1.60	8.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.67	0.87	0.11	0.49	0.84
d, Delay for Lane Group [s/veh]	55.30	5.04	15.70	4.95	42.19	51.43
Lane Group LOS	E	A	B	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.13	5.42	16.78	0.82	2.68	4.64
50th-Percentile Queue Length [ft/ln]	78.25	135.58	419.59	20.38	66.94	116.09
95th-Percentile Queue Length [veh/ln]	5.63	9.24	23.50	1.47	4.82	8.18
95th-Percentile Queue Length [ft/ln]	140.85	231.07	587.55	36.69	120.50	204.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.30	5.04	15.70	4.95	42.19	51.43
Movement LOS	E	A	B	A	D	D
d_A, Approach Delay [s/veh]	7.79		15.10		47.78	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	13.87					
Intersection LOS	B					
Intersection V/C	0.889					

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D-6

INTERSECTION ANALYSIS WORKSHEETS - MITIGATIONS

Option 1: Add NB Right-Turn Lane

Number	2											
Intersection	Riverside Ave / I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 2010											
Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	863	386	384	1162	0	323	8	451	0	0	0
Total Analysis Volume [veh/h]	0	1240	900	467	1900	0	425	9	866	0	0	0

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	55	0	16	71	0	0	29	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.52	0.52	0.13	0.68	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.56	0.13	0.53	0.23	0.27	0.27	
so, Base Saturation Flow per Lane [veh/h/ln]	1900	1900	1900	1900	1900	1900	1900	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	3514	3618	1810	1620	1615	
c, Capacity [veh/h]	2691	840	457	2460	470	421	420	
X, volume / capacity	0.46	1.07	1.02	0.77	0.90	1.05	1.03	
d, Delay for Lane Group [s/veh]	15.72	76.10	68.92	13.21	51.95	89.84	84.48	
Lane Group LOS	B	F	F	B	D	F	F	
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	

50th-Percentile Queue Length [veh/ln]	5.82	30.43	7.20	12.84	11.93	16.24	15.57	
50th-Percentile Queue Length [ft/ln]	145.55	760.87	180.01	321.08	298.20	405.99	389.14	
95th-Percentile Queue Length [veh/ln]	9.78	41.70	11.71	18.72	17.59	23.50	22.45	
95th-Percentile Queue Length [ft/ln]	244.47	1042.40	292.73	468.02	439.80	587.51	561.35	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.72	76.10	68.92	13.21	0.00	51.95	89.84	87.16	0.00	0.00	0.00
Movement LOS		B	F	F	B		D	F	F			
Critical Movement		No	No	No	No		No	Yes	No			
d_A, Approach Delay [s/veh]	41.11			24.20			75.67			0.00		
Approach LOS	D			C			E			A		
d_I, Intersection Delay [s/veh]	41.95											
Intersection LOS	D											
Intersection V/C	1.094											

Option 1: 3rd NBT and SBT

Number	3											
Intersection	Riverside Ave / Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 2010											
Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	67	942	25	46	1196	398	232	18	68	30	16	33
Total Analysis Volume [veh/h]	105	1735	28	50	2179	559	302	21	98	33	21	36

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	68	0	10	68	0	0	22	0	0	22	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.65	0.65	0.05	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.32	0.32	0.03	0.50	0.54	0.22	0.01	0.06	0.03	0.01	0.02
so, Base Saturation Flow per Lane [veh/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	3618	1885	1810	3618	1718	1368	1900	1615	1293	1900	1615
c, Capacity [veh/h]	109	2330	1214	85	2283	1084	253	325	276	199	325	276
X, volume / capacity	0.97	0.50	0.50	0.59	0.79	0.86	1.19	0.06	0.35	0.17	0.06	0.13
d, Delay for Lane Group [s/veh]	87.21	10.08	10.78	53.06	16.50	23.78	152.10	34.86	37.68	42.30	34.86	35.45
Lane Group LOS	F	B	B	D	B	C	F	C	D	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No

50th-Percentile Queue Length [veh/ln]	3.80	6.19	6.69	1.36	14.21	17.68	13.80	0.44	2.19	0.78	0.44	0.76
50th-Percentile Queue Length [ft/ln]	95.12	154.85	167.37	34.10	355.13	441.89	345.04	10.96	54.65	19.54	10.96	19.12
95th-Percentile Queue Length [veh/ln]	6.85	10.28	10.94	2.46	20.39	24.57	21.57	0.79	3.93	1.41	0.79	1.38
95th-Percentile Queue Length [ft/ln]	171.22	256.90	273.46	61.38	509.65	614.27	539.22	19.73	98.37	35.17	19.73	34.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	87.21	10.31	10.78	53.06	17.74	23.78	152.10	34.86	37.68	42.30	34.86	35.45
Movement LOS	F	B	B	D	B	C	F	C	D	D	C	D
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	14.64			19.59			119.62			37.82		
Approach LOS	B			B			F			D		
d_I, Intersection Delay [s/veh]	26.27											
Intersection LOS	C											
Intersection V/C	0.933											

Option 1: 3rd NBT and SBT

Number	4											
Intersection	Riverside Ave / Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 2010											
Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	66	903	54	72	1129	113	82	27	60	36	36	66
Total Analysis Volume [veh/h]	88	1592	76	345	1934	187	159	66	70	57	78	340

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	50	0	24	63	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.44	0.44	0.20	0.58	0.58	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.05	0.30	0.30	0.19	0.39	0.40	0.26	0.04	0.04	0.21
so, Base Saturation Flow per Lane [veh/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3	3		
s, saturation flow rate [veh/h]	1810	3618	1856	1810	3618	1817	1150	1273	1900	1615
c, Capacity [veh/h]	118	1603	822	362	2089	1049	298	91	401	341
X, volume / capacity	0.74	0.69	0.69	0.95	0.67	0.69	0.99	0.63	0.19	1.00
d, Delay for Lane Group [s/veh]	54.73	24.74	27.00	58.89	16.31	18.41	86.37	63.94	32.96	77.05
Lane Group LOS	D	C	C	E	B	B	F	E	C	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No

50th-Percentile Queue Length [veh/ln]	2.43	10.52	11.32	10.19	10.61	11.57	10.91			1.78	1.60	11.76
50th-Percentile Queue Length [ft/ln]	60.67	262.90	282.95	254.73	265.24	289.22	272.83			44.43	40.10	293.95
95th-Percentile Queue Length [veh/ln]	4.37	15.83	16.84	15.42	15.95	17.15	16.33			3.20	2.89	17.38
95th-Percentile Queue Length [ft/ln]	109.20	395.86	420.89	385.60	398.78	428.68	408.27			79.97	72.17	434.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.73	25.43	27.00	58.89	16.88	18.41	86.37	86.37	86.37	63.94	32.96	77.05
Movement LOS	D	C	C	E	B	B	F	F	F	E	C	E
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	26.97			22.88			86.37			68.24		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	32.38											
Intersection LOS	C											
Intersection V/C	0.855											

Option 1: Add Dedicated NB RT Lane

Number	2											
Intersection	Riverside Ave / I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 2010											
Name	Riverside Ave			Riverside Ave			I-10 EB Ramps			I-10 EB Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1270	596	444	1285	0	571	0	428	0	0	0
Total Analysis Volume [veh/h]	0	1775	1204	564	1801	0	678	0	680	0	0	0

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	59	0	16	75	0	0	25	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.56	0.56	0.13	0.72	0.22	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.34	0.75	0.16	0.50	0.25	0.27	0.28	
so, Base Saturation Flow per Lane [veh/h/ln]	1900	1900	1900	1900	1900	1900	1900	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	3514	3618	1810	1706	1615	
c, Capacity [veh/h]	2898	904	457	2605	398	375	355	
X, volume / capacity	0.61	1.33	1.23	0.69	1.14	1.21	1.27	
d, Delay for Lane Group [s/veh]	15.71	178.68	153.37	9.34	120.49	149.81	179.84	
Lane Group LOS	B	F	F	A	F	F	F	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	

50th-Percentile Queue Length [veh/ln]	8.67	58.56	12.56	9.33	18.60	20.59	22.46	
50th-Percentile Queue Length [ft/ln]	216.77	1463.89	313.97	233.24	464.93	514.85	561.40	
95th-Percentile Queue Length [veh/ln]	13.50	86.93	19.99	14.34	27.50	30.89	34.11	
95th-Percentile Queue Length [ft/ln]	337.50	2173.34	499.78	358.47	687.44	772.14	852.79	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.71	178.68	153.37	9.34	0.00	130.23	149.81	169.80	0.00	0.00	0.00
Movement LOS		B	F	F	A		F	F	F			
Critical Movement		No	Yes	No	No		No	No	No			
d_A, Approach Delay [s/veh]	81.58			43.69			150.05			0.00		
Approach LOS	F			D			F			A		
d_I, Intersection Delay [s/veh]	82.08											
Intersection LOS	F											
Intersection V/C	1.348											

Option 1: 3rd NBT and SBT

Number	3											
Intersection	Riverside Ave / Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 2010											
Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	34	1340	21	26	1408	275	398	114	143	32	29	70
Total Analysis Volume [veh/h]	64	2367	22	29	2183	373	568	128	186	35	34	76

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	10	0	6	10	0	0	8	0	0	8	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	62	0	10	62	0	0	28	0	0	28	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.60	0.60	0.03	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.43	0.43	0.02	0.47	0.49	0.44	0.07	0.12	0.03	0.02	0.05
so, Base Saturation Flow per Lane [veh/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	3618	1891	1810	3618	1765	1304	1900	1615	1082	1900	1615
c, Capacity [veh/h]	91	2157	1127	63	2100	1025	298	439	373	193	439	373
X, volume / capacity	0.70	0.73	0.73	0.46	0.81	0.84	1.91	0.29	0.50	0.18	0.08	0.20
d, Delay for Lane Group [s/veh]	59.67	16.58	18.56	52.47	19.97	25.57	464.09	32.22	34.88	41.44	30.21	31.41
Lane Group LOS	E	B	B	D	B	C	F	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No

50th-Percentile Queue Length [veh/ln]	1.89	12.15	13.36	0.80	14.94	17.16	42.21	2.60	4.04	0.82	0.65	1.51
50th-Percentile Queue Length [ft/ln]	47.19	303.77	334.10	19.90	373.60	429.00	1055.24	64.98	100.90	20.56	16.31	37.82
95th-Percentile Queue Length [veh/ln]	3.40	17.87	19.36	1.43	21.28	23.95	67.58	4.68	7.27	1.48	1.17	2.72
95th-Percentile Queue Length [ft/ln]	84.94	446.69	483.98	35.81	532.10	598.84	1689.61	116.96	181.63	37.02	29.37	68.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.67	17.25	18.56	52.47	21.23	25.57	464.09	32.22	34.88	41.44	30.21	31.41
Movement LOS	E	B	B	D	C	C	F	C	C	D	C	C
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	18.36			22.21			310.90			33.55		
Approach LOS	B			C			F			C		
d_I, Intersection Delay [s/veh]	62.91											
Intersection LOS	E											
Intersection V/C	1.091											

Option 1: 3rd NBT and SBT

Number	4											
Intersection	Riverside Ave / Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 2010											
Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	82	1202	18	53	1448	75	103	14	90	37	18	62
Total Analysis Volume [veh/h]	96	2034	35	277	2154	110	282	48	115	57	49	287

