Appendix O
Traffic Study

Traffic Study

for:

249 Santa Ana Avenue Truck Terminal

In the City of Rialto

April 2023

Kimley»Horn

TRAFFIC STUDY
FOR THE PROPOSED
249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT
IN THE CITY OF RIALTO

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TRAFFIC STUDY
FOR THE PROPOSED
249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT
IN THE CITY OF RIALTO

I. INTRODUCTION

A. Purpose of the TIA and Study Objectives

This Traffic Study has been prepared to address the traffic-related effects of the proposed 249 Santa Ana Avenue Truck Terminal 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* (October 2021), and in accordance with 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 effects 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 scenarios:

- Existing Conditions
- Opening Year 2024
- Opening Year 2024 Plus Project
- Opening Year 2024 Cumulative
- Opening Year 2024 Cumulative Plus Project

B. Site Plan Location and Study Area

The project site is located on Santa Ana Avenue approximately 2,000 feet east of Riverside Avenue in the City of Rialto. The project site is bounded by Santa Ana Avenue to the north, industrial uses to the west, a water treatment plant to the east, and vacant land to the south. The project site is located on approximately 45.5 acres of vacant land. The project site is located approximately 700 feet from the City of Rialto's border with the City of Colton. The project site is shown in its regional setting on **Figure 1**.

NOT TO SCALE

FIGURE 1
VICINITY MAP

Development Project Identification

Pending.

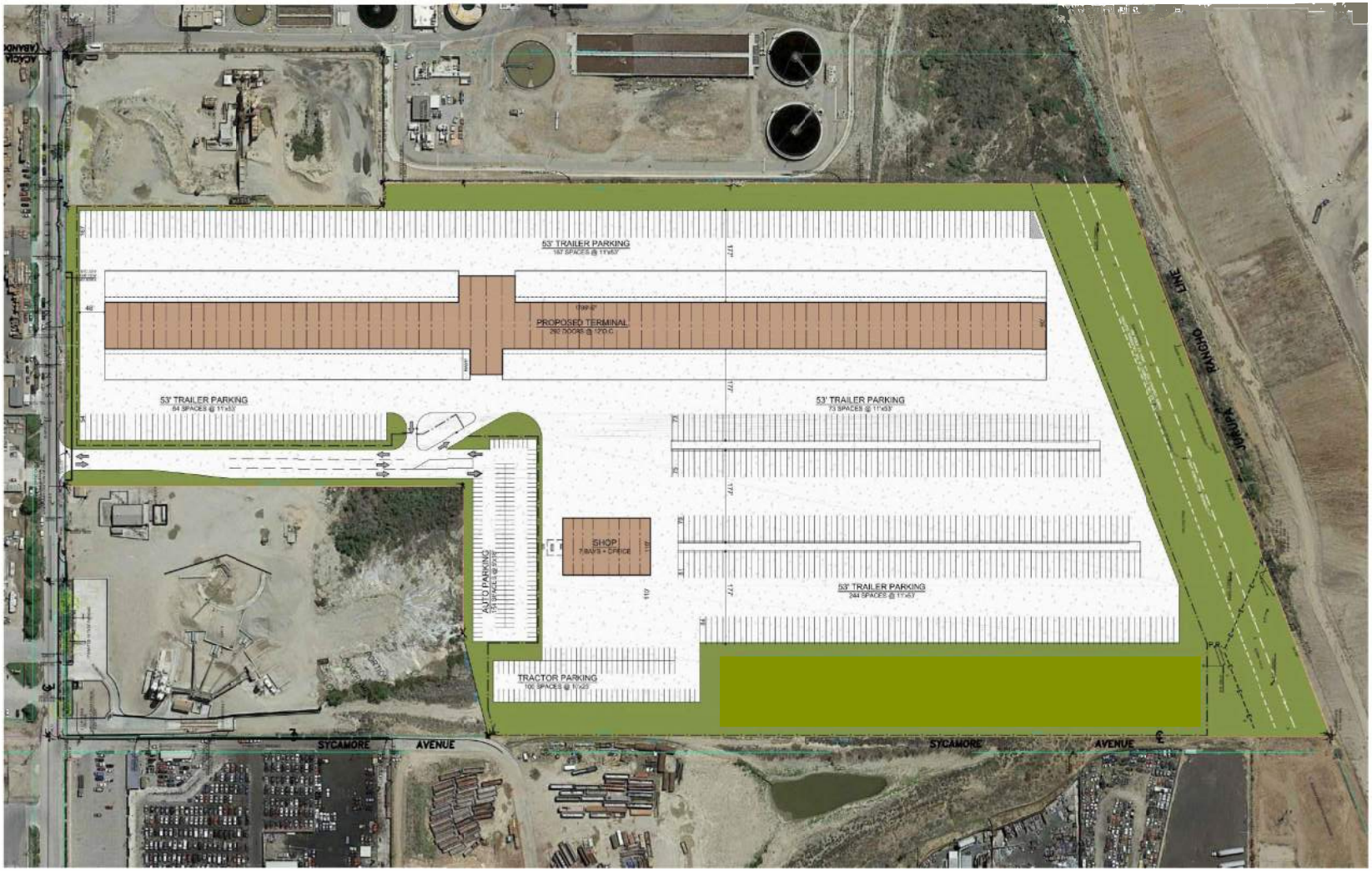
C. Development Project Description

The project will involve the construction of a truck terminal with 280 bay doors, a maintenance shop/office, 538 trailer parking stalls, 100 tractor parking stalls, and 154 employee parking stalls. 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. A copy of the project site plan is provided on **Figure 2**.

The Project site is located within Sub-Area 8 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.

Vehicular access provisions for the project site would be provided via one full-movement driveway on Santa Ana Avenue. The project driveway would be unsignalized and would allow access for both passenger vehicles and trucks.

The proposed opening year for the project is Year 2024. The project will be developed in a single project phase.


53' TRAILER PARKING
PROPOSED TERMINAL
53' TRAILER PARKING
53' TRAILER PARKING
SHOP
AUTO PARKING
53' TRAILER PARKING
TRACTOR PARKING
SYCAMORE AVENUE
SYCAMORE AVENUE
RANCHO LANE

D. 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) 7th Edition, 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 intersection analysis for the proposed project has been accomplished using the VISTRO software program and 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 charts on the following page provide a description of the operating characteristics of each Level of Service and define the LOS 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. According to 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 City's Traffic Study Guidelines require new development to mitigate effects that cause the Level of Service to fall below LOS D, or 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 7th Edition, Exhibit 19-8.
[2] Source: Highway Capacity Manual HCM 7th Edition, Exhibit 20-2.

Roadway Segment Analysis

The roadway segment analysis will address the project's effect on daily operating conditions on roadway segments within the project vicinity. Roadway segments are evaluated by comparing the daily 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 identification of project-related effects at the following study intersections and roadways:

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 Jurupa Avenue

D1. Santa Ana Avenue at Project Driveway

Roadway Segments

1. Riverside Avenue: I-10 EB Ramps to Slover Avenue
2. Riverside Avenue: Slover Avenue to Santa Ana Avenue
3. Riverside Avenue: Santa Ana Avenue to Jurupa Avenue
4. Santa Ana Avenue: East of Riverside Avenue

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***.

Due to current construction on Riverside Avenue, recent historical accounts collected in April 2018 were used for this analysis. An ambient annual growth rate of two (2) percent per year was applied to historical counts to develop existing year 2023 volumes.

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

Regional access to the site is provided primarily by Interstate 10 (1-10) Freeway, 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 site, the Interstate 15 (I-15) Freeway is approximately 10 miles to the west of the site, and access to the State Route 60 (SR 60) Highway is approximately 4 miles to the south.

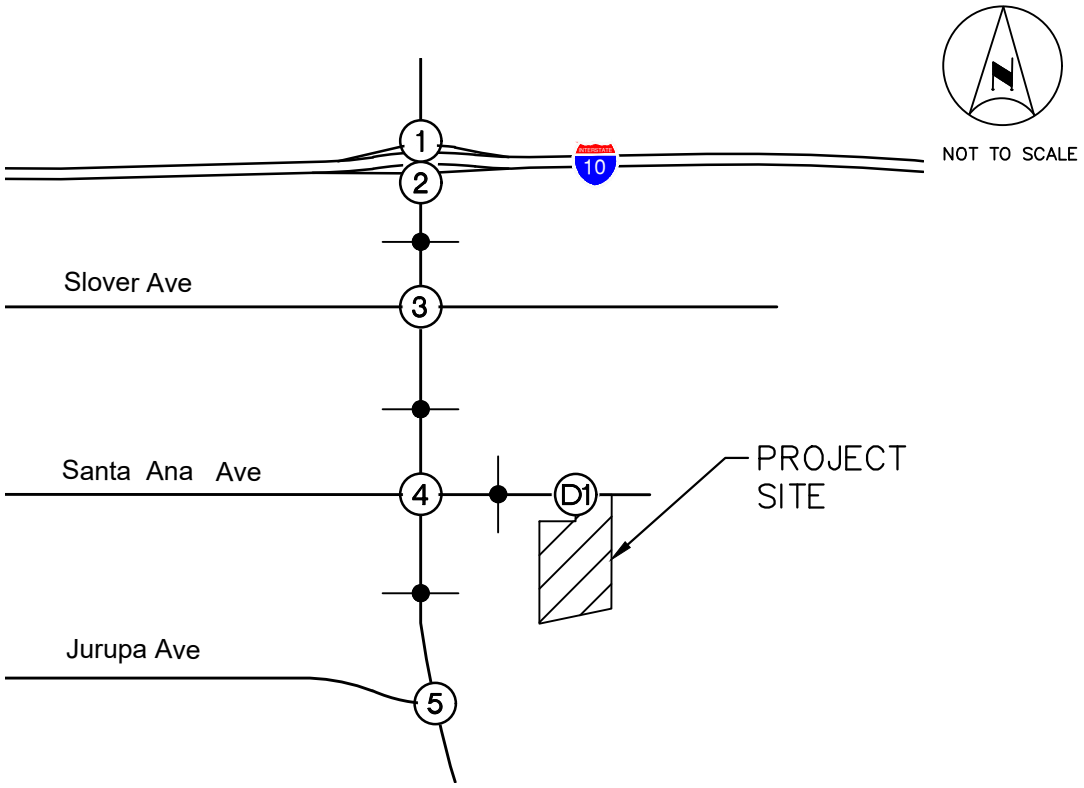
Existing lane configurations and intersection controls at the study intersections are shown on **Figure 3**. The following provides a description of the roadways surrounding the project site.

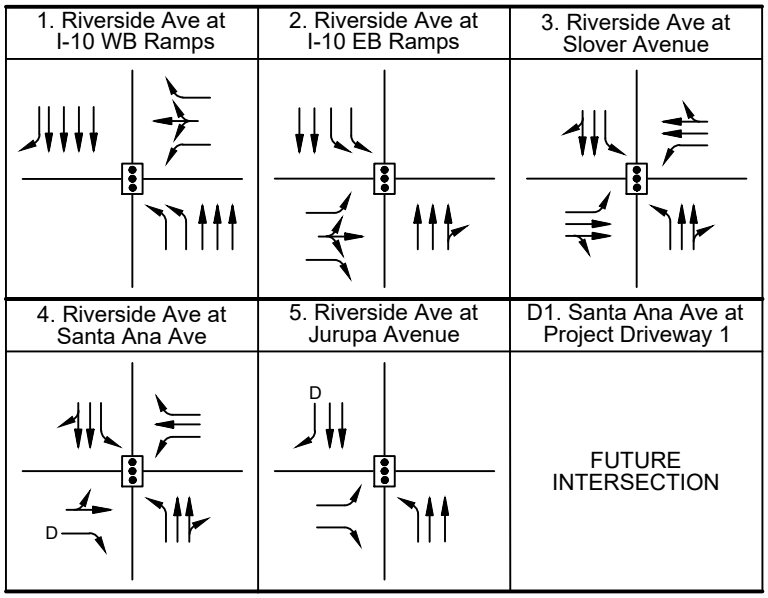
Santa Ana Avenue – Santa Ana Avenue is a two lane east-west roadway. The posted speed limit on Santa Ana Avenue is 40 miles per hour (mph) and on-street parking is permitted. Santa Ana Avenue is designated as a Collector Street east of Riverside Avenue and a Secondary Arterial west of Riverside Avenue in the City's Circulation Element. Santa Ana Avenue is a designated truck route for its entire length within the City.

Riverside Avenue – Riverside Avenue is currently a four- to six-lane north-south roadway divided by a painted median through the study area. The posted speed limit is 50 mph and on-street parking is prohibited on both sides of the roadway. 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's Circulation Element. 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. The posted speed limit is 50mph.

Slover Avenue – Slover Avenue is a four-lane east-west roadway divided by a painted median through the study area. The posted speed limit is 45 mph and on-street parking is prohibited on both sides of the street. Slover Avenue is designated as a Major Arterial in the City's Circulation Element. Slover Avenue is a designated truck route between Riverside Avenue and Cedar Avenue.

Jurupa Avenue – Jurupa Avenue is a two-lane east-west undivided roadway. Between Riverside Avenue and Willow Avenue, Jurupa Avenue has four lanes and remains undivided. The posted speed limit is 40 mph and on-street parking is prohibited on both sides of the street. Jurupa Avenue is designated as a Secondary Arterial in the City's Circulation Element.





LEGEND:
- X = Study Intersection
- = Turn or Through Lane
- = Signal
- = Roadway Segement
- D = Defacto Right Turn

FIGURE 3
EXISTING LANE CONFIGURATION
AND TRAFFIC CONTROL

C. Existing Traffic Volumes

As mentioned earlier, historical traffic data was used for the study intersections and grown to create existing year 2023 traffic volumes. Copies of the traffic count data worksheets are provided in ***Appendix B***.

Traffic 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 truck-related traffic effect 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**.