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	12.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	10	0	7	10	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	4.7	0.0	3.0	4.7	0.0	0.0	3.9	0.0	0.0	3.9	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	57	0	14	60	0	0	29	0	0	29	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.07	0.51	0.51	0.10	0.55	0.55	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.05	0.38	0.38	0.15	0.41	0.42	0.36	0.05	0.03	0.18
so, Base Saturation Flow per Lane [veh/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3	3		
s, saturation flow rate [veh/h]	1810	3618	1884	1810	3618	1854	1232	1242	1900	1615
c, Capacity [veh/h]	123	1856	966	181	1972	1010	356	86	458	389
X, volume / capacity	0.78	0.73	0.73	1.53	0.76	0.77	1.25	0.66	0.11	0.74
d, Delay for Lane Group [s/veh]	56.15	21.60	23.96	289.90	20.34	23.30	175.87	67.12	29.78	41.27
Lane Group LOS	E	C	C	F	C	C	F	E	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No

50th-Percentile Queue Length [veh/ln]	2.68	12.26	13.44	16.76	13.10	14.50	22.12			1.83	0.94	7.03
50th-Percentile Queue Length [ft/ln]	67.10	306.58	335.93	418.91	327.40	362.42	552.93			45.75	23.58	175.66
95th-Percentile Queue Length [veh/ln]	4.83	18.01	19.45	26.93	19.03	20.74	33.52			3.29	1.70	11.37
95th-Percentile Queue Length [ft/ln]	120.78	450.16	486.22	673.33	475.77	518.53	837.99			82.35	42.44	284.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.15	22.38	23.96	289.90	21.25	23.30	175.87	175.87	175.87	67.12	29.78	41.27
Movement LOS	E	C	C	F	C	C	F	F	F	E	C	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	23.91			50.63			175.87			43.58		
Approach LOS	C			D			F			D		
d_I, Intersection Delay [s/veh]	49.75											
Intersection LOS	D											
Intersection V/C	1.012											

APPENDIX E

CUMULATIVE PROJECTS INFORMATION

TOTAL CUMULATIVE PROJECTS TRAFFIC

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Ave at I-10 WB Ramps	209	127	0	0	122	42	0	0	0	486	0	72
2	Riverside Ave at I-10 EB Ramps	0	271	422	42	568	0	66	0	343	0	0	0
3	Riverside Ave at Slover Ave	31	647	0	0	812	119	47	2	23	0	4	0
4	Riverside Ave at Santa Ana Ave	15	560	0	248	631	59	41	33	4	0	36	249
7	Riverside Ave at Jurupa Ave	3	494	0	0	553	66	50	0	4	0	0	0

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Ave at I-10 WB Ramps	319	182	0	0	182	91	0	0	0	336	0	93
2	Riverside Ave at I-10 EB Ramps	0	425	543	94	423	0	76	0	221	0	0	0
3	Riverside Ave at Slover Ave	25	839	0	0	601	70	128	4	29	0	2	0
4	Riverside Ave at Santa Ana Ave	5	666	0	204	511	25	138	31	15	0	28	204
7	Riverside Ave at Jurupa Ave	4	575	0	0	454	52	72	0	4	0	0	0

Enter only in blue cells | Yellow cells calculate

Int. #: 2 | Riverside Ave at I-10 WB Ramps

1

N

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	38	0	0	18	0	0	0	0	340	0	23
AM Out		187	15	0	0	12	12	0	0	0	0	0	0
AM Tot		187	53	0	0	30	12	0	0	0	340	0	23
PM In		0	21	0	0	14	0	0	0	0	278	0	8
PM Out		236	21	0	0	31	31	0	0	0	0	0	0
PM Tot		236	42	0	0	45	31	0	0	0	278	0	8

Zone # 1 | Panattoni - 10 (Rialto Commerce Center)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	145	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	78	0	0	0	0	0	0	0	0	0	0	0	0
PM In	82	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	166	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 | CapRock III

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	138	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	37	0	0	0	0	0	0	0	0	0	0	0	0
PM In	47	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	140	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 3 | Rialto Walmart

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	349	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	301	0	0	0	0	0	0	0	0	0	0	0	0
PM In	605	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	396	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 | CUSM (300 N. Pepper Ave)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		20%										
N	0%	0%	0%	0%	10%	10%	0%	0%	0%	0%	0%	0%
AM Out					10%	10%						
PM In	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	10%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	25	0	5	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	1	1	0	0	0	0	0	0
PM In	9	0	2	0	0	0	0	0	0	0	0	0	0
PM Out	22	0	0	0	0	2	2	0	0	0	0	0	0

Zone # 5 | Valley Orange Ent. (1600 W. Valley Blvd)

Int. #:	2	Riverside Ave at I-10 WB Ramps

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		20%										
N	0%	0%	0%	0%	10%	10%	0%	0%	0%	0%	0%	0%
AM Out					10%	10%						
PM In	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	10%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	50	0	10	0	0	0	0	0	0	0	0	0	0
AM Out	48	0	0	0	0	5	5	0	0	0	0	0	0
PM In	55	0	11	0	0	0	0	0	0	0	0	0	0
PM Out	55	0	0	0	0	6	6	0	0	0	0	0	0

Zone #	6	South Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										15%		
N	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	15%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%
PM Out	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	448	0	0	0	0	0	0	0	0	0	67	0	0
AM Out	119	18	0	0	0	0	0	0	0	0	0	0	0
PM In	152	0	0	0	0	0	0	0	0	0	23	0	0
PM Out	455	68	0	0	0	0	0	0	0	0	0	0	0

Zone #	7	West Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										5%		
N	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	5%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%
PM Out	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	338	0	0	0	0	0	0	0	0	0	17	0	0
AM Out	149	7	0	0	0	0	0	0	0	0	0	0	0
PM In	167	0	0	0	0	0	0	0	0	0	8	0	0
PM Out	387	19	0	0	0	0	0	0	0	0	0	0	0

Zone #	8	East Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	5%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	198	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	62	3	0	0	0	0	0	0	0	0	0	0	0
PM In	72	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	202	10	0	0	0	0	0	0	0	0	0	0	0

Zone #	9	Urban XR Truck Terminal (PC)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					10%					15%		
N	15%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	15%	10%										
PM In	0%	0%	0%	0%	10%	0%	0%	0%	0%	15%	0%	0%
PM Out	15%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	75	0	0	0	0	8	0	0	0	0	11	0	0
AM Out	112	17	11	0	0	0	0	0	0	0	0	0	0
PM In	75	0	0	0	0	8	0	0	0	0	11	0	0
PM Out	97	15	10	0	0	0	0	0	0	0	0	0	0

Zone #	10	Urban XR Truck Terminal (Trucks)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										70%		
N	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	0	0	0	0	0	158	0	0

Int. #:	2	Riverside Ave at I-10 WB Ramps

AM Out	15%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	70%	0%	0%
PM Out	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

AM Out	338	51	0	0	0	0	0	0	0	0	0	0
PM In	225	0	0	0	0	0	0	0	0	0	158	0
PM Out	294	44	0	0	0	0	0	0	0	0	0	0

Zone #	11	North Riverside Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										10%
N	0%	0%	0%	0%	10%	10%	0%	0%	0%	0%	0%	0%
AM Out					10%	10%						
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%
PM Out	0%	0%	0%	0%	10%	10%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	23	0	0	0	0	0	0	0	0	0	23
AM Out	60	0	0	0	0	6	6	0	0	0	0	0	0
PM In	76	0	8	0	0	0	0	0	0	0	0	0	8
PM Out	228	0	0	0	0	23	23	0	0	0	0	0	0

Zone #	12	CP 4 - Fuel/Convenience Market

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										20%		
N	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	20%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%
PM Out	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	309	0	0	0	0	0	0	0	0	0	62	0	0
AM Out	309	62	0	0	0	0	0	0	0	0	0	0	0
PM In	253	0	0	0	0	0	0	0	0	0	51	0	0
PM Out	253	51	0	0	0	0	0	0	0	0	0	0	0

Zone #	13	CP 5 - Truck Yard

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										40%		
N	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	40%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%
PM Out	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	29	0	0	0	0	0	0	0	0	0	12	0	0
AM Out	43	17	0	0	0	0	0	0	0	0	0	0	0
PM In	31	0	0	0	0	0	0	0	0	0	12	0	0
PM Out	34	14	0	0	0	0	0	0	0	0	0	0	0

Zone #	14	CP 6 - Fast Food/Retail

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					10%					20%		
N	20%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	20%	10%										
PM In	0%	0%	0%	0%	10%	0%	0%	0%	0%	20%	0%	0%
PM Out	20%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	34	0	0	0	0	3	0	0	0	0	7	0	0
AM Out	22	4	2	0	0	0	0	0	0	0	0	0	0
PM In	38	0	0	0	0	4	0	0	0	0	8	0	0
PM Out	37	7	4	0	0	0	0	0	0	0	0	0	0

Zone #	15	CP 7 - Warehouse

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					15%							
N	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		15%										
PM In	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	45	0	0	0	0	7	0	0	0	0	0	0	0
AM Out	12	0	2	0	0	0	0	0	0	0	0	0	0
PM In	16	0	0	0	0	2	0	0	0	0	0	0	0
PM Out	48	0	7	0	0	0	0	0	0	0	0	0	0

	Int. #:	2 Riverside Ave at I-10 WB Ramps
Zone #	16	CP 8 - Truck Lot

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										40%		
N	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	40%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%
PM Out	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	14	0	0	0	0	0	0	0	0	0	6	0	0
AM Out	21	8	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	7	0	0
PM Out	20	8	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells | Yellow cells calculate

Int. #: 3 Riverside Ave at I-10 EB Ramps

2

N

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	8	0	0	358	0	31	0	260	0	0	0
AM Out		0	203	370	6	6	0	0	0	0	0	0	0
AM Tot		0	211	370	6	364	0	31	0	260	0	0	0
PM In		0	7	0	0	291	0	15	0	192	0	0	0
PM Out		0	256	388	23	8	0	0	0	0	0	0	0
PM Tot		0	263	388	23	299	0	15	0	192	0	0	0

Zone # 1 Panattoni - 10 (Rialto Commerce Center)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	145	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	78	0	0	0	0	0	0	0	0	0	0	0	0
PM In	82	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	166	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 CapRock III

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	138	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	37	0	0	0	0	0	0	0	0	0	0	0	0
PM In	47	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	140	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 3 Rialto Walmart

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	349	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	301	0	0	0	0	0	0	0	0	0	0	0	0
PM In	605	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	396	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 CUSM (300 N. Pepper Ave)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%					10%					
N	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out					10%							
PM In	0%	10%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	25	0	3	0	0	0	0	3	0	0	0	0	0
AM Out	6	0	0	0	0	1	0	0	0	0	0	0	0
PM In	9	0	1	0	0	0	0	1	0	0	0	0	0
PM Out	22	0	0	0	0	2	0	0	0	0	0	0	0

Zone # 5 Valley Orange Ent. (1600 W. Valley Blvd)

Int. #:	3	Riverside Ave at I-10 EB Ramps

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%					10%					
N	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out					10%							
PM In	0%	10%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	50	0	5	0	0	0	0	5	0	0	0	0	0
AM Out	48	0	0	0	0	5	0	0	0	0	0	0	0
PM In	55	0	6	0	0	0	0	6	0	0	0	0	0
PM Out	55	0	0	0	0	6	0	0	0	0	0	0	0