D. Existing Delay and Level of Service

Peak Hour Operating Conditions

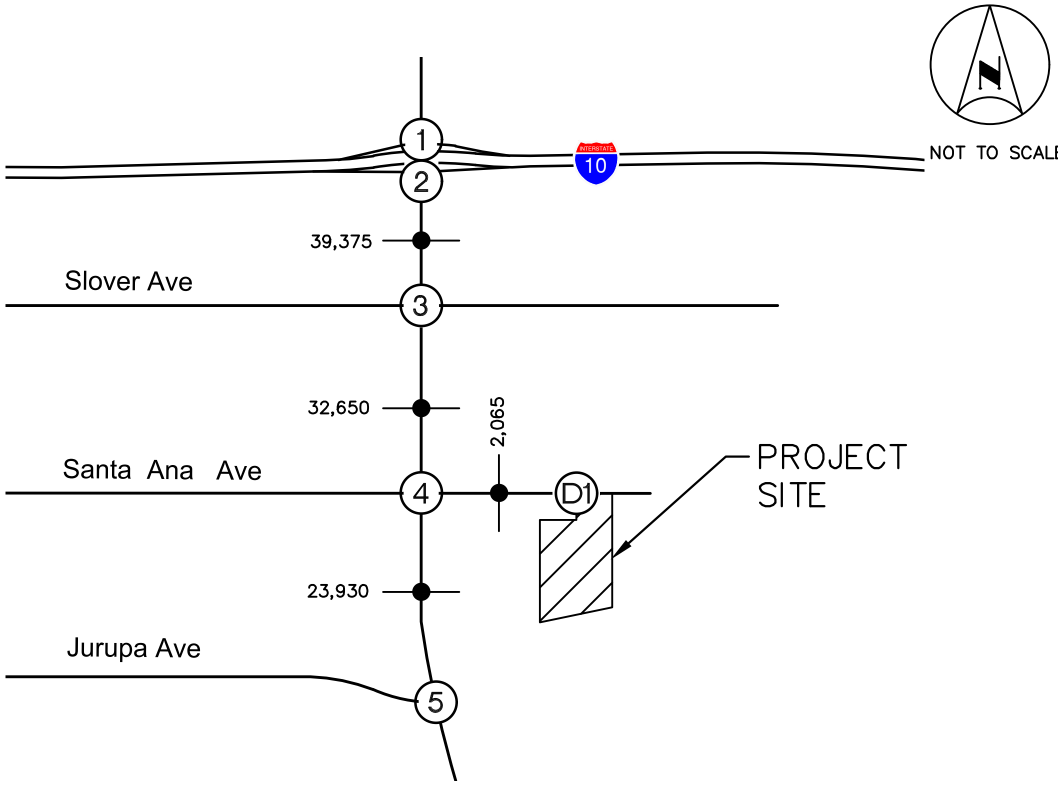
Intersection Level of Service analysis was conducted for the morning and evening peak hours using the analysis procedures and assumptions described previously in this report. The results of the intersection analysis for Existing Conditions are shown on **Table 1**.

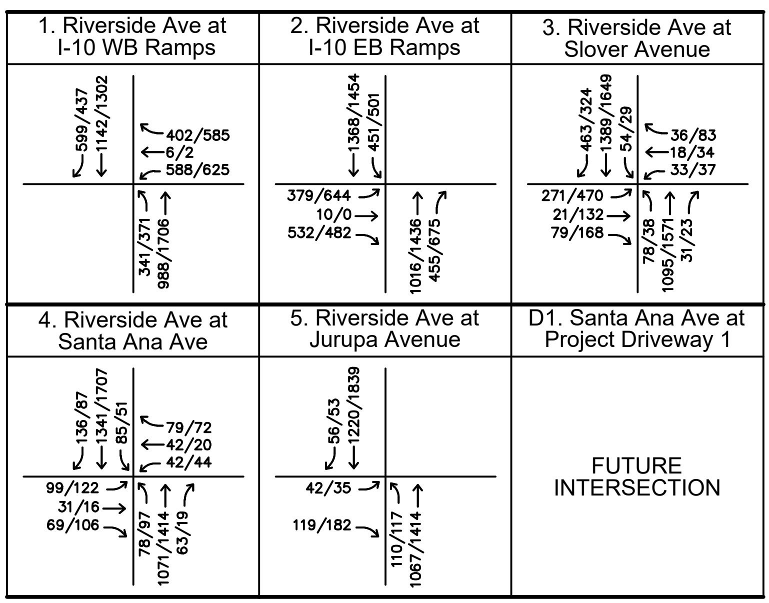
Review of this table indicates that all study intersections are currently operating at an acceptable Level of Service. Copies of the intersection analysis worksheets are provided in ***Appendix D***.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for the Existing Conditions scenario and the results are shown on **Table 2**. Review of this table indicates that the following roadway segment currently operates at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue





Note: Volumes reflect PCE adjustments.

LEGEND:
(X) = Study Intersection
●— = Roadway Segement + ADT Volumes
XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 4
EXISTING PEAK HOUR TRAFFIC VOLUMES

Kimley»Horn

TABLE 1
SUMMARY OF INTERSECTION OPERATIONS
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	20.1	C	20.0	B
2	Riverside Avenue at I-10 EB Ramps	S	20.3	C	27.0	C
3	Riverside Avenue at Slover Avenue	S	20.5	C	43.8	D
4	Riverside Avenue at Santa Ana Avenue	S	14.6	B	15.6	B
5	Riverside Avenue at Jurupa Avenue	S	8.4	A	11.3	B

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- S = Signalized

TABLE 2
SUMMARY OF ROADWAY ANALYSIS
EXISTING CONDITIONS

Roadway	Segment	Current Configuration	LOS D Capacity	Existing ADT	Existing ADT w/ PCE	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	4 Lanes Divided	32,999	33,990	39,375	**No**
	Slover Avenue to Santa Ana Avenue	4 Lanes Divided	32,999	27,760	32,650	Yes
	Santa Ana Avenue to Jurupa Avenue	4 Lanes Divided	32,999	23,930	23,930	Yes
Santa Ana Avenue	East of Riverside Avenue	2 Lanes Undivided	21,999	1,430	2,065	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic
PCE = Passenger Car Equivalent

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**.

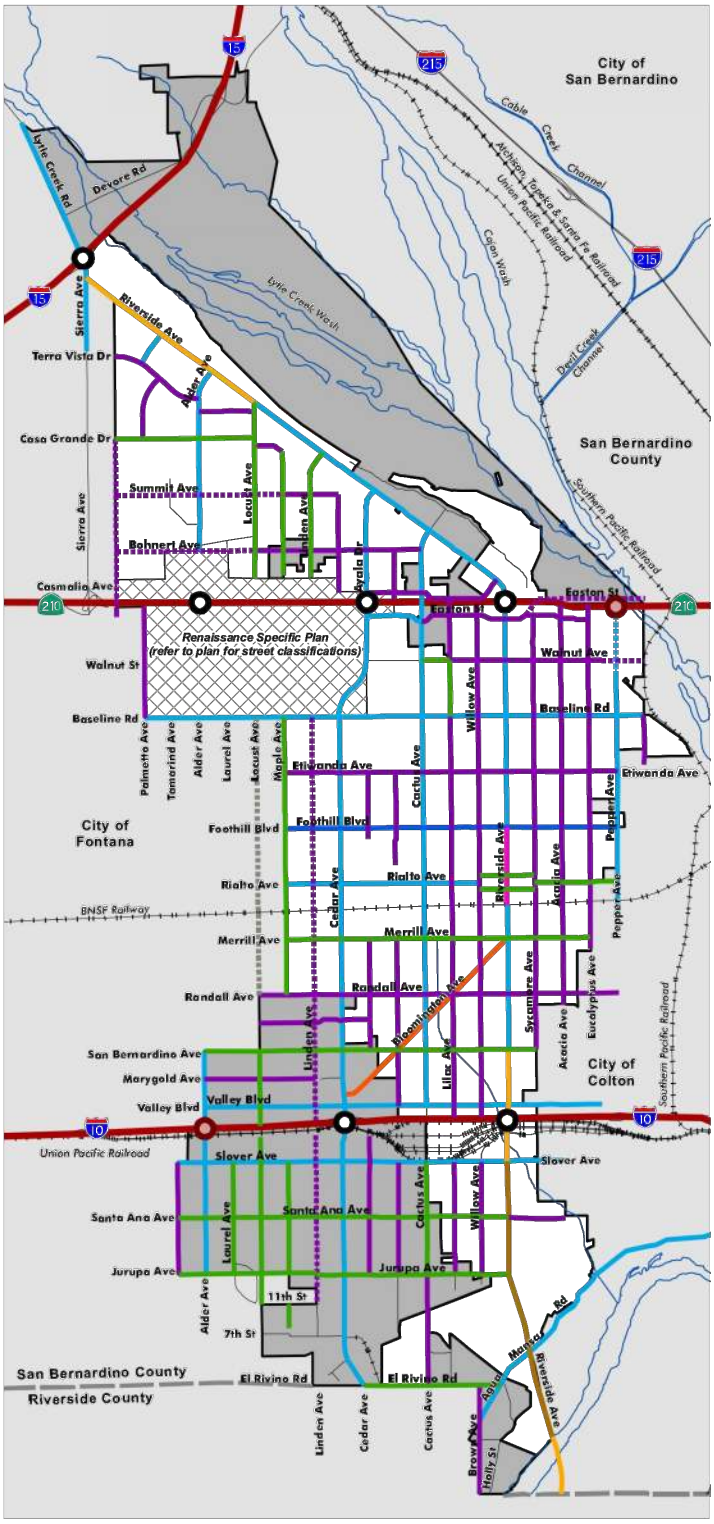
F. Transit Service

Transit service to the project area is provided via the OmniTrans transit lines, which serve various cities in San Bernardino. Bus stops in the project vicinity are located along Riverside Avenue and Valley Boulevard, approximately 1 mile to north and Spruce Avenue approximately 1.5 mile to the west. A description of the bus routes serving the project area is provided below.

OmniTrans Route 22 operates between the City of Rialto and the City of Colton through Rialto along Riverside Avenue in the project vicinity. Route 22 operates on weekdays from 5:00 AM to 9:40 PM with approximately 1-hour headways, on Saturdays from 7:15 AM to 6:30 PM with approximately 1-hour headways, and on Sundays from 7:30 AM to 6:40 PM with approximately 1-hour headways. Route 22 has a transfer point with Route 10 at the intersection of Riverside Avenue and Baseline Road.

OmniTrans Route 329 operates between Bloomington (unincorporated area) and the City of Fontana Valley Boulevard in the project vicinity. Route 329 operates on weekdays from 6:45 AM to 6:40 PM with approximately 1-hour headways and on Saturdays from 7:45 AM to 6:40 PM with approximately 1-hour headways.

NOT TO SCALE



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 5
GENERAL PLAN STREET CLASSIFICATIONS

NOT TO SCALE

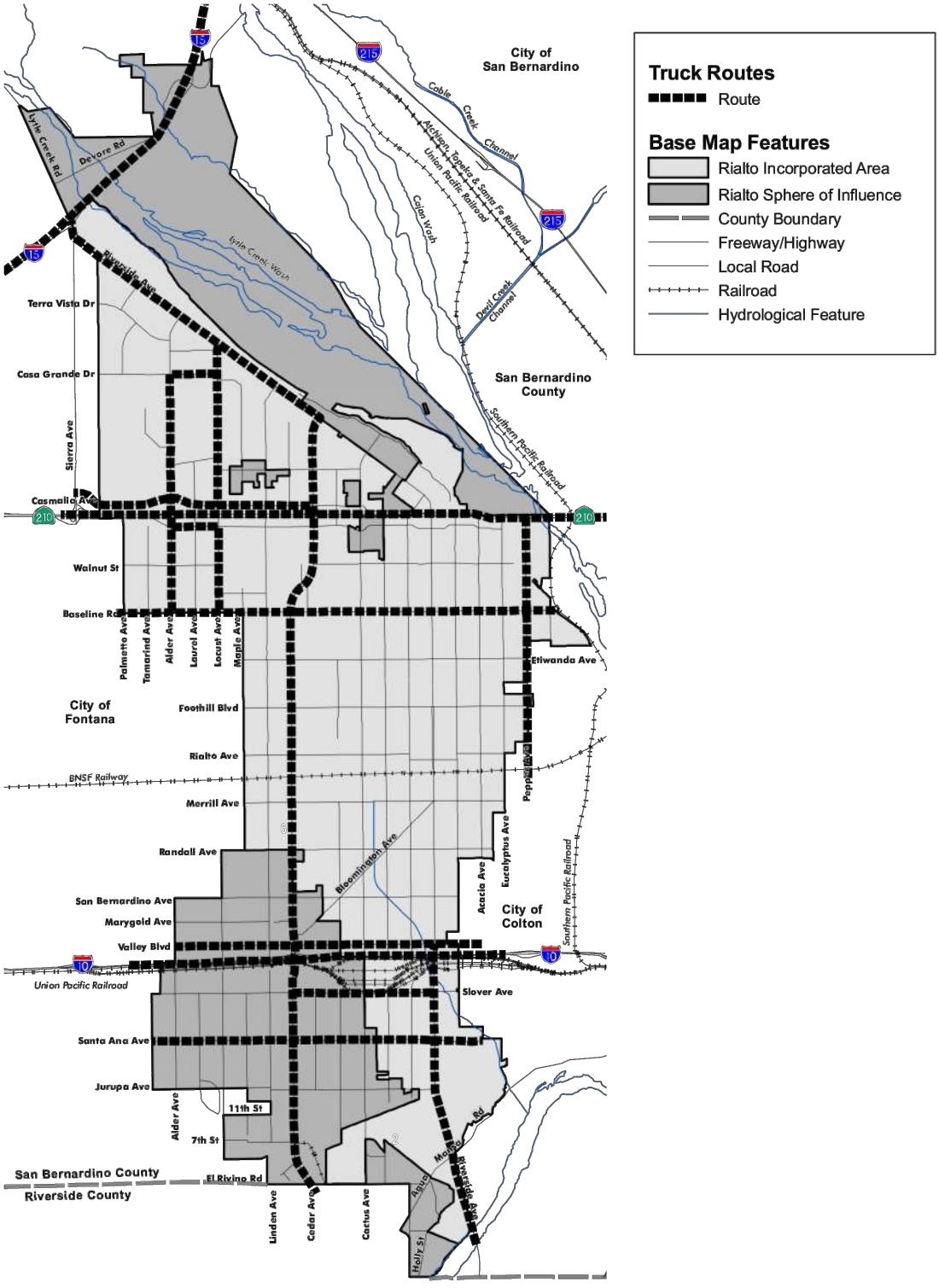


FIGURE 6
GENERAL PLAN TRUCK ROUTES

III. PROJECTED FUTURE TRAFFIC

A. Ambient Growth Rate

An ambient growth rate of 2.0% per year was applied to existing peak hour traffic volumes to develop Opening Year 2024 forecasts. The resulting peak hour Opening Year 2024 traffic volumes are shown on **Figure 7.**

B. Opening Year 2024

Peak Hour Operating Conditions

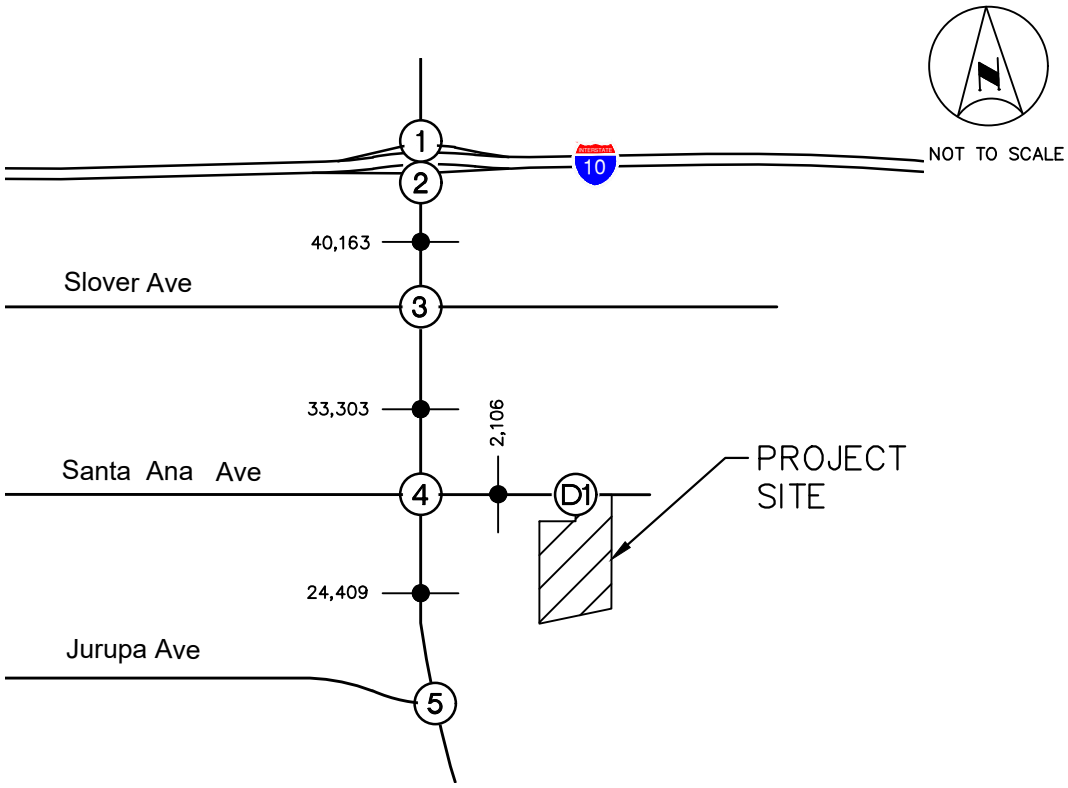
Intersection Level of Service analysis was conducted for Opening Year 2024. The results are shown on **Table 3**. Intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that with the addition of ambient growth, all study intersections would continue to operate at an acceptable Level of Service.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for the Opening Year 2024 scenario and the results are shown on **Table 4**. Review of this table indicates that the following roadway segments would operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
600/435 ← 1143/1294 ↖ 403/581 ← 6/2 ← 589/621 ↖ 342/369 ↑ 989/1696 ↑	1305/1443 ← 430/497 ↖ 361/640 → 9/0 → 507/478 ↘ 969/1425 ↑ 434/670 ↑	447/310 ← 1339/1579 ← 52/28 ↖ 35/80 ← 17/33 ← 32/36 ↖ 261/450 → 20/126 → 77/161 ↘ 75/37 ↑ 1056/1505 ↑ 30/22 ↑
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
129/83 ← 1269/1626 ← 81/49 ↖ 74/68 ← 40/19 ← 40/42 ↖ 94/116 → 30/15 → 65/101 ↘ 73/93 ↑ 1014/1347 ↑ 59/18 ↑	54/49 ← 1184/1697 ↖ 41/33 → 115/168 ↘ 107/108 ↑ 1036/1306 ↑	FUTURE INTERSECTION

Note: Volumes reflect PCE adjustments.

LEGEND:
- ⓧ = Study Intersection
- —●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 7
OPENING YEAR 2024 TRAFFIC VOLUMES

TABLE 3
SUMMARY OF INTERSECTION OPERATIONS
OPENING YEAR 2024

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	20.4	C	20.3	C
2	Riverside Avenue at I-10 EB Ramps	S	20.6	C	28.2	C
3	Riverside Avenue at Slover Avenue	S	21.3	C	46.8	D
4	Riverside Avenue at Santa Ana Avenue	S	14.8	B	15.9	B
5	Riverside Avenue at Jurupa Avenue	S	8.5	A	11.7	B

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- S = Signalized

TABLE 4
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024

Roadway	Segment	LOS D Capacity	Existing ADT	Existing ADT w/ PCE	Existing Plus Growth ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	33,990	39,375	40,163	**No**
	Slover Avenue to Santa Ana Avenue	32,999	27,760	32,650	33,303	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	23,930	23,930	24,409	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	1,430	2,065	2,106	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic
PCE = Passenger Car Equivalent

C. Project Traffic

1. Project Trip Generation

Trip generation surveys were conducted at an existing 82,095 square-foot Central Transport site located at 2765 Riverside Avenue in the City of Rialto. Vehicle trips entering and exiting the site via the driveways on Riverside Avenue and Industrial Drive were conducted from 6:00 AM to 8:00 PM during two typical weekdays.

Passenger Car Trips

Passenger car trip generation estimates for the proposed project were based on a ratio of the parking stalls provided at the existing Central Transport site, compared to the proposed project. The existing Central Transport site has 83 parking stalls. The proposed project would have 154 parking stalls. When the trips for the existing Central Transport are factored to account for the difference in number of parking stalls, the trips forecasted to be generated by the proposed project would be 377 passenger car trips on a daily basis, 15 passenger car trips (9 inbound and 6 outbound) in the morning peak hour, and 62 passenger car trips (29 inbound and 33 outbound) in the evening peak hour.

Truck Trips

Truck trip generation estimates for the proposed project were based on a ratio of the truck docks provided at the existing Central Transport site, compared to the proposed project.

It should be noted that the current truck operations of the existing site (including at time of data collection) exceed the current building size. As such, the existing site utilizes off-site trailer drop lots that provide a staging buffer until a dock position is available at the existing site. The additional truck trips created from moving truck trailers to/from the off-site drop lot from/to the existing site overestimates the number of truck trips at a typical site. As a result, the truck trip rates have been reduced by 40% to account for this overestimation of truck trips at the existing site.

The existing Central Transport site has 102 truck docks. The proposed project would have 280 truck docks. When the trips for the existing Central Transport are factored to account for the difference in the number of truck docks, the trips forecasted to be generated by the proposed project would be 1,545 truck trips on a daily basis, 111 trips (43 inbound and 68 outbound) in the morning peak hour, and 166 trips (107 inbound and 59 outbound) in the evening peak hour.

Total Project Trips

Passenger car equivalent (PCE) factors were then applied to the truck types, based on number of axles (1.5 for 2-axle trucks, 2.0 PCE for 3-axle trucks, and 3.0 for 4+ axle trucks) to determine the total PCE volumes generated by the project. After applying PCE factors to the estimated truck trips, the project is estimated to generate 1,922 daily PCE trips, with 126 PCE trips in the morning peak hour, and 228 PCE trips in the evening peak hour.

Trip generation rates and the resulting trip generation estimated for the proposed project are summarized on **Table 5**.

2. Trip Distribution and Assignment

Trip distribution assumptions for the project were developed by considering the proposed site uses, and the routes to and from the freeway system for the truck terminal. Separate distribution patterns were assumed for passenger car trips and truck trips and are shown on **Figure 8**. Trip distribution percentages 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 9**. Project-related trips were then added to Opening Year 2024 traffic volumes to develop forecasts for the Opening Year 2024 Plus Project scenario. The resulting peak hour traffic volumes are shown on **Figure 10**.

TABLE 5
SUMMARY OF PROJECT TRIP GENERATION
249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT

TRIP GENERATION RATES [1]

Existing Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Truck Terminal - Passenger Vehicles	83	Parking Stalls	2.446	0.060	0.042	0.102	0.187	0.217	0.404
Truck Terminal - Trucks [3]	102	Truck Docks	2.050	0.059	0.088	0.147	0.144	0.079	0.224

PROJECT TRIP GENERATION

Project Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Passenger Vehicle Trips	154	Parking Stalls	377	9	6	15	29	33	62
Proposed Truck Trips	280	Truck Docks	574	16	25	41	40	22	62
Total Project Trips (Non-PCE)	--	--	**951**	**25**	**31**	**56**	**69**	**55**	**124**

PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	100.0%	377	1.0	377	9	6	15	29	33	62
2-Axle Trucks	2.0%	11	1.5	17	0	1	1	1	1	2
3-Axle Trucks	28.0%	161	2.0	322	9	14	23	22	12	34
4+ Axle Trucks	70.0%	402	3.0	1,206	34	53	87	84	46	130
Total Truck PCE Trips				1,545	43	68	111	107	59	166
Total Project PCE Trips				**1,922**	**52**	**74**	**126**	**136**	**92**	**228**

[1] Based on trip generation data at a comparable Truck Terminal site in the City of Rialto. Data collection worksheets are provided as Appendix A to the Scoping Agreement.

[2] Source: City of Rialto Traffic Impact Analysis Guidelines for VMT and LOS Assessment, October, 2021

[3] The current truck operations of the existing site (including at time of data collection) exceeds the current building size. As such, the existing site uses off-site trailer drop lots that provide a staging buffer until a dock position is available at the existing site. The additional truck trips created from moving truck trailers to/from the off-site drop lot from/to the existing site overestimates the number of truck trips at a typical site. As a result, the truck trip rates have been reduced by 40% to account for this overestimation of truck trips at the existing site.

PCE = Passenger Car Equivalent

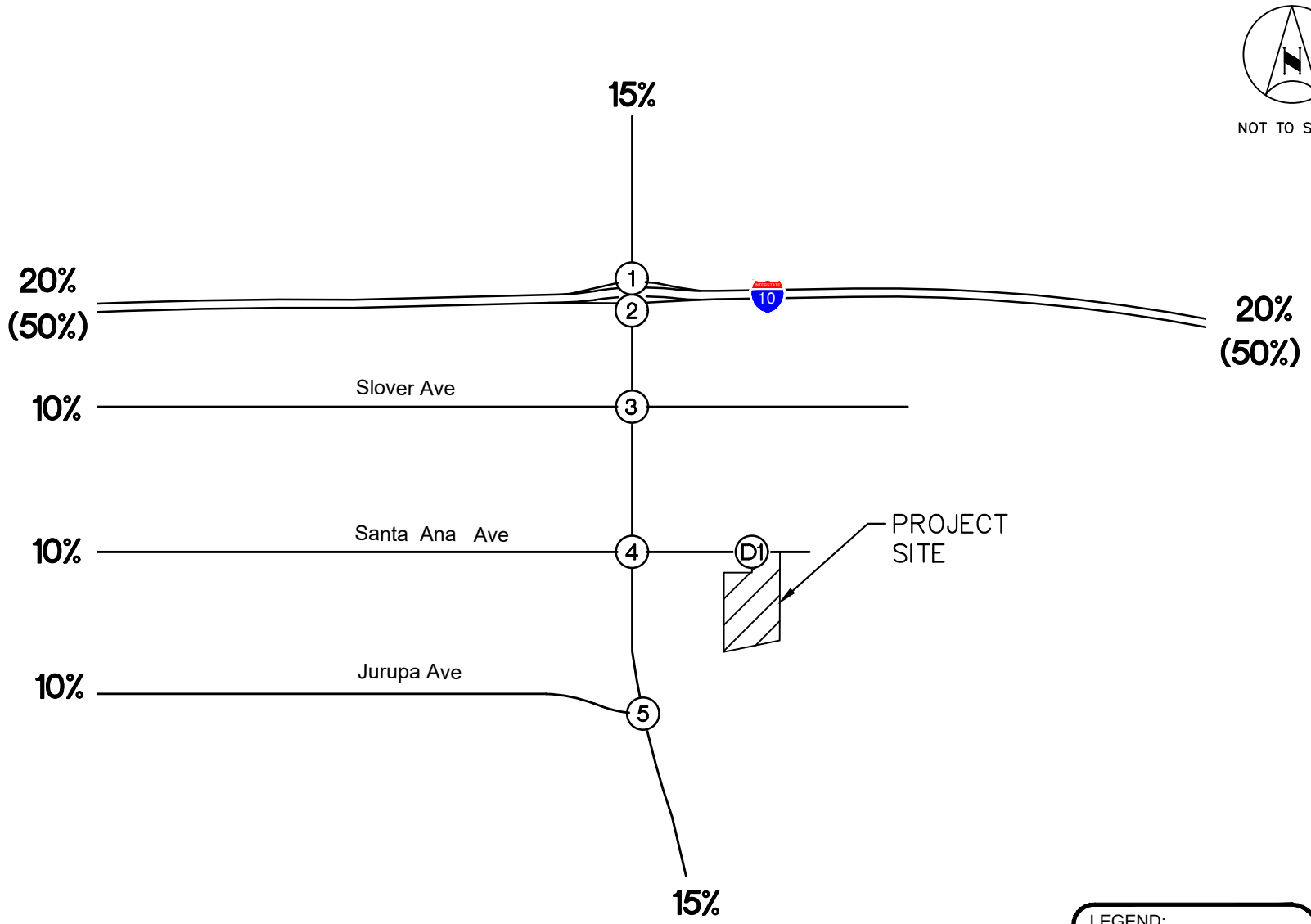
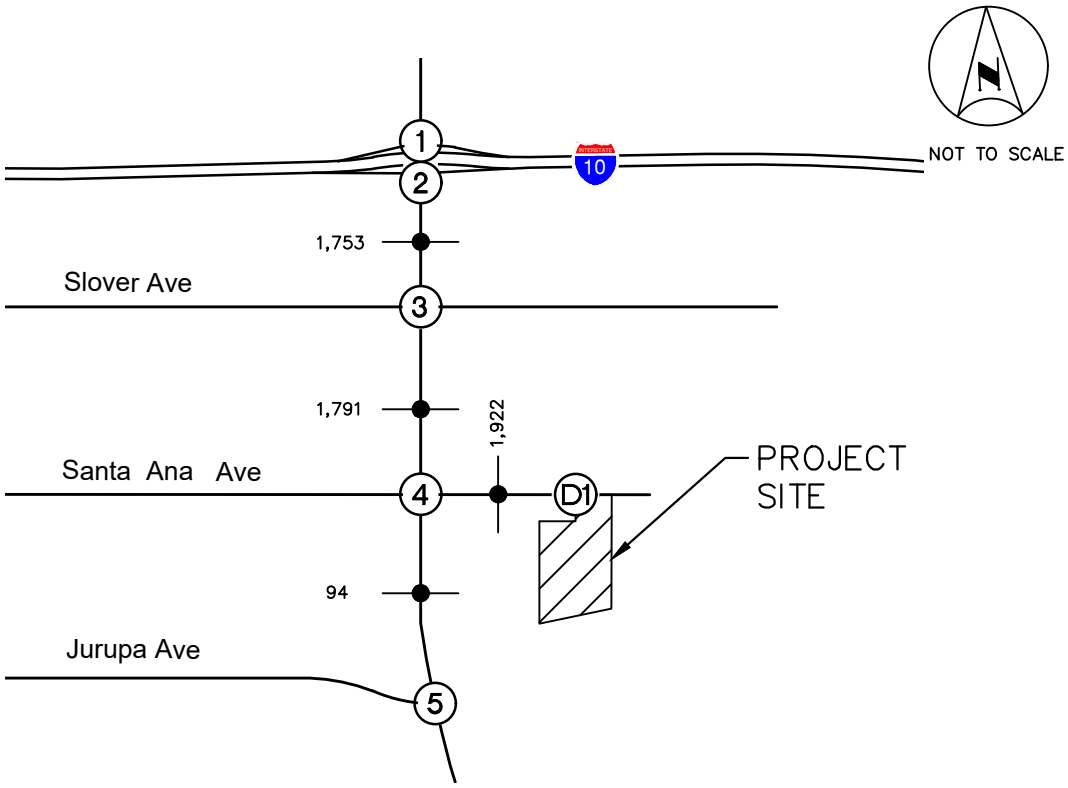