Zone #	6	South Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					15%				15%			
N	0%	15%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		15%	15%									
PM In	0%	0%	0%	0%	15%	0%	0%	0%	15%	0%	0%	0%
PM Out	0%	15%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	448	0	0	0	0	67	0	0	0	67	0	0	0
AM Out	119	0	18	18	0	0	0	0	0	0	0	0	0
PM In	152	0	0	0	0	23	0	0	0	23	0	0	0
PM Out	455	0	68	68	0	0	0	0	0	0	0	0	0

Zone #	7	West Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					5%				5%			
N	0%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		5%	5%									
PM In	0%	0%	0%	0%	5%	0%	0%	0%	5%	0%	0%	0%
PM Out	0%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	338	0	0	0	0	17	0	0	0	17	0	0	0
AM Out	149	0	7	7	0	0	0	0	0	0	0	0	0
PM In	167	0	0	0	0	8	0	0	0	8	0	0	0
PM Out	387	0	19	19	0	0	0	0	0	0	0	0	0

Zone #	8	East Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In									5%			
N	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		5%										
PM In	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
PM Out	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	198	0	0	0	0	0	0	0	0	10	0	0	0
AM Out	62	0	3	0	0	0	0	0	0	0	0	0	0
PM In	72	0	0	0	0	0	0	0	0	4	0	0	0
PM Out	202	0	10	0	0	0	0	0	0	0	0	0	0

Zone #	9	Urban XR Truck Terminal (PC)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					25%				15%			
N	0%	25%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		25%	15%									
PM In	0%	0%	0%	0%	25%	0%	0%	0%	15%	0%	0%	0%
PM Out	0%	25%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	75	0	0	0	0	19	0	0	0	11	0	0	0
AM Out	112	0	28	17	0	0	0	0	0	0	0	0	0
PM In	75	0	0	0	0	19	0	0	0	11	0	0	0
PM Out	97	0	24	15	0	0	0	0	0	0	0	0	0

Zone #	10	Urban XR Truck Terminal (Trucks)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					70%				30%			
N	0%	15%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	158	0	0	0	68	0	0	0

Int. #:	3	Riverside Ave at I-10 EB Ramps

AM Out		15%	70%									
PM In	0%	0%	0%	0%	70%	0%	0%	0%	30%	0%	0%	0%
PM Out	0%	15%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%

AM Out	338	0	51	237	0	0	0	0	0	0	0	0
PM In	225	0	0	0	0	158	0	0	0	68	0	0
PM Out	294	0	44	206	0	0	0	0	0	0	0	0

Zone #	11	North Riverside Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In							10%					
N	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out				10%								
PM In	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	0	0	23	0	0	0	0	0
AM Out	60	0	0	0	6	0	0	0	0	0	0	0	0
PM In	76	0	0	0	0	0	0	8	0	0	0	0	0
PM Out	228	0	0	0	23	0	0	0	0	0	0	0	0

Zone #	12	CP 4 - Fuel/Convenience Market

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					20%				20%			
N	0%	20%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		20%	20%									
PM In	0%	0%	0%	0%	20%	0%	0%	0%	20%	0%	0%	0%
PM Out	0%	20%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	309	0	0	0	0	62	0	0	0	62	0	0	0
AM Out	309	0	62	62	0	0	0	0	0	0	0	0	0
PM In	253	0	0	0	0	51	0	0	0	51	0	0	0
PM Out	253	0	51	51	0	0	0	0	0	0	0	0	0

Zone #	13	CP 5 - Truck Yard

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					40%				40%			
N	0%	40%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		40%	40%									
PM In	0%	0%	0%	0%	40%	0%	0%	0%	40%	0%	0%	0%
PM Out	0%	40%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	29	0	0	0	0	12	0	0	0	12	0	0	0
AM Out	43	0	17	17	0	0	0	0	0	0	0	0	0
PM In	31	0	0	0	0	12	0	0	0	12	0	0	0
PM Out	34	0	14	14	0	0	0	0	0	0	0	0	0

Zone #	14	CP 6 - Fast Food/Retail

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					30%				20%			
N	0%	30%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		30%	20%									
PM In	0%	0%	0%	0%	30%	0%	0%	0%	20%	0%	0%	0%
PM Out	0%	30%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	34	0	0	0	0	10	0	0	0	7	0	0	0
AM Out	22	0	7	4	0	0	0	0	0	0	0	0	0
PM In	38	0	0	0	0	11	0	0	0	8	0	0	0
PM Out	37	0	11	7	0	0	0	0	0	0	0	0	0

Zone #	15	CP 7 - Warehouse

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					15%							
N	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		15%										
PM In	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	45	0	0	0	0	7	0	0	0	0	0	0	0
AM Out	12	0	2	0	0	0	0	0	0	0	0	0	0
PM In	16	0	0	0	0	2	0	0	0	0	0	0	0
PM Out	48	0	7	0	0	0	0	0	0	0	0	0	0

Int. #:	3	Riverside Ave at I-10 EB Ramps
Zone #	16	CP 8 - Truck Lot

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					40%				40%			
N	0%	40%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		40%	40%									
PM In	0%	0%	0%	0%	40%	0%	0%	0%	40%	0%	0%	0%
PM Out	0%	40%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	14	0	0	0	0	6	0	0	0	6	0	0	0
AM Out	21	0	8	8	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	7	0	0	0	7	0	0	0
PM Out	20	0	8	8	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	4	Riverside Ave at Slover Ave
	3	
	Y	

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		16	53	0	0	570	16	0	0	15	0	0	0
AM Out		15	522	0	0	59	0	8	0	8	0	0	0
AM Tot		31	575	0	0	629	16	8	0	23	0	0	0
PM In		12	45	0	0	442	12	0	0	13	0	0	0
PM Out		13	589	0	0	64	0	16	0	16	0	0	0
PM Tot		25	634	0	0	506	12	16	0	29	0	0	0

Zone #	1	Panattoni - 10 (Rialto Commerce Center)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%		0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	145	0	15	0	0	0	0	0	0	0	0	0	0
AM Out	78	0	0	0	0	8	0	0	0	0	0	0	0
PM In	82	0	8	0	0	0	0	0	0	0	0	0	0
PM Out	166	0	0	0	0	17	0	0	0	0	0	0	0

Zone #	2	CapRock III

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	138	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	37	0	0	0	0	0	0	0	0	0	0	0	0
PM In	47	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	140	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	Rialto Walmart

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	349	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	301	0	0	0	0	0	0	0	0	0	0	0	0
PM In	605	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	396	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	CUSM (300 N. Pepper Ave)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	25	0	3	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	1	0	0	0	0	0	0	0
PM In	9	0	1	0	0	0	0	0	0	0	0	0	0
PM Out	22	0	0	0	0	2	0	0	0	0	0	0	0

Zone #	5	Valley Orange Ent. (1600 W. Valley Blvd)

Int. #:	4	Riverside Ave at Slover Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	50	0	5	0	0	0	0	0	0	0	0	0	0
AM Out	48	0	0	0	0	5	0	0	0	0	0	0	0
PM In	55	0	6	0	0	0	0	0	0	0	0	0	0
PM Out	55	0	0	0	0	6	0	0	0	0	0	0	0

Zone #	6	South Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					30%							
Y	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	448	0	0	0	0	134	0	0	0	0	0	0	0
AM Out	119	0	36	0	0	0	0	0	0	0	0	0	0
PM In	152	0	0	0	0	46	0	0	0	0	0	0	0
PM Out	455	0	137	0	0	0	0	0	0	0	0	0	0

Zone #	7	West Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					10%							
Y	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	338	0	0	0	0	34	0	0	0	0	0	0	0
AM Out	149	0	15	0	0	0	0	0	0	0	0	0	0
PM In	167	0	0	0	0	17	0	0	0	0	0	0	0
PM Out	387	0	39	0	0	0	0	0	0	0	0	0	0

Zone #	8	East Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					5%							
Y	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	198	0	0	0	0	10	0	0	0	0	0	0	0
AM Out	62	0	3	0	0	0	0	0	0	0	0	0	0
PM In	72	0	0	0	0	4	0	0	0	0	0	0	0
PM Out	202	0	10	0	0	0	0	0	0	0	0	0	0

Zone #	9	Urban XR Truck Terminal (PC)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		40%										
Y	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	75	0	30	0	0	0	0	0	0	0	0	0	0
AM Out	112	0	0	0	0	45	0	0	0	0	0	0	0
PM In	75	0	30	0	0	0	0	0	0	0	0	0	0
PM Out	97	0	0	0	0	39	0	0	0	0	0	0	0

Zone #	10	Urban XR Truck Terminal (Trucks)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					100%							
N	0%	85%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	225	0	0	0	0	0	0	0

Int. #:	4	Riverside Ave at Slover Ave										
AM Out		85%										
PM In	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	85%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

AM Out	338	0	287	0	0	0	0	0	0	0	0	0	0
PM In	225	0	0	0	0	225	0	0	0	0	0	0	0
PM Out	294	0	250	0	0	0	0	0	0	0	0	0	0

Zone #	11	North Riverside Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	60	0	0	0	0	0	0	0	0	0	0	0	0
PM In	76	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	228	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	12	CP 4 - Fuel/Convenience Market

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					40%				5%			
Y	5%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	40%	0%	0%	0%	5%	0%	0%	0%
PM Out	5%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	309	0	0	0	0	124	0	0	0	15	0	0	0
AM Out	309	15	124	0	0	0	0	0	0	0	0	0	0
PM In	253	0	0	0	0	101	0	0	0	13	0	0	0
PM Out	253	13	101	0	0	0	0	0	0	0	0	0	0

Zone #	13	CP 5 - Truck Yard

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					80%							
Y	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	80%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	29	0	0	0	0	23	0	0	0	0	0	0	0
AM Out	43	0	34	0	0	0	0	0	0	0	0	0	0
PM In	31	0	0	0	0	25	0	0	0	0	0	0	0
PM Out	34	0	27	0	0	0	0	0	0	0	0	0	0

Zone #	14	CP 6 - Fast Food/Retail

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	25%				25%	25%						
Y	0%	25%	0%	0%	0%	0%	25%	0%	25%	0%	0%	0%
AM Out												
PM In	25%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	0%
PM Out	0%	25%	0%	0%	0%	0%	25%	0%	25%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	34	9	0	0	0	9	9	0	0	0	0	0	0
AM Out	22	0	6	0	0	0	0	6	0	6	0	0	0
PM In	38	10	0	0	0	10	10	0	0	0	0	0	0
PM Out	37	0	9	0	0	0	0	9	0	9	0	0	0

Zone #	15	CP 7 - Warehouse

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	15%					15%						
Y	0%	0%	0%	0%	0%	0%	15%	0%	15%	0%	0%	0%
AM Out												
PM In	15%	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	15%	0%	15%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	45	7	0	0	0	0	7	0	0	0	0	0	0
AM Out	12	0	0	0	0	0	0	2	0	2	0	0	0
PM In	16	2	0	0	0	0	2	0	0	0	0	0	0
PM Out	48	0	0	0	0	0	0	7	0	7	0	0	0

	Int. #:	4 Riverside Ave at Slover Ave
Zone #	16	CP 8 - Truck Lot

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					80%							
Y	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	80%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	14	0	0	0	0	11	0	0	0	0	0	0	0
AM Out	21	0	17	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	14	0	0	0	0	0	0	0
PM Out	20	0	16	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	5	Riverside Ave at Santa Ana Ave
	4	
	Y	