FIGURE 8
PROJECT TRIP DISTRIBUTION

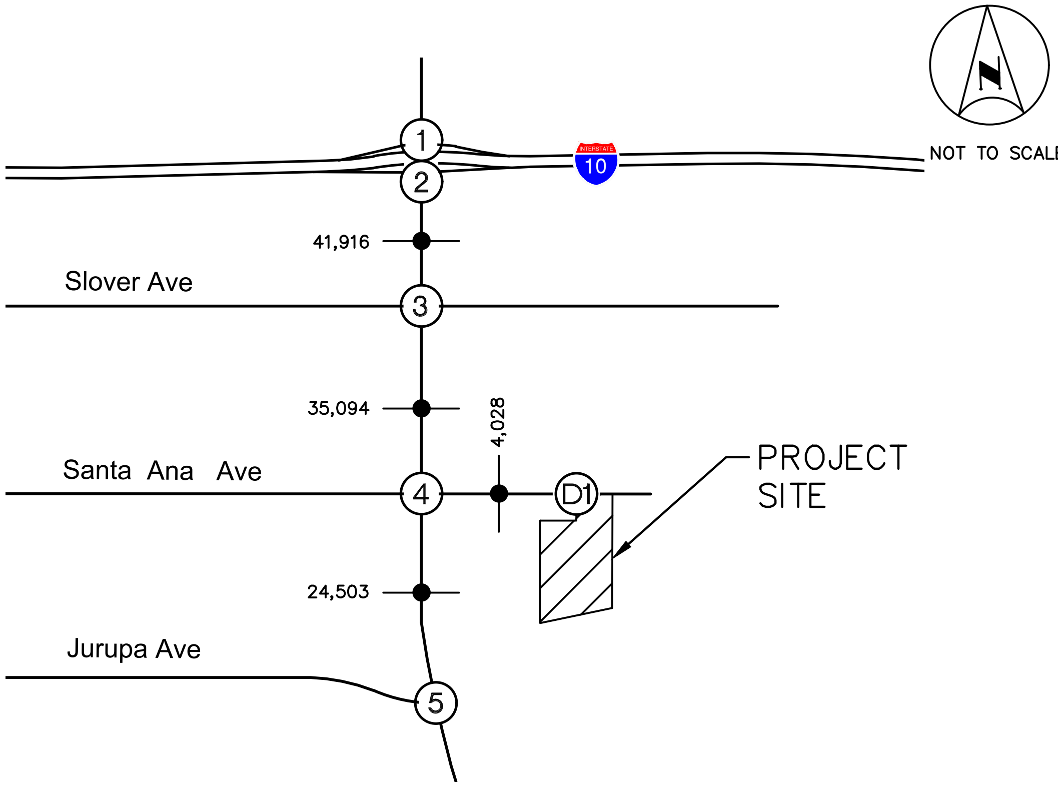


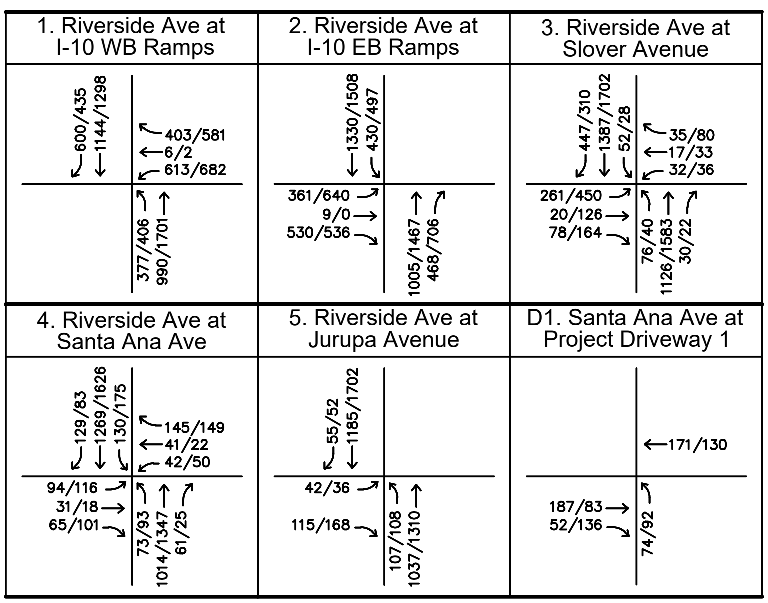
1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
←1/4 ↖24/61 ↗35/37 ↑1/5	←25/65 23/58↘ ↑36/42 ↑34/36	←48/123 1/3↘ ↗1/3 ↑70/78
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
↙49/126 ↖71/81 ←1/3 ←2/8 1/3→ ↗2/7	↙1/3 ←1/5 1/3↗ ↑1/4	52/136↘ ↗74/92

Note: Volumes reflect PCE adjustments.

LEGEND:
- (X) = Study Intersection
- —●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 9
PROJECT-RELATED TRAFFIC VOLUMES





Note: Volumes reflect PCE adjustments.

LEGEND:

- (X) = Study Intersection
- = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 10
OPENING YEAR 2024 PLUS PROJECT
TRAFFIC VOLUMES

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D. Opening Year 2024 Plus Project

Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for the Opening Year 2024 Plus Project conditions. The results of the intersection analysis are shown on **Table 6**. Intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that with the addition of project traffic, all study intersections would continue to operate at an acceptable Level of Service.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for the Opening Year 2024 Plus Project scenario and the results are shown on **Table 7**. Review of this table indicates that the following roadway segments would continue to operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue

E. Cumulative Conditions (Opening Year 2024 Plus Cumulative Projects)

1. Cumulative Projects

In addition to ambient growth, traffic volumes for cumulative projects (approved and pending projects) were added to the Opening Year 2024 peak hour 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**. Cumulative Project volumes are shown on **Figure 12**.

TABLE 6
SUMMARY OF INTERSECTION OPERATIONS
OPENING YEAR 2024 PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Effect	Effect Sig?	Without Project		With Project		Project Effect	Effect Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Riverside Avenue at I-10 WB Ramps	S	20.4	C	21.2	C	0.8	No	20.3	C	21.3	C	1.0	No
2	Riverside Avenue at I-10 EB Ramps	S	20.6	C	21.1	C	0.5	No	28.2	C	31.2	C	3.0	No
3	Riverside Avenue at Slover Avenue	S	21.3	C	22.1	C	0.8	No	46.8	D	53.1	D	6.3	No
4	Riverside Avenue at Santa Ana Avenue	S	14.8	B	16.4	B	1.6	No	15.9	B	25.2	C	9.3	No
5	Riverside Avenue at Jurupa Avenue	S	8.5	A	8.5	A	0.0	No	11.7	B	11.7	B	0.0	No
D1	Santa Ana Avenue at Project Driveway	U	-	-	11.8	B	-	-	-	-	11.0	B	-	-

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- 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 worst movement.
- S = Signalized
- U = Unsignalized

TABLE 7
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024 PLUS PROJECT

Roadway	Segment	LOS D Capacity	Existing ADT	Existing ADT w/ PCE	Existing Plus Growth ADT	Daily Project Traffic	Existing + Growth + Project ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	33,990	39,375	40,163	1,753	41,916	**No**
	Slover Avenue to Santa Ana Avenue	32,999	27,760	32,650	33,303	1,791	35,094	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	23,930	23,930	24,409	94	24,503	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	1,430	2,065	2,106	1,922	4,028	Yes

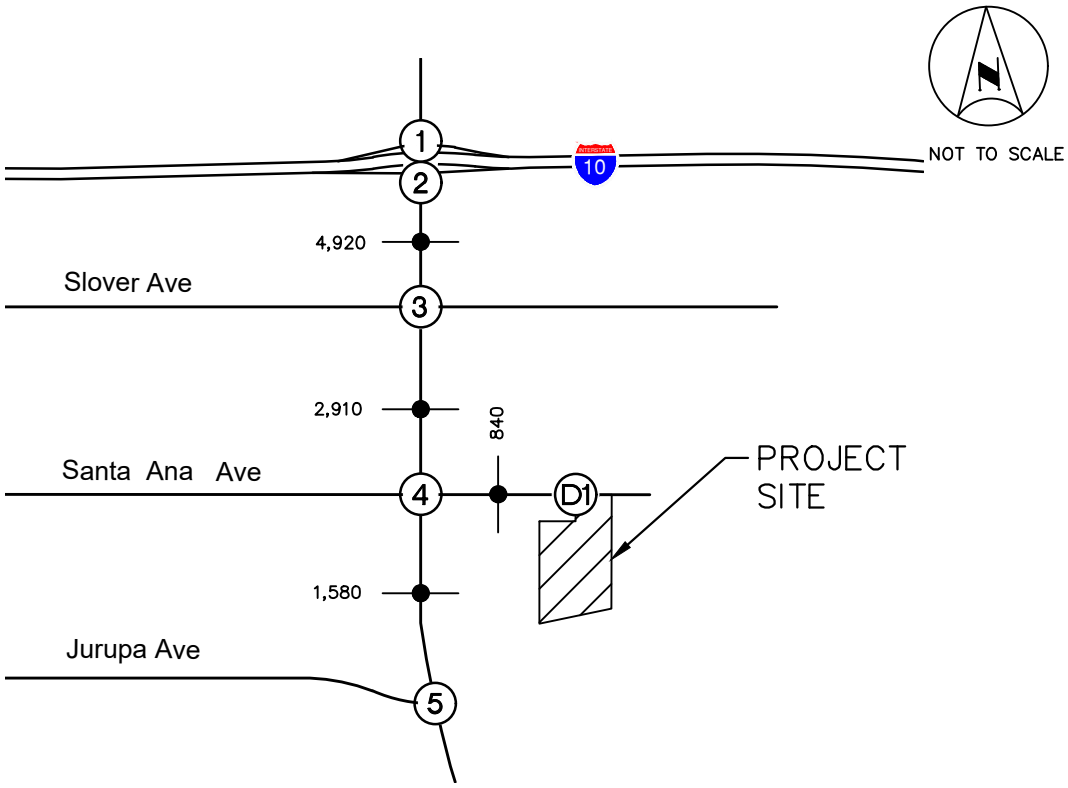
Notes: LOS = Level of Service
ADT = Average Daily Traffic
PCE = Passenger Car Equivalent

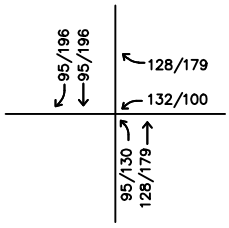
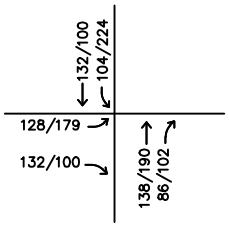
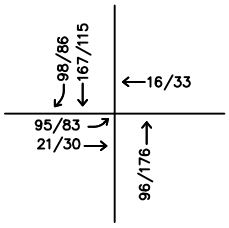
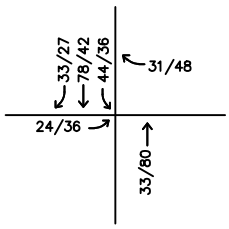
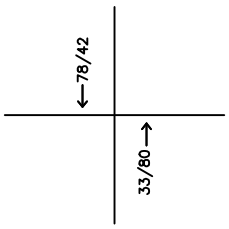
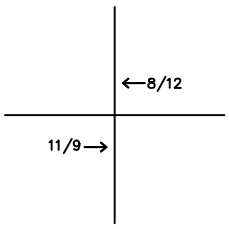
TABLE 8
SUMMARY OF CUMULATIVE PROJECTS

Project #	Location	Land Use	Quantity	Unit	Trip Generation Estimates [1]						
					Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
City of Rialto											
1	Rialto Village	Free Standing Discount Superstore	198.000	KSF	10,003	206	162	368	420	437	857
		Tire Store	9.861	KSF	273	16	9	25	16	21	37
		Shopping Center (>150k)	25.436	KSF	941	13	8	21	42	45	87
		Fast-Food Restaurant w/ Drive-thru	5.484	KSF	2,564	125	120	245	94	87	181
2	South of Santa Ana Ave, East of Riverside Ave	Warehousing	370.000	KSF	633	48	14	62	19	48	67
3	NWC of Riverside Ave and Santa Ana Ave	Warehousing	527.900	KSF	903	69	21	90	26	69	95
4	SEC of Riverside Ave and Santa Ana Ave	Convenience Store/Gasoline Station	16	FP	4,242	128	128	256	147	147	294
5	Lilac Avenue Warehouse	Warehousing	47.460	KSF	81	6	2	8	2	6	8
6	SC Fuels (19839 Santa Ana Ave)	Warehousing	48.302	KSF	83	6	2	8	2	6	8
7	Flyers Energy Addition	Warehousing	9.350	KSF	16	1	0	1	0	1	1
8	Angelus Black - Concrete Block	Manufacturing	178.475	KSF	848	92	29	121	41	91	132
9	Rialto Industrial Building	Warehousing [2]	82.000	KSF	235	18	6	24	6	18	24
10	Birtcher Logistics Center	Warehousing	492.410	KSF	842	65	19	84	25	64	89
11	2720 Willow Avenue Warehouse	Warehousing [3]	118.450	KSF	347	27	8	35	10	27	37
County of San Bernardino											
12	Cedar / Slover Retail	Convenience Store/Gasoline Station	12	FP	3,181	96	96	192	111	111	222
		Self-Service Car Wash	1	Wash Stall	108	0	0	0	3	3	6
		Fast-Food Restaurant w/ Drive-thru	9.907	KSF	4,631	225	217	442	170	157	327
13	Cactus and Slover Warehouse	Warehousing	257.855	KSF	441	34	10	44	13	34	47
Total Project Trips					**30,372**	**1,175**	**851**	**2,026**	**1,147**	**1,372**	**2,519**

KSF = Thousand Square Feet, DU = Dwelling Units, FP = Fueling Positions
ADT = Average Daily Traffic
Source:
[1] ITE Trip Generation Manual (11th Edition)
[2] Rialto Industrial Building Focused Traffic Study (Kimley-Horn; November 2022)
[3] 2720 Willow Avenue Warehouse Project Focused Traffic Study (Kimley-Horn; January 2023)

FIGURE 11
LOCATION OF CUMULATIVE PROJECTS



1. Riverside Ave at I-10 WB Ramps	2. Riverside Ave at I-10 EB Ramps	3. Riverside Ave at Slover Avenue
		
4. Riverside Ave at Santa Ana Ave	**5. Riverside Ave at Jurupa Avenue**	**D1. Santa Ana Ave at Project Driveway 1**
		

LEGEND:

Ⓧ = Study Intersection

= Roadway Segement + ADT Volumes

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

FIGURE 12
CUMULATIVE PROJECTS
TRAFFIC VOLUMES

2. 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. Project information and trip generation assumptions for Cumulative Projects are provided in ***Appendix E***.

3. 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. Trip distribution assumptions for Cumulative Projects are provided in ***Appendix E***.

4. Opening Year 2024 Cumulative without Project Conditions

Peak Hour Operating Conditions

Daily and peak hour traffic volumes for Opening Year 2024 Cumulative without Project Conditions are shown on **Figure 13**. Intersection Level of Service results are shown on **Table 9.** Review of this table indicates that, with the addition of Cumulative Projects traffic, the following intersections would operate at an unacceptable Level of Service:

- #2 – Riverside Avenue at I-10 EB Ramps: PM – LOS E
- #3 – Riverside Avenue at Slover Avenue: PM – LOS F

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

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted for Opening Year 2024 Cumulative without Project conditions and the results are shown on **Table 10.** Review of this table indicates that the following study roadway segments would continue to operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue

5. Opening Year 2024 Cumulative Plus Project Conditions

Peak Hour Operating Conditions

Project traffic was added to Opening Year 2024 Cumulative traffic volumes to develop Opening Year 2024 Cumulative Plus Project traffic forecast volumes. The resulting daily and peak hour traffic volumes are shown on **Figure 14**.

Intersection Level of Service analysis results are shown on **Table 11**. As this table indicates, with the addition of project traffic, the following intersections would continue to operate at an unacceptable Level of Service:

- #2 – Riverside Avenue at I-10 EB Ramps: PM – LOS E
- #3 – Riverside Avenue at Slover Avenue: PM – LOS F

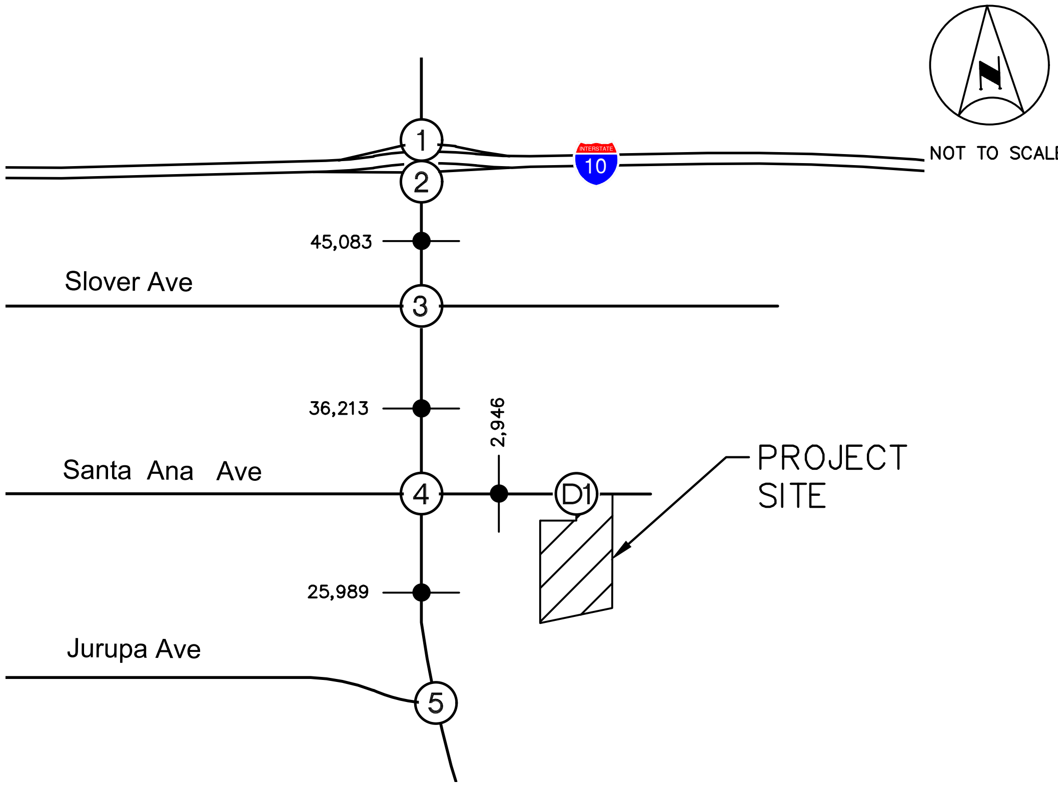
These intersections were also forecasted to operate at an unacceptable Level of Service under Opening Year 2024 Cumulative Without Project conditions. Based on the significance thresholds presented earlier in this report, the project effect would be considered to be cumulatively significant at these intersections. Recommended measures to improve the project-related effects are presented in the Recommended Improvements section of this report. Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

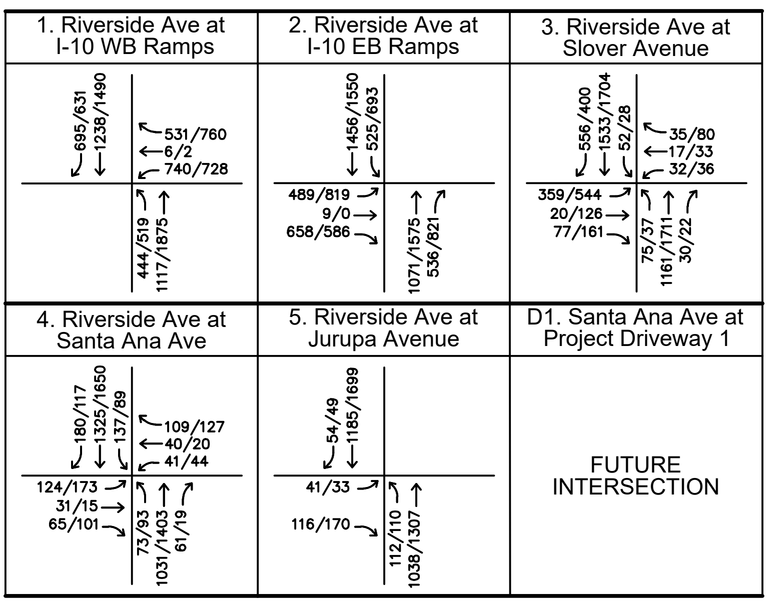
In this Plus Project analysis, the site driveway was also analyzed. The results indicate that the driveway will operate at Level of Service D or better during both peak hours.

Daily Roadway Operating Conditions

Roadway Level of Service analysis results for Opening Year 2024 Cumulative Plus Project conditions are shown on **Table 12.** Review of this table indicates that the following study roadway segments would continue to operate at an unacceptable LOS:

- Riverside Avenue: I-10 EB Ramps to Slover Avenue
- Riverside Avenue: Slover Avenue to Santa Ana Avenue





Note: Volumes reflect PCE adjustments.

LEGEND:
(X) = Study Intersection
● = Roadway Segement + ADT Volumes
XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 13
OPENING YEAR 2024 CUMULATIVE WITHOUT PROJECT TRAFFIC VOLUMES

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TABLE 9
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2024 CUMULATIVE WITHOUT PROJECT

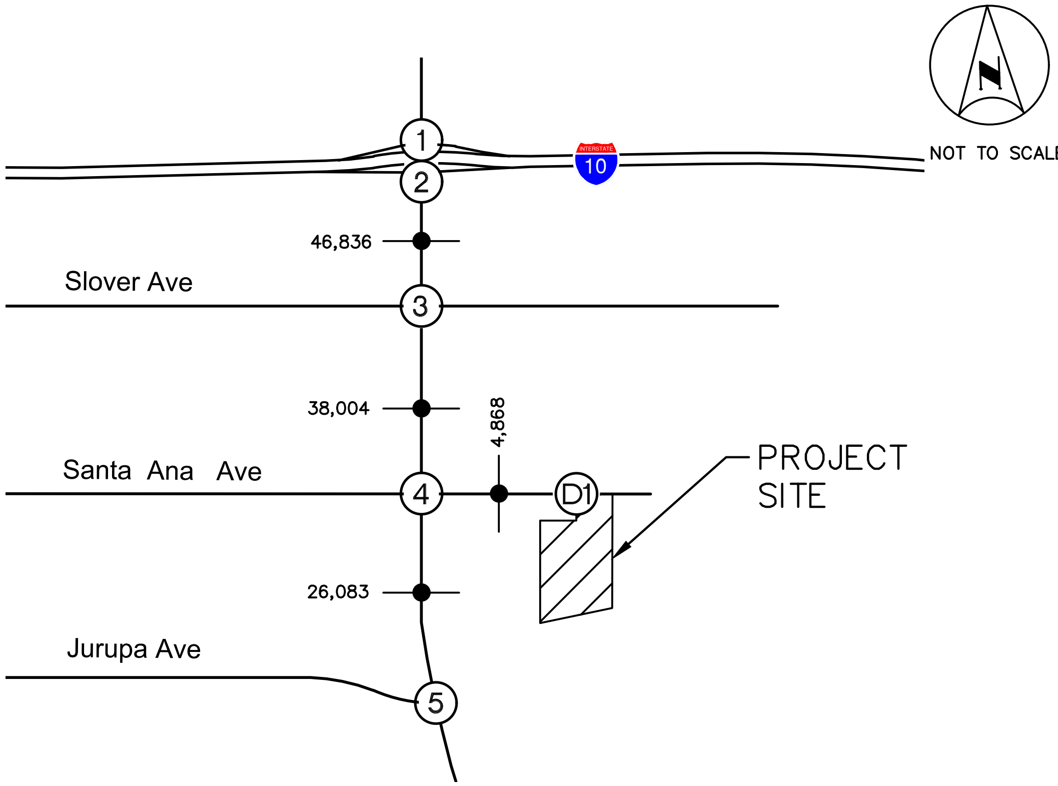
Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Riverside Avenue at I-10 WB Ramps	S	27.9	C	30.5	C
2	Riverside Avenue at I-10 EB Ramps	S	27.1	C	61.8	**E**
3	Riverside Avenue at Slover Avenue	S	45.2	D	94.8	**F**
4	Riverside Avenue at Santa Ana Avenue	S	16.9	B	18.8	B
5	Riverside Avenue at Jurupa Avenue	S	8.7	A	11.9	B

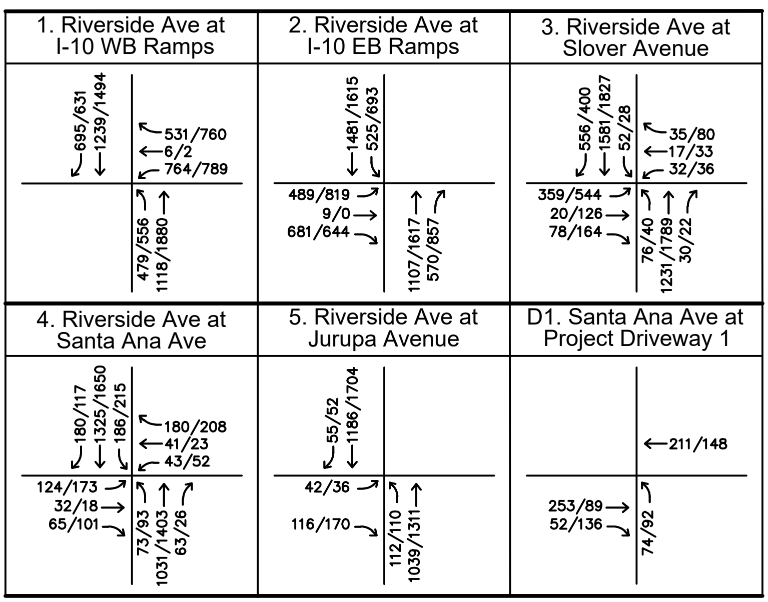
Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
- S = Signalized

TABLE 10
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024 CUMULATIVE WITHOUT PROJECT

Roadway	Segment	LOS D Capacity	Existing Plus Growth ADT	Cumulative Projects ADT	Opening Year + Cum. Projects ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	40,163	4,920	45,083	**No**
	Slover Avenue to Santa Ana Avenue	32,999	33,303	2,910	36,213	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	24,409	1,580	25,989	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	2,106	840	2,946	Yes

Notes: LOS = Level of Service
ADT = Average





Note: Volumes reflect PCE adjustments.

LEGEND:

- (X) = Study Intersection
- ●— = Roadway Segement + ADT Volumes
- XX/YY = AM/PM Peak Hour Turning Movement Volumes

FIGURE 14
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES

Kimley»Horn

TABLE 11
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project Effect	Effect Sig?	Without Project		With Project		Project Effect	Effect Sig?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Riverside Avenue at I-10 WB Ramps	S	27.9	C	29.2	C	1.3	No	30.5	C	33.9	C	3.4	No
2	Riverside Avenue at I-10 EB Ramps	S	27.1	C	28.3	C	1.2	No	61.8	**E**	70.1	**E**	8.3	**Yes**
3	Riverside Avenue at Slover Avenue	S	45.2	D	48.7	D	3.5	No	94.8	**F**	113.0	**F**	18.2	**Yes**
4	Riverside Avenue at Santa Ana Avenue	S	16.9	B	18.6	B	1.7	No	18.8	B	22.7	C	3.9	No
5	Riverside Avenue at Jurupa Avenue	S	8.7	A	8.7	A	0.0	No	11.9	B	12.0	B	0.1	No
D1	Santa Ana Avenue at Project Driveway	U	-	-	13.1	B	-	-	-	-	11.2	B	-	-

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- 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 worst movement.
- S = Signalized
- U = Unsignalized

TABLE 12
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT

Roadway	Segment	LOS D Capacity	Opening Year + Cum. Projects ADT	Daily Project Traffic	Opening Year + Cum. Project + Project ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	32,999	45,083	1,753	46,836	**No**
	Slover Avenue to Santa Ana Avenue	32,999	36,213	1,791	38,004	**No**
	Santa Ana Avenue to Jurupa Avenue	32,999	25,989	94	26,083	Yes
Santa Ana Avenue	East of Riverside Avenue	21,999	2,946	1,922	4,868	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic

IV. RECOMMENDED IMPROVEMENTS

A. Intersection Improvements

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

- #2 – Riverside Avenue at I-10 Eastbound Ramps (Cumulative Effect)
- #3 – Riverside Avenue at Slover Avenue (Cumulative Effect)

Implementation of the following improvements would mitigate the project-related effect 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.

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

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 E operations.

Riverside Avenue is currently a four-lane divided 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 Plan is 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 Direct Impact Fees (DIF) 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 the I-10 EB Ramps to Jurupa Avenue would operate within its daily roadway capacity. The estimated DIF 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 Effects – Other Improvements

Not applicable.