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	136	0	170	437	0	2	31	0	0	0	79
AM Out		0	392	0	78	139	1	0	0	0	0	31	170
AM Tot		0	528	0	248	576	1	2	31	0	0	31	249
PM In		0	117	0	139	331	0	2	25	0	0	0	65
PM Out		0	479	0	65	132	2	0	0	0	0	25	139
PM Tot		0	596	0	204	463	2	2	25	0	0	25	204

Zone #	1	Panattoni - 10 (Rialto Commerce Center)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	145	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	78	0	0	0	0	0	0	0	0	0	0	0	0
PM In	82	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	166	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	CapRock III

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	138	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	37	0	0	0	0	0	0	0	0	0	0	0	0
PM In	47	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	140	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	Rialto Walmart

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	349	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	301	0	0	0	0	0	0	0	0	0	0	0	0
PM In	605	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	396	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	CUSM (300 N. Pepper Ave)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	25	0	3	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	1	0	0	0	0	0	0	0
PM In	9	0	1	0	0	0	0	0	0	0	0	0	0
PM Out	22	0	0	0	0	2	0	0	0	0	0	0	0

Zone #	5	Valley Orange Ent. (1600 W. Valley Blvd)

Int. #:	5	Riverside Ave at Santa Ana Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	50	0	5	0	0	0	0	0	0	0	0	0	0
AM Out	48	0	0	0	0	5	0	0	0	0	0	0	0
PM In	55	0	6	0	0	0	0	0	0	0	0	0	0
PM Out	55	0	0	0	0	6	0	0	0	0	0	0	0

Zone #	6	South Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					30%							
Y	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	448	0	0	0	0	134	0	0	0	0	0	0	0
AM Out	119	0	36	0	0	0	0	0	0	0	0	0	0
PM In	152	0	0	0	0	46	0	0	0	0	0	0	0
PM Out	455	0	137	0	0	0	0	0	0	0	0	0	0

Zone #	7	West Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					10%							
Y	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	338	0	0	0	0	34	0	0	0	0	0	0	0
AM Out	149	0	15	0	0	0	0	0	0	0	0	0	0
PM In	167	0	0	0	0	17	0	0	0	0	0	0	0
PM Out	387	0	39	0	0	0	0	0	0	0	0	0	0

Zone #	8	East Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					5%							
Y	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	198	0	0	0	0	10	0	0	0	0	0	0	0
AM Out	62	0	3	0	0	0	0	0	0	0	0	0	0
PM In	72	0	0	0	0	4	0	0	0	0	0	0	0
PM Out	202	0	10	0	0	0	0	0	0	0	0	0	0

Zone #	9	Urban XR Truck Terminal (PC)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		40%										
Y	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	75	0	30	0	0	0	0	0	0	0	0	0	0
AM Out	112	0	0	0	0	45	0	0	0	0	0	0	0
PM In	75	0	30	0	0	0	0	0	0	0	0	0	0
PM Out	97	0	0	0	0	39	0	0	0	0	0	0	0

Zone #	10	Urban XR Truck Terminal (Trucks)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					100%							
N	0%	85%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	225	0	0	0	0	0	0	0

Int. #:	5	Riverside Ave at Santa Ana Ave

AM Out		85%										
PM In	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	85%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

AM Out	338	0	287	0	0	0	0	0	0	0	0	0
PM In	225	0	0	0	0	225	0	0	0	0	0	0
PM Out	294	0	250	0	0	0	0	0	0	0	0	0

Zone #	11	North Riverside Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	60	0	0	0	0	0	0	0	0	0	0	0	0
PM In	76	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	228	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	12	CP 4 - Fuel/Convenience Market

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		25%		55%				10%				25%
Y	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	10%	55%
AM Out												
PM In	0%	25%	0%	55%	0%	0%	0%	10%	0%	0%	0%	25%
PM Out	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	10%	55%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	309	0	77	0	170	0	0	0	31	0	0	0	77
AM Out	309	0	0	0	77	77	0	0	0	0	0	31	170
PM In	253	0	63	0	139	0	0	0	25	0	0	0	63
PM Out	253	0	0	0	63	63	0	0	0	0	0	25	139

Zone #	13	CP 5 - Truck Yard

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					80%							
Y	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	80%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	29	0	0	0	0	23	0	0	0	0	0	0	0
AM Out	43	0	34	0	0	0	0	0	0	0	0	0	0
PM In	31	0	0	0	0	25	0	0	0	0	0	0	0
PM Out	34	0	27	0	0	0	0	0	0	0	0	0	0

Zone #	14	CP 6 - Fast Food/Retail

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		40%					5%					5%
Y	0%	0%	0%	5%	40%	5%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	40%	0%	0%	0%	0%	5%	0%	0%	0%	0%	5%
PM Out	0%	0%	0%	5%	40%	5%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	34	0	14	0	0	0	0	2	0	0	0	0	2
AM Out	22	0	0	0	1	9	1	0	0	0	0	0	0
PM In	38	0	15	0	0	0	0	2	0	0	0	0	2
PM Out	37	0	0	0	2	15	2	0	0	0	0	0	0

Zone #	15	CP 7 - Warehouse

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		15%										
Y	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	45	0	7	0	0	0	0	0	0	0	0	0	0
AM Out	12	0	0	0	0	2	0	0	0	0	0	0	0
PM In	16	0	2	0	0	0	0	0	0	0	0	0	0
PM Out	48	0	0	0	0	7	0	0	0	0	0	0	0

	Int. #:	5	Riverside Ave at Santa Ana Ave
Zone #	16	CP 8 - Truck Lot	

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					80%							
Y	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	80%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	14	0	0	0	0	11	0	0	0	0	0	0	0
AM Out	21	0	17	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	14	0	0	0	0	0	0	0
PM Out	20	0	16	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	6	Riverside Ave at Jurupa Ave
	7	
	Y	

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		3	122	0	0	403	11	17	0	0	0	0	0
AM Out		0	341	0	0	130	16	17	0	4	0	0	0
AM Tot		3	463	0	0	533	27	34	0	4	0	0	0
PM In		4	106	0	0	292	14	15	0	0	0	0	0
PM Out		0	436	0	0	121	15	16	0	4	0	0	0
PM Tot		4	542	0	0	413	29	31	0	4	0	0	0

Zone #	1	Panattoni - 10 (Rialto Commerce Center)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	145	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	78	0	0	0	0	0	0	0	0	0	0	0	0
PM In	82	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	166	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	CapRock III

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	138	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	37	0	0	0	0	0	0	0	0	0	0	0	0
PM In	47	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	140	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	Rialto Walmart

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	349	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	301	0	0	0	0	0	0	0	0	0	0	0	0
PM In	605	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	396	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	CUSM (300 N. Pepper Ave)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	25	0	3	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	1	0	0	0	0	0	0	0
PM In	9	0	1	0	0	0	0	0	0	0	0	0	0
PM Out	22	0	0	0	0	2	0	0	0	0	0	0	0

Zone #	5	Valley Orange Ent. (1600 W. Valley Blvd)

Int. #:	6	Riverside Ave at Jurupa Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	50	0	5	0	0	0	0	0	0	0	0	0	0
AM Out	48	0	0	0	0	5	0	0	0	0	0	0	0
PM In	55	0	6	0	0	0	0	0	0	0	0	0	0
PM Out	55	0	0	0	0	6	0	0	0	0	0	0	0

Zone #	6	South Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					30%							
Y	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	448	0	0	0	0	134	0	0	0	0	0	0	0
AM Out	119	0	36	0	0	0	0	0	0	0	0	0	0
PM In	152	0	0	0	0	46	0	0	0	0	0	0	0
PM Out	455	0	137	0	0	0	0	0	0	0	0	0	0

Zone #	7	West Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					10%							
Y	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	338	0	0	0	0	34	0	0	0	0	0	0	0
AM Out	149	0	15	0	0	0	0	0	0	0	0	0	0
PM In	167	0	0	0	0	17	0	0	0	0	0	0	0
PM Out	387	0	39	0	0	0	0	0	0	0	0	0	0

Zone #	8	East Agua Mansa

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					5%							
Y	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	198	0	0	0	0	10	0	0	0	0	0	0	0
AM Out	62	0	3	0	0	0	0	0	0	0	0	0	0
PM In	72	0	0	0	0	4	0	0	0	0	0	0	0
PM Out	202	0	10	0	0	0	0	0	0	0	0	0	0

Zone #	9	Urban XR Truck Terminal (PC)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		40%										
Y	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	75	0	30	0	0	0	0	0	0	0	0	0	0
AM Out	112	0	0	0	0	45	0	0	0	0	0	0	0
PM In	75	0	30	0	0	0	0	0	0	0	0	0	0
PM Out	97	0	0	0	0	39	0	0	0	0	0	0	0

Zone #	10	Urban XR Truck Terminal (Trucks)

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					100%							
N	0%	85%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	225	0	0	0	0	0	0	0

Int. #:	6	Riverside Ave at Jurupa Ave											
AM Out		85%											
PM In	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PM Out	0%	85%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

AM Out	338	0	287	0	0	0	0	0	0	0	0	0	0
PM In	225	0	0	0	0	225	0	0	0	0	0	0	0
PM Out	294	0	250	0	0	0	0	0	0	0	0	0	0

Zone #	11	North Riverside Ave

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	225	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	60	0	0	0	0	0	0	0	0	0	0	0	0
PM In	76	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	228	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	12	CP 4 - Fuel/Convenience Market

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		20%					5%					
Y	0%	0%	0%	0%	20%	5%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	20%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	20%	5%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	309	0	62	0	0	0	0	15	0	0	0	0	0
AM Out	309	0	0	0	0	62	15	0	0	0	0	0	0
PM In	253	0	51	0	0	0	0	13	0	0	0	0	0
PM Out	253	0	0	0	0	51	13	0	0	0	0	0	0

Zone #	13	CP 5 - Truck Yard

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		20%										
Y	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	29	0	6	0	0	0	0	0	0	0	0	0	0
AM Out	43	0	0	0	0	9	0	0	0	0	0	0	0
PM In	31	0	6	0	0	0	0	0	0	0	0	0	0
PM Out	34	0	0	0	0	7	0	0	0	0	0	0	0

Zone #	14	CP 6 - Fast Food/Retail

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		25%					5%					
Y	0%	0%	0%	0%	25%	5%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	25%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	25%	5%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	34	0	9	0	0	0	0	2	0	0	0	0	0
AM Out	22	0	0	0	0	6	1	0	0	0	0	0	0
PM In	38	0	10	0	0	0	0	2	0	0	0	0	0
PM Out	37	0	0	0	0	9	2	0	0	0	0	0	0

Zone #	15	CP 7 - Warehouse

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		15%										
Y	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	45	0	7	0	0	0	0	0	0	0	0	0	0
AM Out	12	0	0	0	0	2	0	0	0	0	0	0	0
PM In	16	0	2	0	0	0	0	0	0	0	0	0	0
PM Out	48	0	0	0	0	7	0	0	0	0	0	0	0

Int. #:	6	Riverside Ave at Jurupa Ave
Zone #	16	CP 8 - Truck Lot

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	20%					80%						
Y	0%	0%	0%	0%	0%	0%	80%	0%	20%	0%	0%	0%
AM Out												
PM In	20%	0%	0%	0%	0%	80%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	80%	0%	20%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	14	3	0	0	0	0	11	0	0	0	0	0	0
AM Out	21	0	0	0	0	0	0	17	0	4	0	0	0
PM In	18	4	0	0	0	0	14	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	16	0	4	0	0	0

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES Related Project: CapRock III

AM Peak Hour

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Riverside Ave at I-10 WB Ramps	22	4			15					83		
Riverside Ave at I-10 EB Ramps		25	23		99				83			
Riverside Ave at Slover Ave		28			112	69	18					
Riverside Ave at Santa Ana Ave	15					42	28		4			
Riverside Ave at Jurupa Ave		15			4							

PM Peak Hour

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Riverside Ave at I-10 WB Ramps	83	15			5					29		
Riverside Ave at I-10 EB Ramps		98	83		34				29			
Riverside Ave at Slover Ave		111			39	24	69					
Riverside Ave at Santa Ana Ave	5					15	111		15			
Riverside Ave at Jurupa Ave		5			15							

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES Related Project: Rialto Walmart

AM Peak Hour

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Riverside Ave at I-10 WB Ramps		63			63	30						49
Riverside Ave at I-10 EB Ramps		28		36	27		35					
Riverside Ave at Slover Ave		18			15	12	11					
Riverside Ave at Santa Ana Ave		14			15		4					
Riverside Ave at Jurupa Ave		14			12	3						

PM Peak Hour

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Riverside Ave at I-10 WB Ramps		109			125	60						85
Riverside Ave at I-10 EB Ramps		48		71	54		61					
Riverside Ave at Slover Ave		30			30	24	18					
Riverside Ave at Santa Ana Ave		24			30		6					
Riverside Ave at Jurupa Ave		24			24	6						

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

Related Project: Panattoni I-10 - Rialto Commerce Center

AM Peak Hour

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Riverside Ave at I-10 WB Ramps		7			14					63		
Riverside Ave at I-10 EB Ramps		7	29		78							
Riverside Ave at Slover Ave		26			56	22	10	2			4	
Riverside Ave at Santa Ana Ave		18			40	16	7	2			5	
Riverside Ave at Jurupa Ave		2			4	36	16					

PM Peak Hour

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Riverside Ave at I-10 WB Ramps		16			7					29		
Riverside Ave at I-10 EB Ramps		16	72		36							
Riverside Ave at Slover Ave		64			26	10	25	4			2	
Riverside Ave at Santa Ana Ave		46			18	8	19	6			3	
Riverside Ave at Jurupa Ave		4			2	17	41					

Table 2

Project (High-Cube Warehouse Distribution Center) Traffic Generation[1]

Descriptor	Quantity	Units[2]	Type of Vehicle: Passenger Car	2 Axle Truck	3 Axle Truck	4+ Axle Truck	Total Trucks	Total
Land Use: High Cube	3,475.000	TSF	71.4%	12.5%	9.1%	6.9%	28.6%	100%
Traffic Generation Rates in trips per TSF								
Daily			1.028	0.180	0.131	0.100	0.411	1.44
Morning Peak Hour			0.064	0.011	0.008	0.006	0.026	0.09
Evening Peak Hour			0.071	0.013	0.009	0.007	0.029	0.10
Traffic Generation in Vehicles								
Daily			3,574	627	456	346	1,429	5,003
Morning Peak Hour								
Inbound			149	26	19	14	59	208
Outbound			74	13	9	7	29	103
Total			223	39	28	21	88	311
Evening Peak Hour								
Inbound			74	13	9	7	29	103
Outbound			174	30	22	17	69	243
Total			248	43	31	24	98	346
Passenger Car Equivalent's (PCE'S) Factor[3]			1.00	1.50	2.00	3.00		
Traffic Generation in PCE's								
Daily			3,574	941	912	1,038	2,891	6,465
Morning Peak Hour								
Inbound			149	39	38	42	119	268
Outbound			74	20	18	21	59	133
Total			223	59	56	63	178	401
Evening Peak Hour								
Inbound			74	20	18	21	59	133
Outbound			174	45	44	51	140	314
Total			248	65	62	72	199	447

[1] Source: Institute of Transportation Engineers, Trip Generation, 8th Edition, 2008, Land Use Category 152 and Truck Trip Generation Study, City of Fontana, August 2003.

[2] TSF = Thousand Square Feet

[3] Passenger Car Equivalent factors are recommended by San Bernardino Associated Governments.

Table 3

Project (Warehousing) Traffic Generation[1]

Descriptor	Quantity	Units[2]	Type of Vehicle					Total
			Passenger Car	2 Axle Truck	3 Axle Truck	4+ Axle Truck	Total Trucks	
Land Use: Heavy Warehousing	184.000	TSF	71.4%	12.5%	9.1%	6.9%	28.6%	100%
Traffic Generation Rates in trips per TSF								
Daily			2.543	0.446	0.325	0.246	1.017	3.56
Morning Peak Hour			0.214	0.038	0.027	0.021	0.086	0.30
Evening Peak Hour			0.229	0.040	0.029	0.022	0.091	0.32
Traffic Generation in Vehicles								
Daily			468	82	60	45	187	655
Morning Peak Hour								
Inbound			32	6	4	3	13	45
Outbound			8	1	1	1	3	11
Total			40	7	5	4	16	56
Evening Peak Hour								
Inbound			11	2	1	1	4	15
Outbound			32	6	4	3	13	45
Total			43	8	5	4	17	60
Passenger Car Equivalent's (PCE'S) Factor[3]			1.00	1.50	2.00	3.00		
Traffic Generation in PCE's								
Daily			468	123	120	135	378	846
Morning Peak Hour								
Inbound			32	9	8	9	26	58
Outbound			8	2	2	3	7	15
Total			40	11	10	12	33	73
Evening Peak Hour								
Inbound			11	3	2	3	8	19
Outbound			32	9	8	9	26	58
Total			43	12	10	12	34	77

[1] Source: Institute of Transportation Engineers, Trip Generation, 8th Edition, 2008, Land Use Category 150 and Truck Trip Generation Study, City of Fontana, August 2003.

[2] TSF = Thousand Square Feet

[3] Passenger Car Equivalent factors are recommended by San Bernardino Associated Governments.

Table 4

Project Traffic Generation Summary[1]

Land Use	Quantity	Units[2]	Peak Hour						Daily
			Morning			Evening			
			Inbound	Outbound	Total	Inbound	Outbound	Total	
High-Cube Warehouse Distribution Center[3]	3,475.000	TSF	268	133	401	133	314	447	6,465
Warehousing[4]	184.000	TSF	58	15	73	19	58	77	846
Total	3,659.000	TSF	326	148	474	152	372	524	7,311

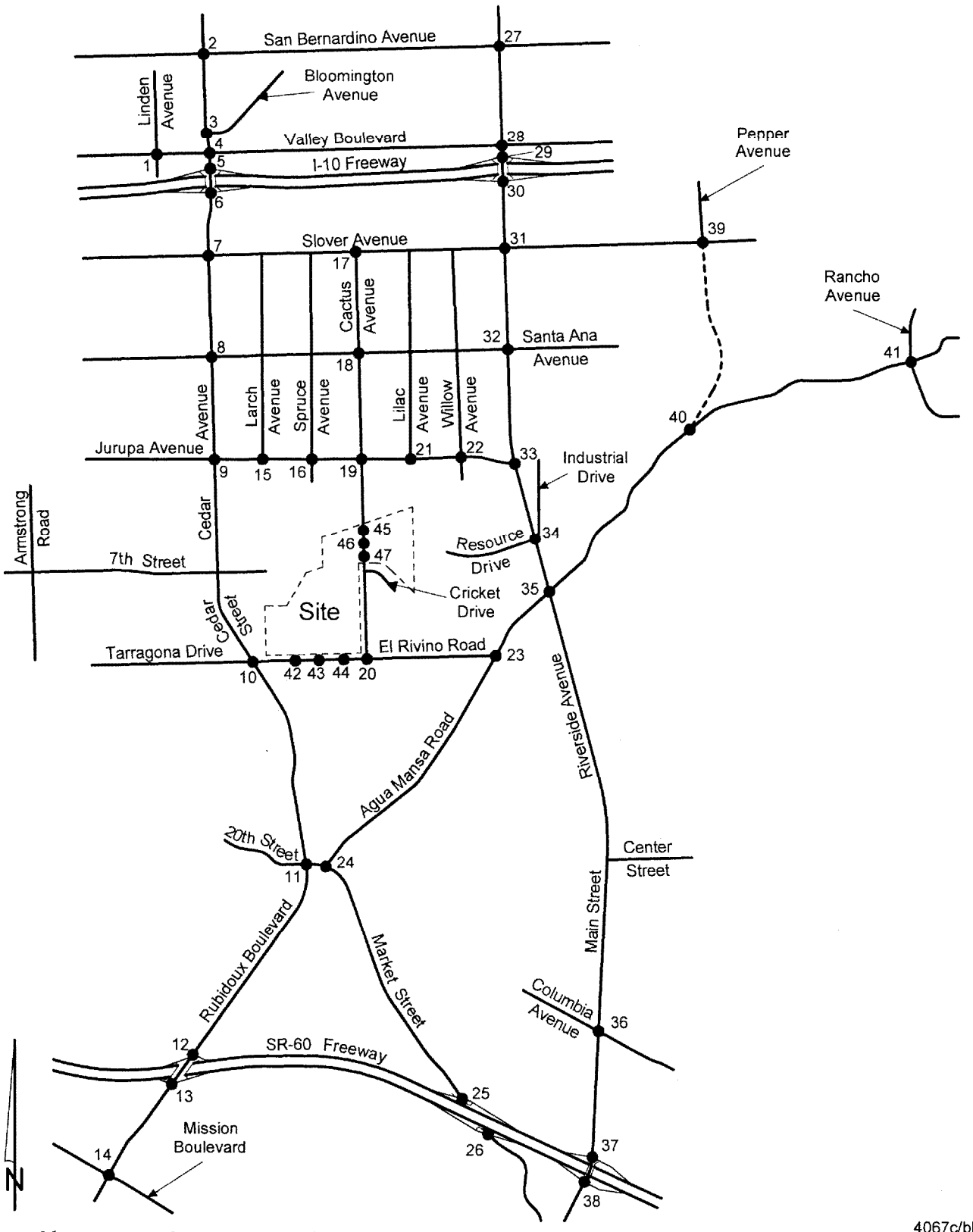
[1] Converted to Passenger Car Equivalents.

[2] TSF = Thousand Square Feet

[3] See Table 2.

[4] See Table 3.