TABLE 13
SUMMARY OF INTERSECTION OPERATIONS WITH RECOMMENDED IMPROVEMENTS
OPENING YEAR 2024 CUMULATIVE PLUS PROJECT

Int. #	Intersection	AM Peak Hour				PM Peak Hour			
		Without Improvements		With Improvements		Without Improvements		With Improvements	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2	Riverside Avenue at I-10 EB Ramps								
	Add a NB Right-Turn Lane	28.3	C	27.0	C	70.1	**E**	60.5	**E**
3	Riverside Avenue at Slover Avenue								
	Add a 3rd NB and SB Through Lane	48.7	D	23.4	C	113.0	**F**	48.3	D

Notes:
- **Bold** and shaded values indicate intersections operating at an unacceptable Level of Service.
- At a signalized intersection, delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

TABLE 14
SUMMARY OF ROADWAY ANALYSIS
WITH RECOMMENDED IMPROVEMENTS

Roadway	Segment	LOS D Capacity	Opening Year + Cum. Projects ADT	Daily Project Traffic	Opening Year + Cum. Project + Project ADT	LOS D or Better?
Riverside Avenue	I-10 EB Ramps to Slover Avenue	49,499	45,083	1,753	46,836	Yes
	Slover Avenue to Santa Ana Avenue	49,499	36,213	1,791	38,004	Yes

Notes: LOS = Level of Service
ADT = Average Daily Traffic

TABLE 15

TRAFFIC IMPACT IMPROVEMENT COSTS

Roadway Improvements			
Riverside Avenue Improvement Project (Included in the proposed DIF fee)	**Proposed DIF Fee per Daily Trip[1]**	**Project Daily Trips**	**Total**
Riverside Avenue Improvement Cost	$ 375.50	1,922	$ 721,711
Total Project Cost			**$ 721,711**

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

VII. FINDINGS AND RECOMMENDATIONS

A. Improvements

Off-site improvements were identified to mitigate the project-related effects at the following deficient intersections:

- #2 – Riverside Avenue at I-10 Eastbound Ramps (Cumulative Effect)
- #3 – Riverside Avenue at Slover Avenue (Cumulative Effect)

The improvements are part of an already in construction project, widening Riverside Avenue to have an additional through lane in both the north and south directions. With the addition of the recommended improvements, all deficient intersections and roadway segments would operate at an acceptable LOS.

B. Traffic Signal Warrant Analysis

Not Applicable.

C. Site Circulation

Vehicular access provisions for the project site would consist of one unsignalized driveway on Santa Ana Avenue. The driveway would provide full access to the project for both passenger vehicles and trucks.

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 for the Riverside Avenue Widening Project are shown on Table 15 (presented previously).

F. Specific Plan Signalization

Not Applicable.

G. General Plan Conformance

The proposed Rialto Industrial Building project is in conformance with the Agua Mansa Specific Plan and the City of Rialto General Plan. The proposed use is permitted under the Heavy Industrial designations. 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 to 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, dated December 2013 and approved by the Transportation Commission on February 5, 2014.

City of Rialto

Traffic Impact Analysis

Scoping Agreement

Case No. TBD

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: Crown Enterprises – Santa Ana Avenue Truck Terminal
Site Plan and Project Description attached – ***Attachment 1***

Project Address: 249 E Santa Ana Avenue

Project Description: 172,415 SF Truck Terminal plus 18,700 SF Shop Building: Total 191,115 SF
Located in Sub-Area 8 of the Agua Mansa Specific Plan.

	Consultant	Developer
Name:	Kimley-Horn and Associates, Inc.	Crown Enterprises, Inc.
Address:	3880 Lemon St #420	12225 Stephens Road
	Riverside, CA 92501	Warren, Michigan 48089
Telephone:	(951) 543-9868	(586) 939-7000
Fax:	NA	NA

1. Trip Generation Source: Based on Trip Generation survey at similar site (in Rialto)

Existing GP Land Use General Industrial (Holliday Rock)

Proposed Land Use Intermodal Truck Terminal

Current Zoning: Heavy Industrial Proposed Zoning: No change

Total Daily Project Trips: 1,856 (with PCE) – see ***Attachment 2*** – Trip Generation Table

	Existing Trip Generation			Proposed Trip Generation (with PCE)		
	In	Out	Total	In	Out	Total
AM Trips				53	75	128
PM Trips				132	84	216

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

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

Trip Credit for Existing Site Trips Yes No X

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 15 % S 15 % E 20 % W 50 %

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

See ***Attachment 3*** - (Truck and Passenger Car Distribution)

3. Background Growth Traffic

Project Completion Year: 2024 Annual Background Growth Rate: 2 %

Other Phase Years N/A

Other area projects to be considered: We will start with the Cumulative Projects list from our most recent TIA (Riverside Avenue Storage Lot – See *Attachment 4*), and will update and add other recent projects based on info to be provided by Planning.

(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: Existing plus Growth plus Cum Proj plus Project to Opening Year

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

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 Jurupa Avenue

We will also study the site entrance on Santa Ana Avenue.

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

1. Riverside Avenue – North of Slover Ave
2. Riverside Avenue – Slover to Santa Ana
3. Riverside Avenue – Santa Ana to Jurupa
4. Santa Ana Avenue – East of Riverside
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, County of San Bernardino

7. Site Plan (please attach 11" x 17" legible copy) – see ***Attachment 1*** – Site Plan

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: New counts will be collected

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 December 21, 2022

Scoping Agreement Resubmittal date _____

Kimley-Horn and Associates, Inc. December 21, 2022
Applicant/Engineer Date

Land Use Concurrence:

_____
Development Services Department Date

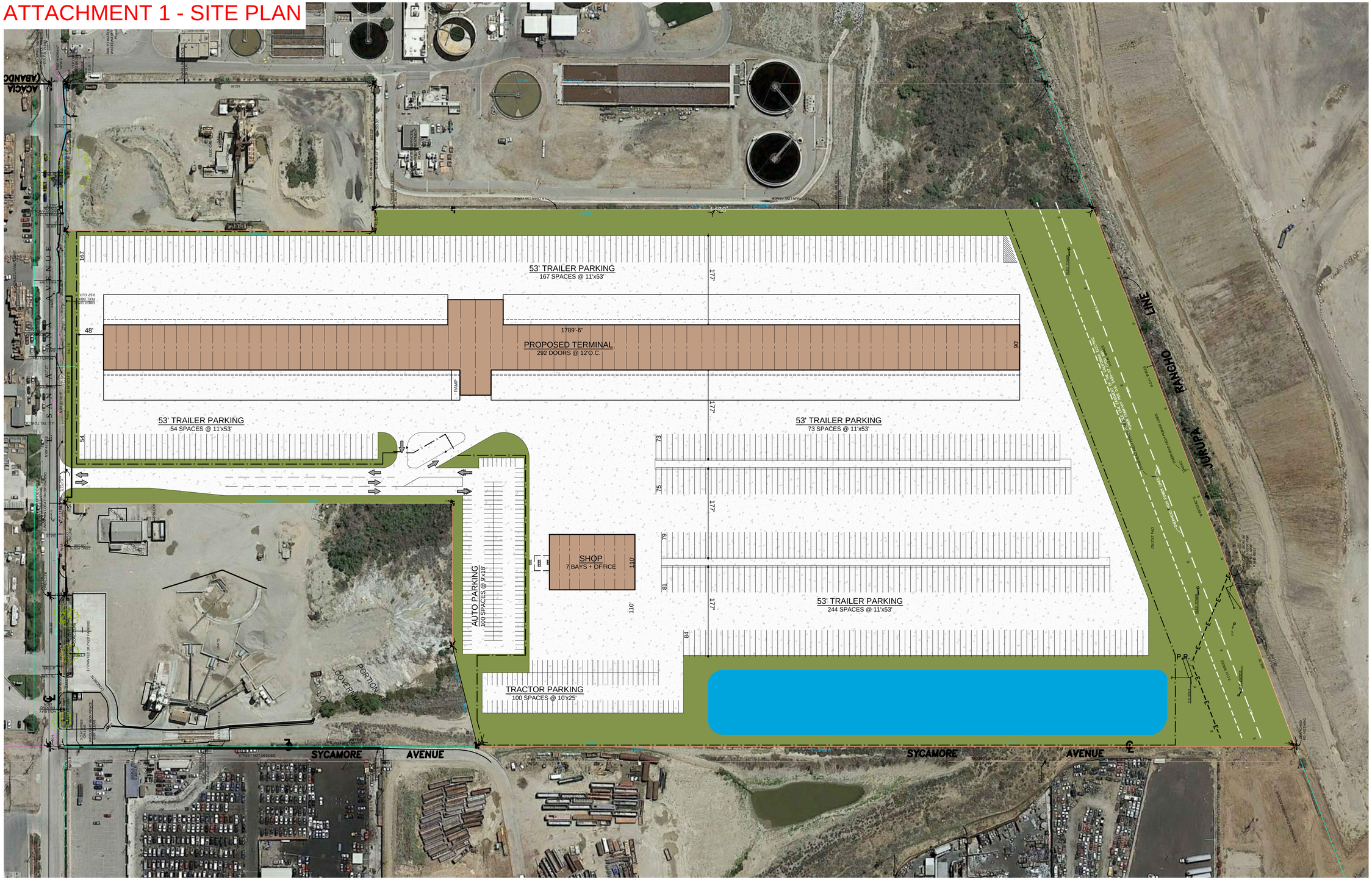
Approved by:

Justin P. Schlafli 2/24/2023
_____
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.

ATTACHMENT 1 - SITE PLAN



ACREAGE: 46

DOCK: (292) DOORS AT 12' OC x 90' WIDE
SHOP: 7 DRIVE-THRU BAYS + OFFICE/PARTS BAY
TRAILER PARKING: (538) 53' SPACES
TRACTOR PARKING: (100) SPACES
EMPLOYEE PARKING: (150) SPACES

CONCEPTUAL SITE PLAN

SCALE: N.T.S.

DATE	ISSUED FOR	REV
05-16-2019	CONCEPT	

KEY PLAN

DRAWN BY: J. -

DATE: 2-17-2021

APPROVAL: D. ONIFER

CROWN ENTERPRISES INC

PROJECT: SANTA ANA AVE

DRAWING TITLE: PROPOSED CT TERMINAL

CHECK SCALE

SCALE

PROJECT NO.: 18-000

DRAWING NO.: C1

ATTACHMENT **2**

SUMMARY OF PROJECT TRIP GENERATION

249 SANTA ANA AVENUE TRUCK TERMINAL PROJECT

TRIP GENERATION RATES [1]

Existing Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Truck Terminal - Passenger Vehicles	83	Parking Stalls	2.446	0.060	0.042	0.102	0.187	0.217	0.404
Truck Terminal - Trucks [3]	102	Truck Docks	2.050	0.059	0.088	0.147	0.144	0.079	0.224

PROJECT TRIP GENERATION

Project Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Passenger Vehicle Trips	100	Parking Stalls	245	6	4	10	19	22	41
Proposed Truck Trips	292	Truck Docks	599	17	26	43	42	23	65
Total Project Trips (Non-PCE)	--	--	844	23	30	53	61	45	106

PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	100.0%	245	1.0	245	6	4	10	19	22	41
2-Axle Trucks	2.0%	12	1.5	18	1	1	2	1	1	2
3-Axle Trucks	28.0%	168	2.0	336	10	15	25	24	13	37
4+ Axle Trucks	70.0%	419	3.0	1,257	36	55	91	88	48	136
Total Truck PCE Trips				1,611	47	71	118	113	62	175
Total Project PCE Trips				1,856	53	75	128	132	84	216

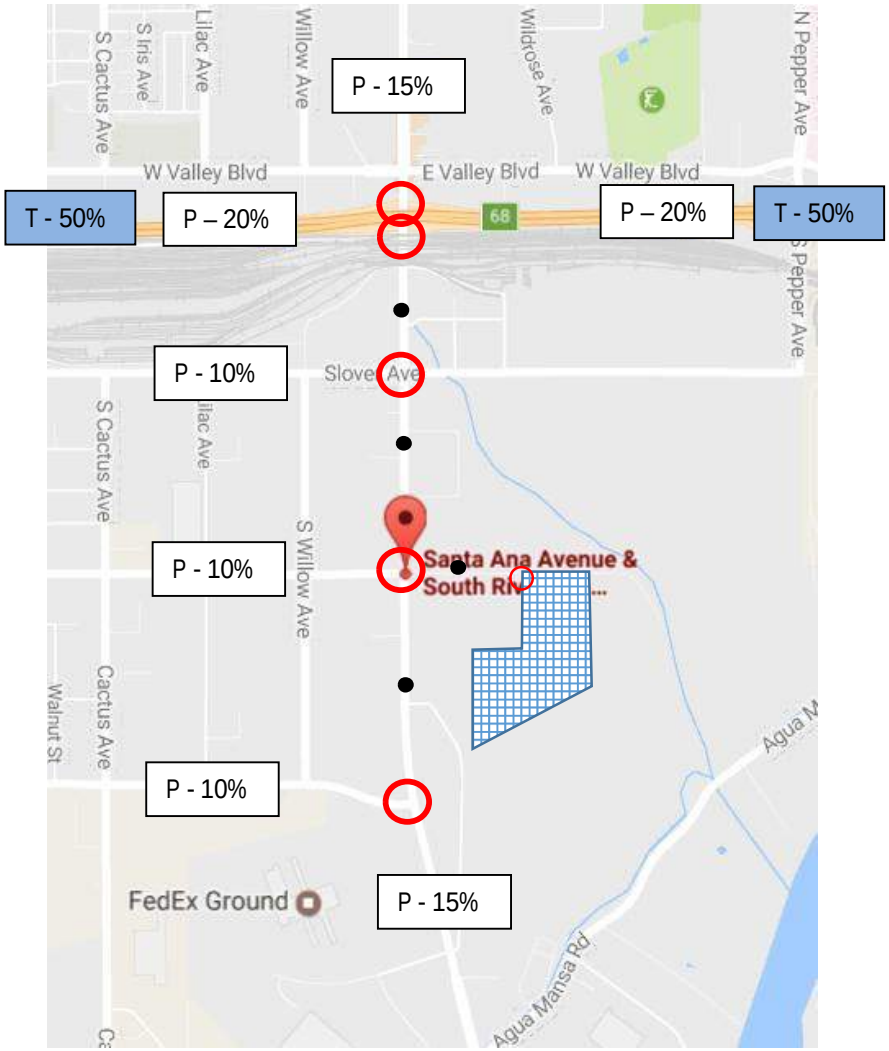
[1] Based on trip generation data at a comparable Truck Terminal site in the City of Rialto. Data collection worksheets are provided as Appendix A to the Scoping Agreement.

[2] Source: City of Rialto *Traffic Impact Analysis Guidelines for VMT and LOS Assessment*, October, 2021

[3] The current truck operations of the existing site (including at time of data collection) exceeds the current building size. As such, the existing site uses off-site trailer drop lots that provide a staging buffer until a dock position is available at the existing site. The additional truck trips created from moving truck trailers to/from the off-site drop lot from/to the existing site overestimates the number of truck trips at a typical site. As a result, the truck trip rates have been reduced by 40% to account for this overestimation of truck trips at the existing site.