Figure 12
Project Morning Peak Hour Intersection Turning Movement Volumes

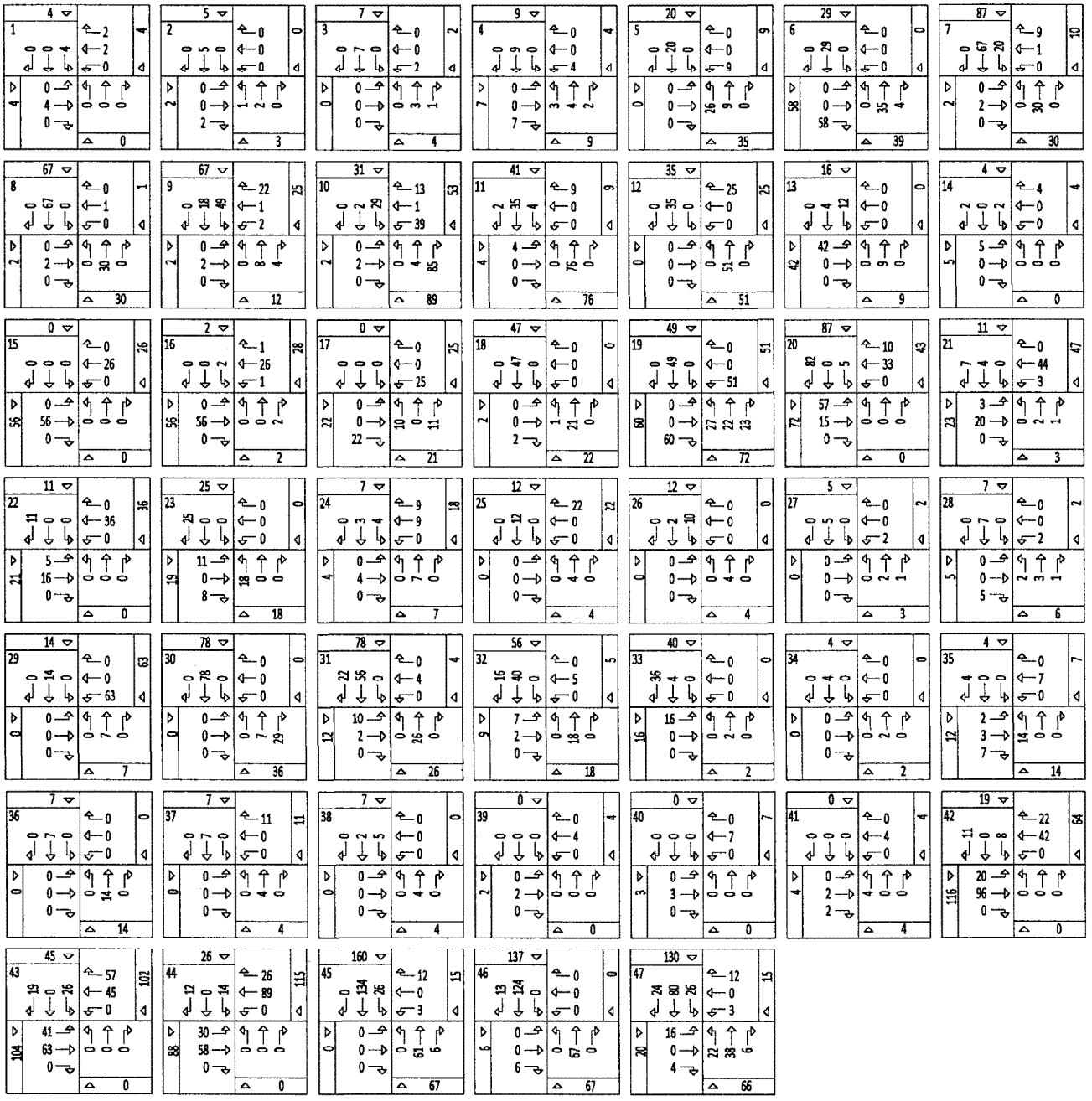


4067c/bbas

KUNZMAN ASSOCIATES, INC.

OVER 30 YEARS OF EXCELLENT SERVICE

Figure 12a
Project Morning Peak Hour Intersection Turning Movement Volumes

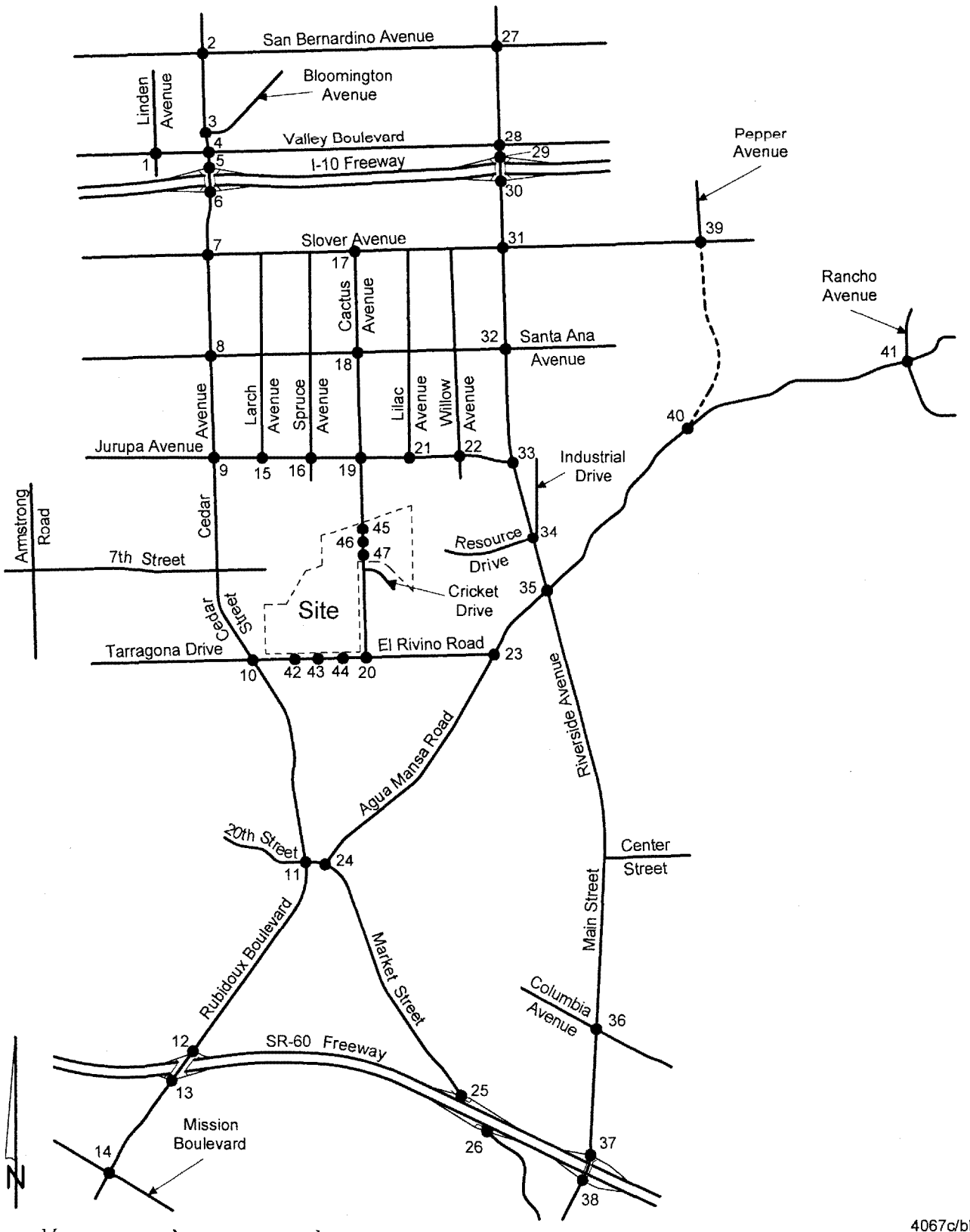


4067c/bbas

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 30 YEARS OF EXCELLENT SERVICE

Figure 13
Project Evening Peak Hour Intersection Turning Movement Volumes

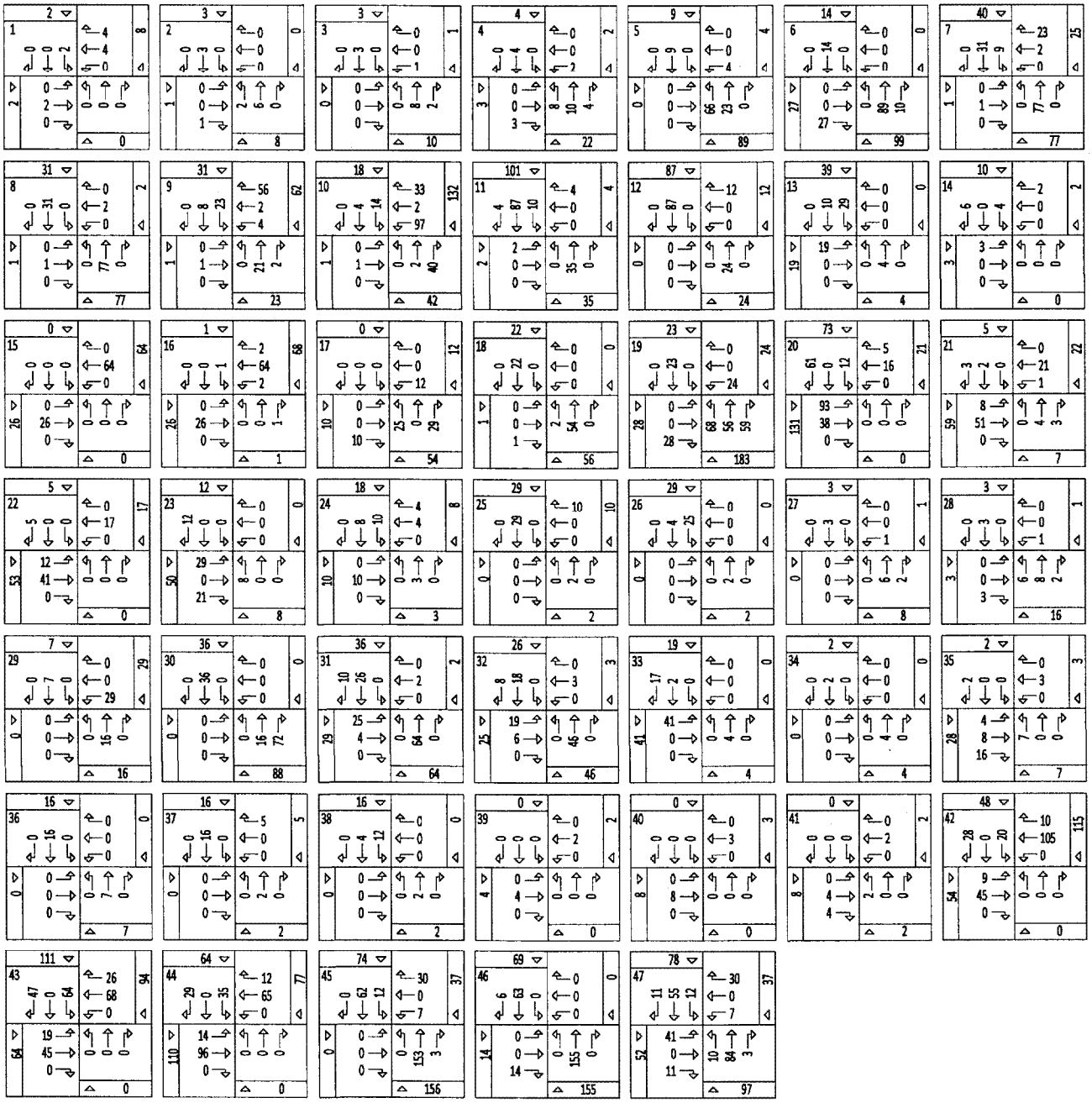


4067c/bbas

KUNZMAN ASSOCIATES, INC.