PCE = Passenger Car Equivalent

ATTACHMENT 3 - SANTA ANA TRUCK TERMINAL – SUGGESTED STUDY LOCATIONS AND TRIP DISTRIBUTION



LEGEND

STUDY INTERSECTION

STUDY ROADWAY SEGMENT

P – X% PASSENGER VEHICLE DISTRIBUTION

T - X% TRUCK DISTRIBUTION

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

APPENDIX A

TRIP GENERATION SURVEY WORKSHEETS

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: S Riverside Ave & 2765 S Riverside Ave/Central Transport Dwy
City: Bloomington

Date: 6/28/2022
Day: Tuesday

TIME	FHWA 1-3				FHWA 5				FHWA 6				FHWA 8				FHWA 9			
	Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out	
	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR
6:00 AM	4	9	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
6:15 AM	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
7:30 AM	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
8:45 AM	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0
9:00 AM	1	1	0	3	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:15 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
9:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
10:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10:30 AM	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
11:15 AM	0	1	1	6	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
11:30 AM	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
11:45 AM	0	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
12:30 PM	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:15 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	2	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1:45 PM	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
2:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0
2:15 PM	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0
2:30 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
3:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0
3:30 PM	1	2	1	1	0	1	0	0	0	1	0	0	0	0	0	0	1	2	0	0
3:45 PM	1	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0
4:00 PM	0	0	4	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:30 PM	2	0	0	2	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0
4:45 PM	1	1	1	1	0	0	0	0	0	3	0	0	0	0	0	0	1	5	0	0
5:00 PM	1	3	1	3	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	4	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	4	1	4	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0
5:45 PM	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
6:00 PM	0	2	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:15 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:30 PM	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
7:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0
7:15 PM	1	2	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	6	0	0
7:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7:45 PM	0	2	1	1	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Totals	*27*	*72*	*32*	*60*	*0*	*21*	*0*	*0*	*2*	*22*	*0*	*0*	*0*	*12*	*0*	*0*	*16*	*51*	*0*	*0*

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: S Riverside Ave & 2765 S Riverside Ave/Central Transport Dwy
City: Bloomington

Date: 6/29/2022
Day: Wednesday

TIME	FHWA 1-3				FHWA 5				FHWA 6				FHWA 8				FHWA 9			
	Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out		Dwy In		Dwy Out	
	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR	NR	SL	WL	WR
6:00 AM	2	4	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
6:15 AM	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	1	0	4	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:45 AM	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0
9:00 AM	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0
9:15 AM	0	1	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
10:15 AM	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	3	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
11:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	5	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
11:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	4	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0
12:15 PM	1	0	1	4	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
12:30 PM	1	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1:00 PM	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
1:30 PM	2	4	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
1:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2:30 PM	0	3	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0
3:00 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
3:15 PM	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
3:30 PM	0	2	1	2	0	1	0	0	0	0	0	0	0	0	0	0	1	4	0	0
3:45 PM	1	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
4:00 PM	0	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0
4:15 PM	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0
4:30 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0
4:45 PM	1	1	0	1	0	0	0	0	1	3	0	0	0	0	0	0	1	1	0	0
5:00 PM	1	4	3	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
5:15 PM	2	3	0	2	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0
5:30 PM	1	2	1	4	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0
5:45 PM	0	3	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:00 PM	0	5	1	4	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0
6:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
6:45 PM	0	0	3	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0
7:15 PM	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	7	0	0
7:30 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	*26*	*71*	*27*	*68*	*0*	*28*	*0*	*0*	*5*	*17*	*1*	*0*	*0*	*6*	*0*	*0*	*16*	*50*	*0*	*0*

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: 2765 S Riverside Ave/Central Transport Dwy & Industrial Dr
City: Bloomington

Date: 6/28/2022
Day: Tuesday

TIME	FHWA 1-3						FHWA 5						FHWA 6						FHWA 8						FHWA 9						FHWA 11					
	Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out		
	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	1	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	3	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
1:30 PM	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
3:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	2	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	3	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	2	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	1	0	2	0	0	0	3	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	3	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	5	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Totals	*0*	*5*	*3*	*0*	*0*	*10*	*0*	*14*	*0*	*2*	*0*	*6*	*0*	*14*	*0*	*6*	*0*	*76*	*0*	*1*	*0*	*0*	*0*	*41*	*0*	*19*	*5*	*6*	*0*	*53*	*0*	*0*	*0*	*0*	*0*	*1*

Prepared by National Data & Surveying Services

Directional Dwy In & Out

Location: 2765 S Riverside Ave/Central Transport Dwy & Industrial Dr
City: Bloomington

Date: 6/29/2022
Day: Wednesday

TIME	FHWA 1-3						FHWA 5						FHWA 6						FHWA 8						FHWA 9						FHWA 10					
	Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out			Dwy In			Dwy Out		
	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR	NT	EL	WR	SL	ST	SR
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	1	0	0	0	1	0	1	1	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	3	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	1	0	0	0	0	0	5	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Totals	*0*	*1*	*1*	*0*	*0*	*3*	*0*	*18*	*2*	*4*	*0*	*8*	*0*	*8*	*0*	*4*	*0*	*56*	*0*	*4*	*0*	*0*	*0*	*44*	*0*	*5*	*1*	*7*	*0*	*46*	*0*	*0*	*0*	*0*	*0*	*2*

TABLE 1
SUMMARY OF CENTRAL TRANSPORT SURVEYS
TUESDAY JUNE 28, 2022

Time	Driveway						Hourly Sum			
	S Riverside Ave & 2765 S Riverside Ave Dwy		2765 S Riverside Ave & Industrial Dr Dwy		Combined					
	In	Out	In	Out	In	Out	In	Out	Total	
AM Peak										
7:00 to 7:15	1	1	0	3	1	4	-	-	-	
7:15 to 7:30	2	0	2	4	4	4	-	-	-	
7:30 to 7:45	4	0	1	5	5	5	-	-	-	
7:45 to 8:00	3	1	2	4	5	5	15	18	33	
8:00 to 8:15	3	0	0	4	3	4	17	18	35	*
8:15 to 8:30	0	0	2	2	2	2	15	16	31	
8:30 to 8:45	2	1	0	1	2	2	12	13	25	
8:45 to 9:00	5	0	0	5	5	5	12	13	25	
PM Peak										
4:00 to 4:15	4	4	3	4	7	8	-	-	-	
4:15 to 4:30	3	3	0	4	3	7	-	-	-	
4:30 to 4:45	6	2	1	2	7	4	-	-	-	
4:45 to 5:00	11	2	3	3	14	5	31	24	55	
5:00 to 5:15	8	4	1	3	9	7	33	23	56	
5:15 to 5:30	6	5	2	4	8	9	38	25	63	
5:30 to 5:45	8	5	2	4	10	9	41	30	71	*
5:45 to 6:00	3	3	3	6	6	9	33	34	67	
Total	*69*	*31*	*22*	*58*	*91*	*89*				

* = Peak hour volumes, based on the highest 4 consecutive 15-minute periods.

TABLE 2
SUMMARY OF CENTRAL TRANSPORT SURVEYS
WEDNESDAY JUNE 29, 2022

Time	Driveway						Hourly Sum		
	S Riverside Ave & 2765 S Riverside Ave Dwy		2765 S Riverside Ave & Industrial Dr Dwy		Combined				
	In	Out	In	Out	In	Out	In	Out	Total
AM Peak									
7:00 to 7:15	3	4	0	3	3	7	-	-	-
7:15 to 7:30	2	1	0	3	2	4	-	-	-
7:30 to 7:45	3	0	0	1	3	1	-	-	-
7:45 to 8:00	4	1	0	3	4	4	12	16	28 *
8:00 to 8:15	2	0	0	3	2	3	11	12	23
8:15 to 8:30	1	0	0	1	1	1	10	9	19
8:30 to 8:45	1	1	0	4	1	5	8	13	21
8:45 to 9:00	3	2	0	5	3	7	7	16	23
PM Peak									
4:00 to 4:15	5	2	0	8	5	10	-	-	-
4:15 to 4:30	3	2	2	2	5	4	-	-	-
4:30 to 4:45	6	1	1	3	7	4	-	-	-
4:45 to 5:00	8	1	1	1	9	2	26	20	46
5:00 to 5:15	8	9	1	2	9	11	30	21	51
5:15 to 5:30	8	3	2	2	10	5	35	22	57
5:30 to 5:45	6	5	0	2	6	7	34	25	59
5:45 to 6:00	7	3	2	4	9	7	34	30	64 *
Total	*70*	*35*	*9*	*47*	*79*	*82*			

* = Peak hour volumes, based on the highest 4 consecutive 15-minute periods.

APPENDIX **B**

TRAFFIC COUNT DATA
WORKSHEETS

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				

National Data & Surveying Services

Intersection Turning Movement Count

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

S Riverside Ave

SOUTHBOUND

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

I-10 WB Ramps

EASTBOUND

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

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	

I-10 WB Ramps

	1	4	0	0
	0	2	3	0

CONTROL

Signalized

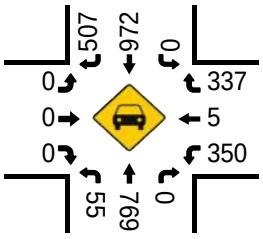
TEV	3271	0	4140
	AM	NOON	PM
PHF	0.98		0.97

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

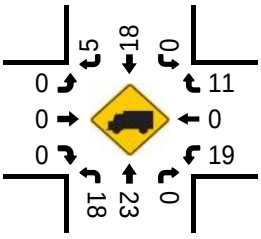
NORTHBOUND

S Riverside Ave

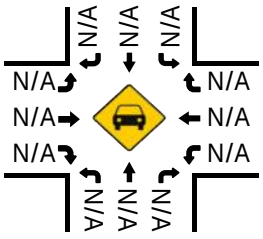
Cars (AM)



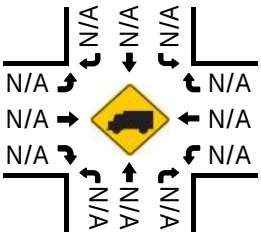
2axle (AM)



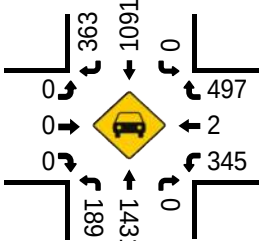
Cars (NOON)



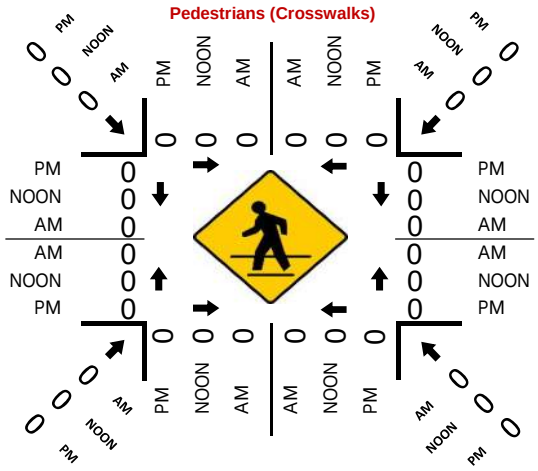
2axle (NOON)



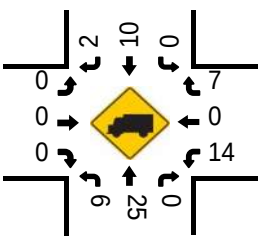
Cars (PM)



Pedestrians (Crosswalks)



2axle (PM)



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							

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							

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							

National Data & Surveying Services

Intersection Turning Movement Count

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

AM	07:00 AM - 08:00 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

CONTROL: Signalized

	2999	0	4090
TEV	AM	NOON	PM
PHF	0.93		0.97

S Riverside Ave — SOUTHBOUND

	Left	Thru	Right	U-Turn		
AM	0	1046	373	2	981	AM
NOON	0	0	0	0	0	NOON
PM	0	1122	436	1	1735	PM
	0	2	2	0		

I-10 EB Ramps — EASTBOUND

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		

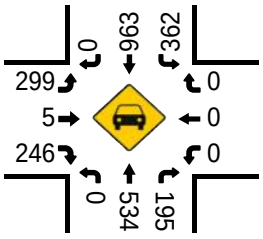
WESTBOUND — I-10 EB Ramps

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	

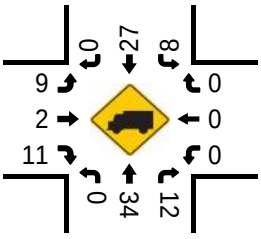
S Riverside Ave — NORTHBOUND

	Left	Thru	Right	U-Turn		
PM	1428	0	0	1170	491	PM
NOON	0	0	0	0	0	NOON
AM	1370	1	0	667	268	AM
		0	0	2.5	0.5	

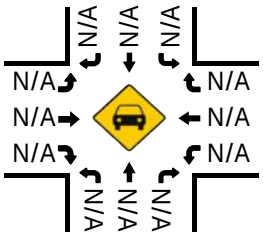
Cars (AM)



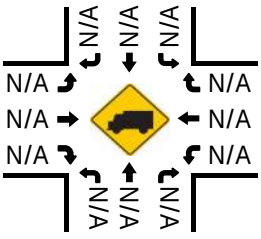
2axle (AM)



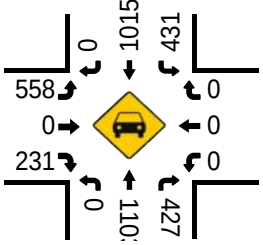
Cars (NOON)



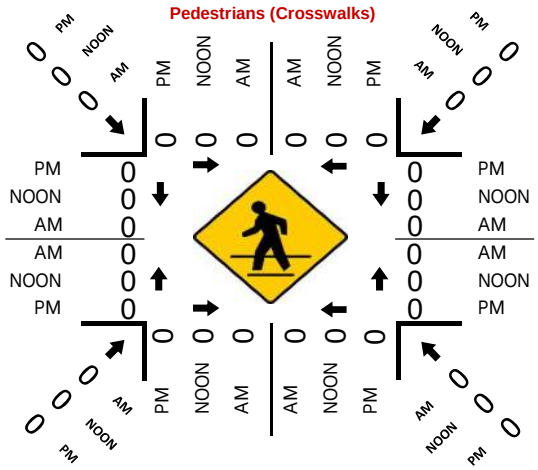
2axle (NOON)



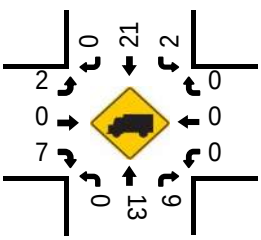
Cars (PM)



Pedestrians (Crosswalks)



2axle (PM)



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				

National Data & Surveying Services

Intersection Turning Movement Count

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

CONTROL: Signalized

	AM	NOON	PM
TEV	2422	0	3320
PHF	0.94		0.94

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
	0	2	1	0		

Slover Ave — EASTBOUND

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	

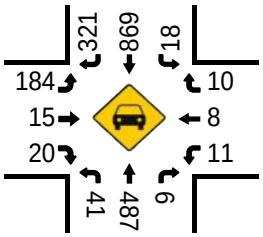
WESTBOUND — Slover Ave

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	

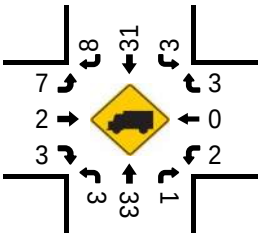
NORTHBOUND — S Riverside Ave

	0	1	2	0		
PM	1317	6	22	1171	14	PM
NOON	0	0	0	0	0	NOON
AM	1059	2	51	663	13	AM

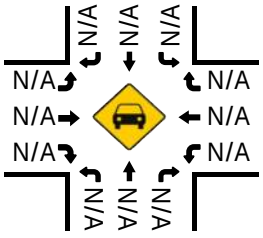
Cars (AM)



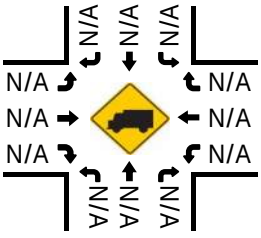
2axle (AM)