OVER 30 YEARS OF EXCELLENT SERVICE

Figure 13a
Project Evening Peak Hour Intersection Turning Movement Volumes



4067c/bbas

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 30 YEARS OF EXCELLENT SERVICE

Table L - Project Trip Generation

Land Uses	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Warehousing[1]	527.9 TSF							
Trips/Unit (Cars)		0.145	0.035	0.180	0.048	0.144	0.192	2.136
Trips/Unit (2-Axle Trucks)		0.002	0.000	0.002	0.001	0.002	0.003	0.028
Trips/Unit (3-Axle Trucks)		0.027	0.007	0.034	0.009	0.027	0.036	0.399
Trips/Unit (4+ Axle Trucks)		0.066	0.018	0.084	0.022	0.067	0.089	0.997
Trips/Unit (Total)		0.240	0.060	0.300	0.080	0.240	0.320	3.560
Trip Generation (Cars)		77	18	95	25	76	101	1,128
Trip Generation (2-Axle Trucks)		1	0	1	1	1	2	15
Trip Generation (3-Axle Trucks)		14	4	18	5	14	19	211
Trip Generation (4+ Axle Trucks)		35	9	44	12	35	47	526
Trip Generation (Total)		127	31	158	43	126	169	1,880
Trip Generation (Cars)		77	18	95	25	76	101	1,128
PCE Trip Generation (2-Axle Trucks)		2	0	2	2	2	4	23
PCE Trip Generation (3-Axle Trucks)		28	8	36	10	28	38	422
PCE Trip Generation (4+ Axle Trucks)		105	27	132	36	105	141	1,578
PCE Trip Generation (Total)		212	53	265	73	211	284	3,151

TSF = thousand square-feet

1 Daily, a.m. and p.m. peak hour rates based on the Institute of Transportation Engineers (ITE) Trip Generation (9th Edition) rates for Land Use 150 - "Warehousing." All trip generation rates converted to car and truck trips using vehicle mix from the City of Rialto "Traffic Impact Analysis Report Guideline and Requirements, dated December 2013. 40% of project traffic are trucks with 70% 4-axel, 28% 3-axle, and 2% 2-axle trucks. Truck trips converted to PCEs based on the SANBAG PCE values.

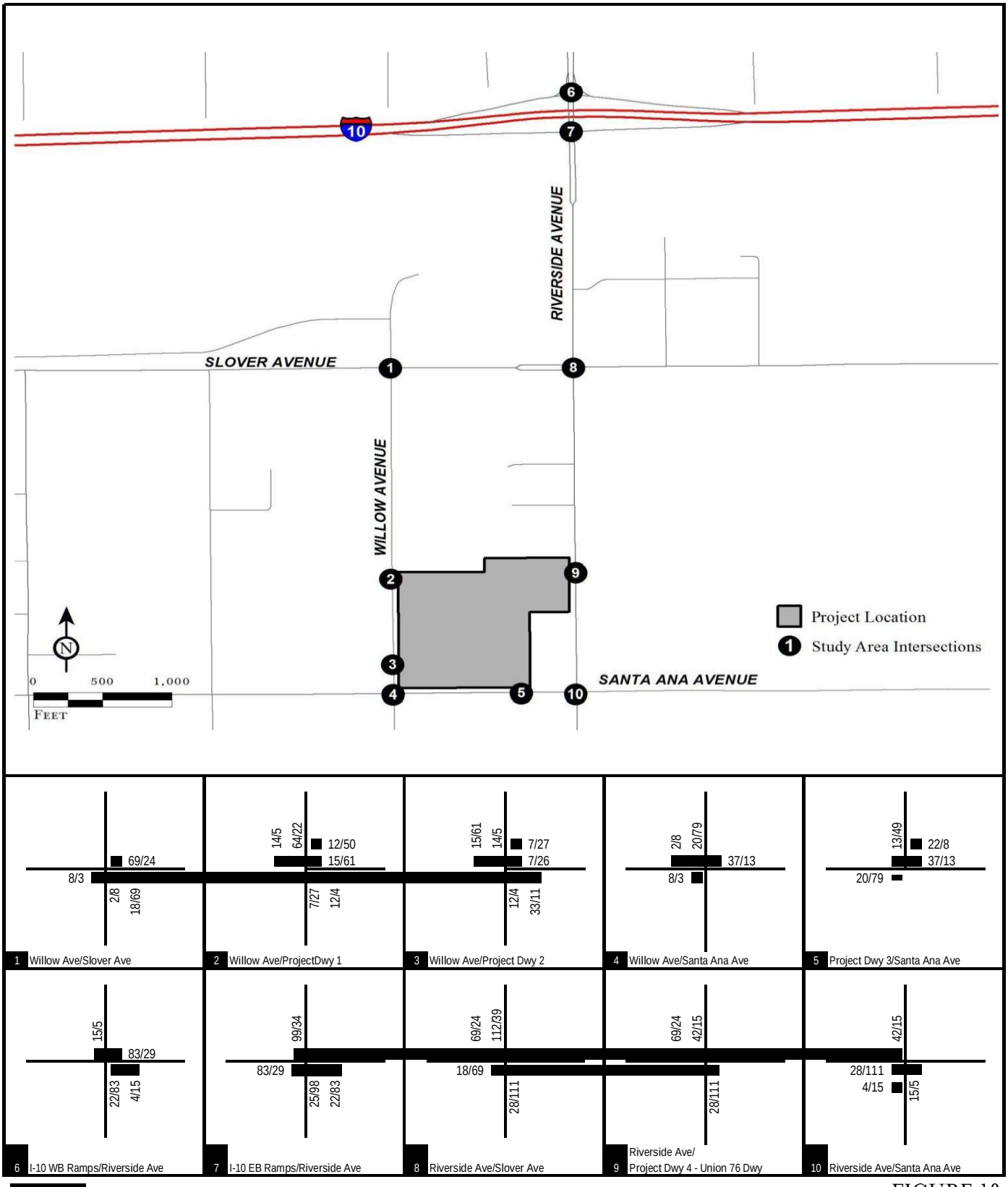


FIGURE 18

XXX/YYY AM/PM Peak Hour Trips

Willow Avenue Warehouse
Traffic Impact Analysis
Total Project Trip Assignment

TABLE 4-2

PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekday	Saturday Mid-Day Peak Hour			Saturday
			In	Out	Total	In	Out	Total	Daily	In	Out	Total	Daily
Major Retail Center (Walmart)	197.639	TSF	186	144	330	447	464	911	10,501	557	557	1,115	12,663
Internal Capture (10%):			-19	-14	-33	-45	-46	-91	-1,050	-56	-56	-111	-1,266
Net Trips:			*167*	*130*	*297*	*402*	*418*	*820*	*9,451*	*502*	*502*	*1,003*	*11,396*
Pad 1 (Gas/Service Station)	16.000	VFP	99	95	195	111	111	222	2,697	111	111	222	2,697
Internal Capture (10%):			-10	-10	-19	-11	-11	-22	-270	-11	-11	-22	-270
External Trips:			89	86	175	100	100	200	2,427	100	100	200	2,427
Pass-by Reduction (58%-AM; 42%-PM & Saturday):			*-52*	*-50*	*-102*	*-42*	*-42*	*-84*	*-1,019*	*-42*	*-42*	*-84*	*-1,019*
Net Trips:			*37*	*36*	*74*	*58*	*58*	*116*	*1,408*	*58*	*58*	*116*	*1,408*
Pad A (Retail)	4.620	TSF	3	2	5	8	9	17	198	12	11	23	890
Internal Capture (10%):			0	0	0	-1	-1	-2	-20	-1	-1	-2	-89
Net Trips:			*3*	*2*	*4*	*8*	*8*	*16*	*179*	*11*	*10*	*20*	*801*
Pad B (Restaurant)	6.780	TSF	41	37	78	45	31	76	862	51	45	95	1,074
Internal Capture (10%):			-4	-4	-8	-4	-3	-8	-86	-5	-4	-10	-107
Net Trips:			*37*	*34*	*70*	*40*	*28*	*68*	*776*	*46*	*40*	*86*	*966*
Pad C (Fast-Food Restaurant)	2.846	TSF	72	69	140	50	46	96	1,412	86	83	169	2,055
Internal Capture (10%):			-7	-7	-14	-5	-5	-10	-141	-9	-8	-17	-205
External Trips:			64	62	126	45	42	87	1,271	78	75	152	1,849
Pass-by Reduction (49%-AM; 50%-PM & Saturday):			*-32*	*-30*	*-62*	*-23*	*-21*	*-43*	*-635*	*-39*	*-37*	*-76*	*-925*
Net Trips:			*33*	*32*	*64*	*23*	*21*	*43*	*635*	*39*	*37*	*76*	*925*
Pad D (Retail)	3.016	TSF	2	1	3	6	6	11	130	8	7	15	581
Internal Capture (10%):			0	0	0	-1	-1	-1	-13	-1	-1	-1	-58
Net Trips:			*2*	*1*	*3*	*5*	*5*	*10*	*117*	*7*	*6*	*13*	*523*
Pad E (Fast Food Restaurant)	3.102	TSF	78	75	153	55	50	105	1,539	94	90	184	2,240
Internal Capture (10%):			-8	-8	-15	-5	-5	-10	-154	-9	-9	-18	-224
External Trips:			70	68	138	49	45	94	1,385	85	81	166	2,016
Pass-by Reduction (49%-AM; 50%-PM & Saturday):			*-34*	*-33*	*-68*	*-25*	*-23*	*-47*	*-693*	*-42*	*-41*	*-83*	*-1,008*
Net Trips:			*36*	*34*	*70*	*25*	*23*	*47*	*693*	*42*	*41*	*83*	*1,008*
Pad F (Retail)	6.076	TSF	4	2	6	11	12	23	261	15	14	30	1,171
Internal Capture (10%):			0	0	-1	-1	-1	-2	-26	-2	-1	-3	-117
Net Trips:			*3*	*2*	*5*	*10*	*10*	*20*	*235*	*14*	*13*	*27*	*1,054*
Pad F (Restaurant)	6.076	TSF	36	34	70	40	28	68	773	45	40	85	962
Internal Capture (10%):			-4	-3	-7	-4	-3	-7	-77	-5	-4	-9	-96
Net Trips:			*33*	*30*	*63*	*36*	*25*	*61*	*695*	*41*	*36*	*77*	*866*
TOTAL NET TRIPS			*350*	*301*	*651*	*606*	*596*	*1,201*	*14,187*	*758*	*743*	*1,501*	*18,948*

[1] TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

Pass-by reduction percentages are from the ITE Trip Generation Handbook (2nd Edition, 2004): Tables 5.23, 5.24, 5.27 and 5.28.

EXHIBIT 4-1

PROJECT OUTBOUND TRIP DISTRIBUTION

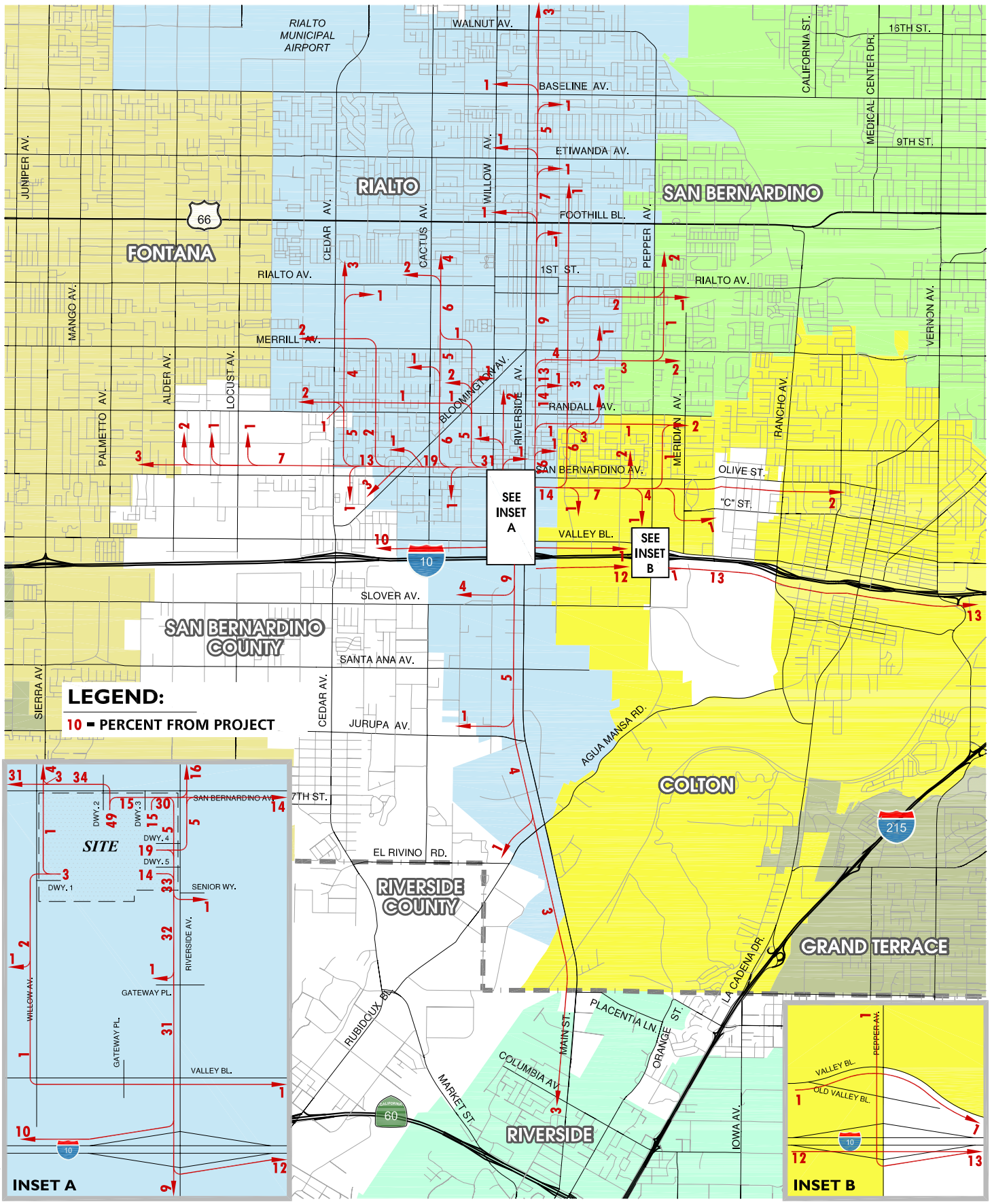
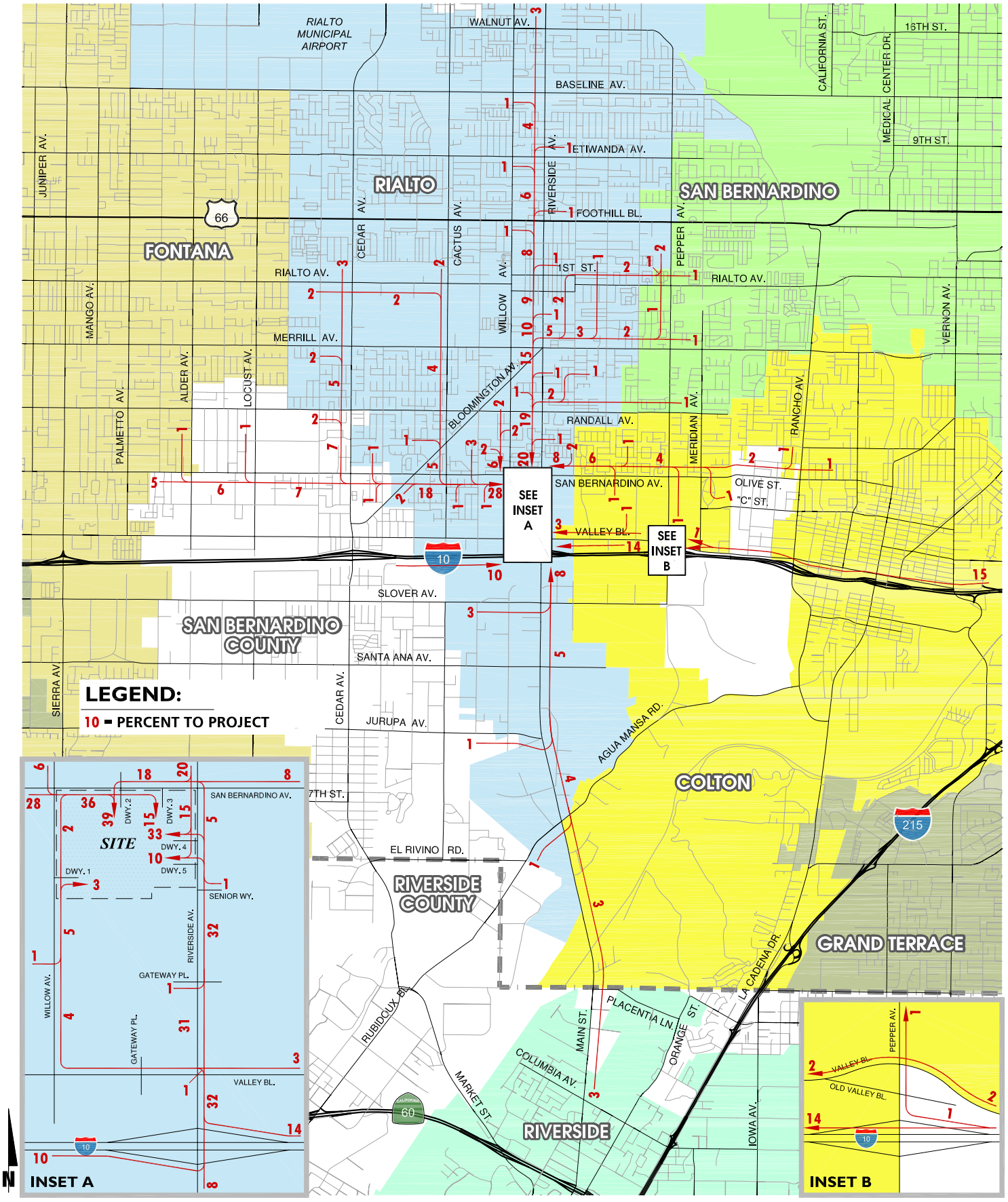


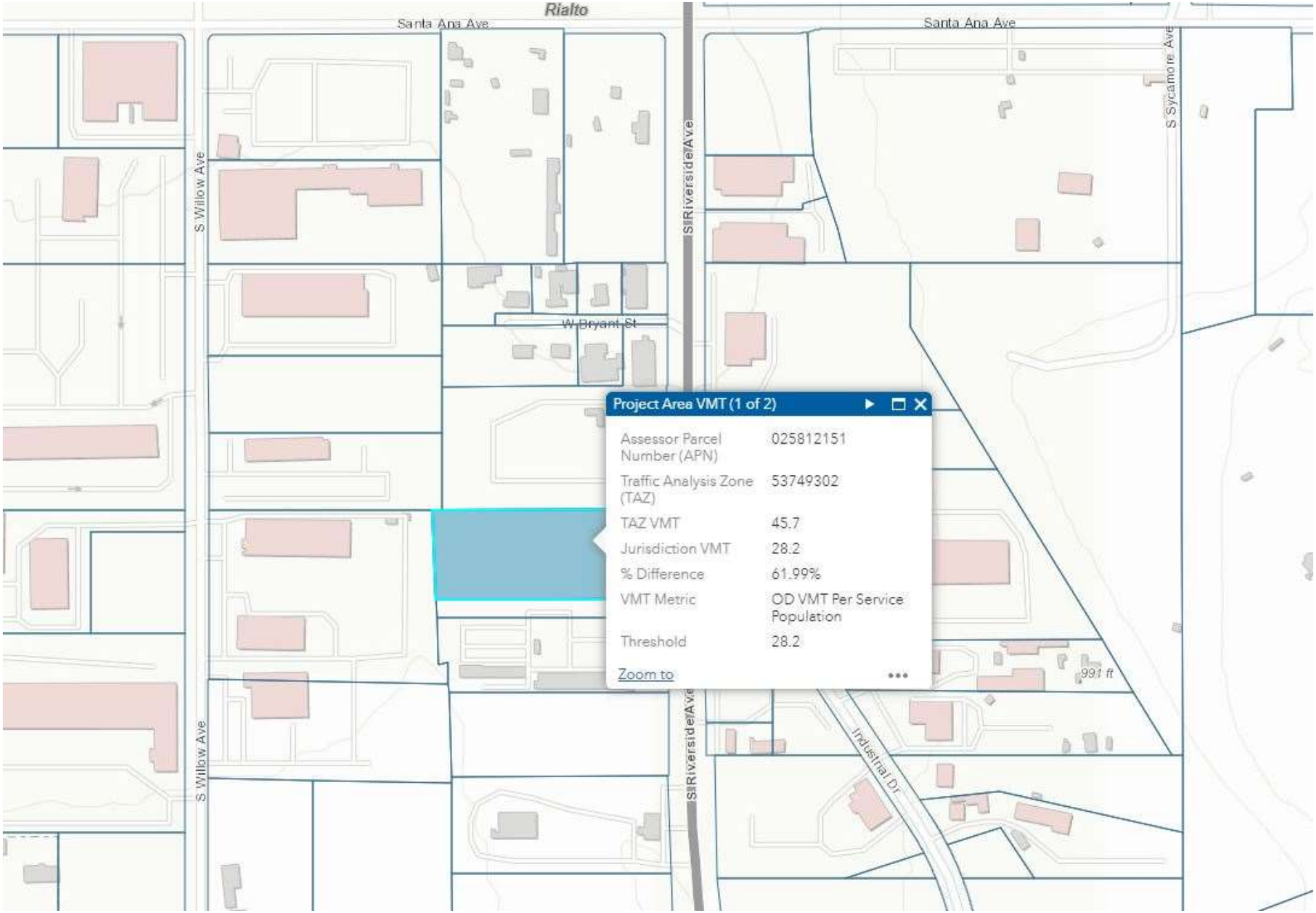
EXHIBIT 4-2

PROJECT INBOUND TRIP DISTRIBUTION



APPENDIX **F**

SBTAM VMT SCREENING TOOL


Rialto
Santa Ana Ave
Santa Ana Ave
S Willow Ave
S Willow Ave
S Riverside Ave
S Riverside Ave
S Sycamore Ave
W Bryant St
Industrial Dr
.99 ft
Project Area VMT (1 of 2)
Assessor Parcel Number (APN) 025812151
Traffic Analysis Zone (TAZ) 53749302
TAZ VMT 45.7
Jurisdiction VMT 28.2
% Difference 61.99%
VMT Metric OD VMT Per Service Population
Threshold 28.2
Zoom to