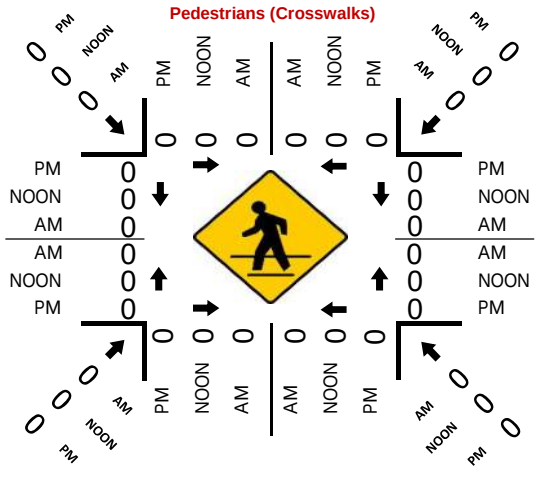
Cars (NOON)



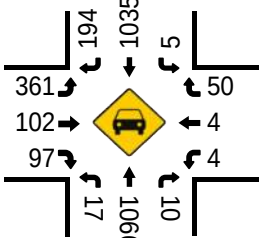
2axle (NOON)



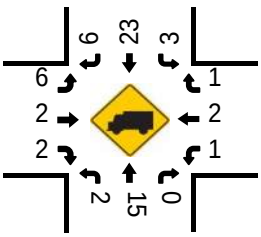
Pedestrians (Crosswalks)



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				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	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			

National Data & Surveying Services

Intersection Turning Movement Count

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

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

0	3	0	0

Santa Ana Ave

EASTBOUND

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	

CONTROL

Signalized

TEV	1968	0	2710
	AM	NOON	PM
PHF	0.93		0.93

WESTBOUND

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	

Santa Ana Ave

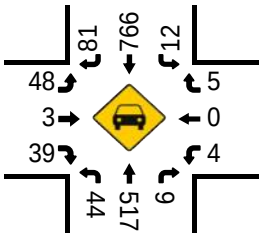
PM	1321	0	70	1049	9	PM
NOON	0	0	0	0	0	NOON
AM	976	0	56	666	25	AM

0	0	3	0

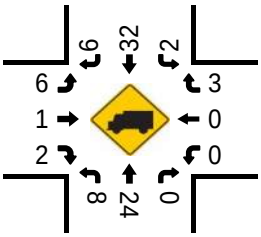
NORTHBOUND

S Riverside Ave

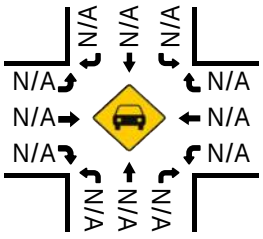
Cars (AM)



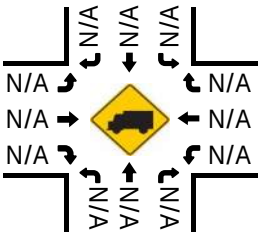
2axle (AM)



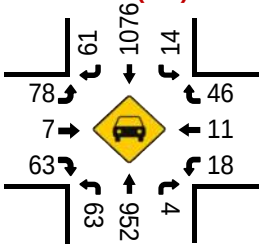
Cars (NOON)



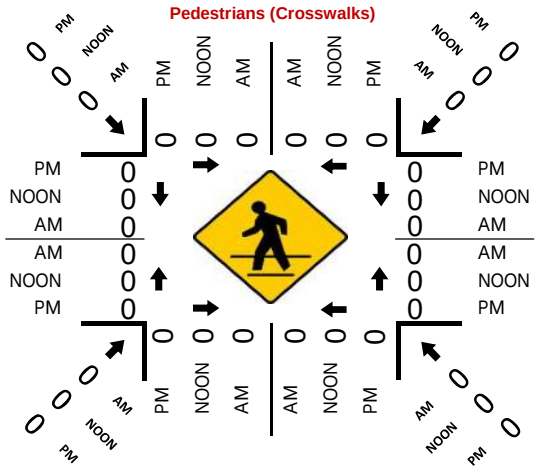
2axle (NOON)



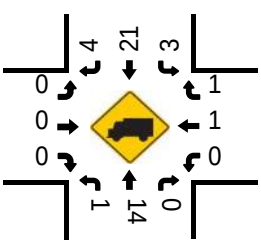
Cars (PM)



Pedestrians (Crosswalks)



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								

NS/EW Streets:	S Riverside Ave				S Riverside Ave				S Jurupa Ave				S Jurupa Ave				
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	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								

National Data & Surveying Services

Intersection Turning Movement Count

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

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

CONTROL: Signalized

	AM	NOON	PM
TEV	1816	0	2598
PHF	0.95		0.90

S Riverside Ave — SOUTHBOUND

	Left	Thru	Right	U-Turn		
AM	44	879	0	0	736	AM
NOON	0	0	0	0	0	NOON
PM	39	1290	0	0	1052	PM

S Jurupa Ave — EASTBOUND

	Left	Thru	Right		
AM	119	0	117		
NOON	0	0	0	0	
PM	32	0	29	1	
	0	0	0	0	
	79	0	137	1	

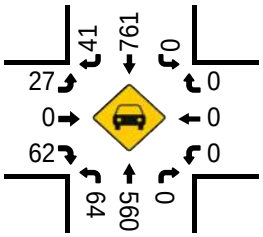
WESTBOUND — S Jurupa Ave

	Left	Thru	Right		
PM	0	0	0		
NOON	0	0	0	0	
AM	0	0	0	0	
	0	0	0	0	
	0	0	0		

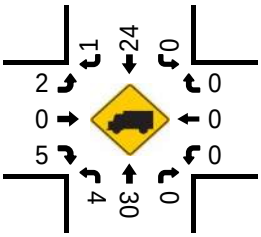
NORTHBOUND — S Riverside Ave

	Left	Thru	Right	U-Turn		
PM	1429	2	78	1023	0	PM
NOON	0	0	0	0	0	NOON
AM	961	3	75	704	0	AM

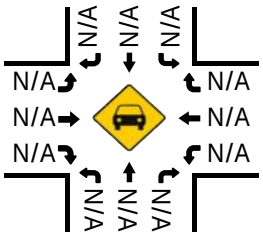
Cars (AM)



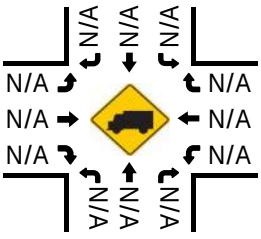
2axle (AM)



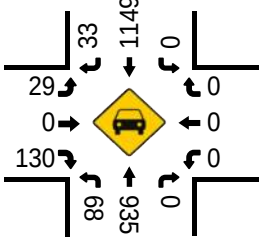
Cars (NOON)



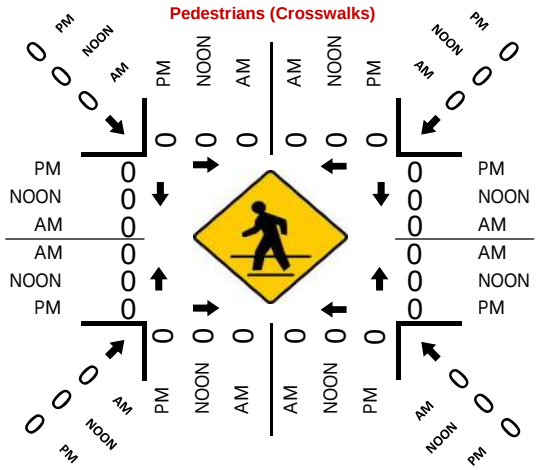
2axle (NOON)



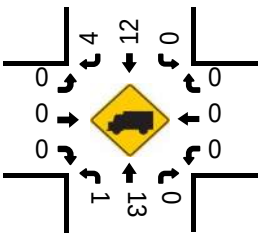
Cars (PM)



Pedestrians (Crosswalks)



2axle (PM)



APPENDIX C

PCE WORKSHEETS

Existing Peak Hour Volumes - Classification Counts

1 Riverside Ave and I-10 WB 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	75	20	19	64	103	57.9%	260	2.5	335	208	7	10	41	58	21.8%	154	2.7	362
NT	846	25	4	26	55	6.1%	124	2.3	970	1,574	28	7	11	46	2.8%	89	1.9	1,663
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	1,069	20	2	6	28	2.6%	52	1.9	1,121	1,201	11	9	11	31	2.5%	68	2.2	1,269
SR	558	6	0	7	13	2.3%	30	2.3	588	399	2	6	4	12	2.9%	27	2.3	426
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	385	21	8	48	77	16.7%	192	2.5	577	380	15	10	62	87	18.6%	229	2.6	609
WT	6	0	0	0	0	0.0%	0	0.0	6	2	0	0	0	0	0.0%	0	0.0	2
WR	371	12	0	2	14	3.6%	24	1.7	395	547	8	1	3	12	2.1%	23	1.9	570
									3,992									4,901
North Leg Volumes																		
Approach	1,627	26	2	13	41		82		1,709	1,600	13	15	15	43		95		1,695
Depart	1,217	37	4	28	69		148		1,365	2,121	36	8	14	58		112		2,233
Total	2,844	63	6	41	110	3.7%	230	2.1	3,074	3,721	49	23	29	101	2.6%	207	2.0	3,928
South Leg Volumes																		
Approach	921	45	23	90	158		384		1,305	1,782	35	17	52	104		243		2,025
Depart	1,454	41	10	54	105		244		1,698	1,581	26	19	73	118		297		1,878
Total	2,375	86	33	144	263	10.0%	628	2.4	3,003	3,363	61	36	125	222	6.2%	540	2.4	3,903
East Leg Volumes																		
Approach	762	33	8	50	91		216		978	929	23	11	65	99		252		1,181
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	762	33	8	50	91	10.7%	216	2.4	978	929	23	11	65	99	9.6%	252	2.5	1,181
West Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	639	26	19	71	116		290		929	609	9	16	45	70		181		790
Total	639	26	19	71	116	15.4%	290	2.5	929	609	9	16	45	70	10.3%	181	2.6	790
All Legs																		
Approach	3,310	104	33	153	290		682		3,992	4,311	71	43	132	246		590		4,901
Depart	3,310	104	33	153	290		682		3,992	4,311	71	43	132	246		590		4,901
Total	6,620	208	66	306	580	8.1%	1,364	2.4	7,984	8,622	142	86	264	492	5.4%	1,180	2.4	9,802

Existing Peak Hour Volumes - Classification Counts

2 Riverside Ave and I-10 EB 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	589	37	22	87	146	19.9%	361	2.5	950	1,213	14	17	43	74	5.7%	184	2.5	1,397
NR	215	13	11	56	80	27.1%	210	2.6	425	470	10	11	50	71	13.1%	187	2.6	657
SL	400	9	1	2	12	2.9%	22	1.8	422	475	2	0	3	5	1.0%	12	2.4	487
ST	1,059	30	11	51	92	8.0%	220	2.4	1,279	1,117	23	22	73	118	9.6%	298	2.5	1,415
SR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
EL	329	10	2	2	14	4.1%	25	1.8	354	614	2	2	2	6	1.0%	13	2.2	627
ET	6	2	0	0	2	25.0%	3	1.5	9	0	0	0	0	0	0.0%	0	0.0	0
ER	271	12	11	62	85	23.9%	226	2.7	497	254	8	19	55	82	24.4%	215	2.6	469
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
									3,936									5,052
North Leg Volumes																		
Approach	1,459	39	12	53	104		242		1,701	1,592	25	22	76	123		310		1,902
Depart	918	47	24	89	160		386		1,304	1,827	16	19	45	80		197		2,024
Total	2,377	86	36	142	264	10.0%	628	2.4	3,005	3,419	41	41	121	203	5.6%	507	2.5	3,926
South Leg Volumes																		
Approach	804	50	33	143	226		571		1,375	1,683	24	28	93	145		371		2,054
Depart	1,330	42	22	113	177		446		1,776	1,371	31	41	128	200		513		1,884
Total	2,134	92	55	256	403	15.9%	1,017	2.5	3,151	3,054	55	69	221	345	10.2%	884	2.6	3,938
East Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	621	24	12	58	94		235		856	945	12	11	53	76		199		1,144
Total	621	24	12	58	94	13.1%	235	2.5	856	945	12	11	53	76	7.4%	199	2.6	1,144
West Leg Volumes																		
Approach	606	24	13	64	101		254		860	868	10	21	57	88		228		1,096
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	606	24	13	64	101	14.3%	254	2.5	860	868	10	21	57	88	9.2%	228	2.6	1,096
All Legs																		
Approach	2,869	113	58	260	431		1,067		3,936	4,143	59	71	226	356		909		5,052
Depart	2,869	113	58	260	431		1,067		3,936	4,143	59	71	226	356		909		5,052
Total	5,738	226	116	520	862	13.1%	2,134	2.5	7,872	8,286	118	142	452	712	7.9%	1,818	2.6	10,104

Existing Peak Hour Volumes - Classification Counts

3 Riverside Ave and Slover Ave

	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	47	3	2	6	11	19.0%	27	2.5	74	25	2	1	2	5	16.7%	11	2.2	36
NT	536	36	26	131	193	26.5%	499	2.6	1,035	1,173	17	21	78	116	9.0%	302	2.6	1,475
NR	7	1	1	6	8	53.3%	22	2.8	29	11	0	1	3	4	26.7%	11	2.8	22
SL	22	3	3	6	12	35.3%	29	2.4	51	6	3	2	4	9	60.0%	21	2.3	27
ST	956	34	15	92	141	12.9%	357	2.5	1,313	1,139	25	34	101	160	12.3%	409	2.6	1,548
SR	353	9	1	23	33	8.5%	85	2.6	438	213	7	7	22	36	14.5%	91	2.5	304
EL	202	8	9	8	25	11.0%	54	2.2	256	397	7	6	7	20	4.8%	44	2.2	441
ET	17	2	0	0	2	10.5%	3	1.5	20	112	2	0	3	5	4.3%	12	2.4	124
ER	22	3	9	10	22	50.0%	53	2.4	75	107	2	6	12	20	15.7%	51	2.6	158
WL	12	2	2	4	8	40.0%	19	2.4	31	4	1	4	7	12	75.0%	31	2.6	35
WT	9	0	1	2	3	25.0%	8	2.7	17	4	2	2	7	11	73.3%	28	2.5	32
WR	11	3	3	4	10	47.6%	23	2.3	34	55	1	0	7	8	12.7%	23	2.9	78
									3,373									4,280
North Leg Volumes																		
Approach	1,331	46	19	121	186		471		1,802	1,358	35	43	127	205		521		1,879
Depart	749	47	38	143	228		576		1,325	1,625	25	27	92	144		369		1,994
Total	2,080	93	57	264	414	16.6%	1,047	2.5	3,127	2,983	60	70	219	349	10.5%	890	2.6	3,873
South Leg Volumes																		
Approach	590	40	29	143	212		548		1,138	1,209	19	23	83	125		324		1,533
Depart	990	39	26	106	171		429		1,419	1,250	28	44	120	192		491		1,741
Total	1,580	79	55	249	383	19.5%	977	2.6	2,557	2,459	47	67	203	317	11.4%	815	2.6	3,274
East Leg Volumes																		
Approach	32	5	6	10	21		50		82	63	4	6	21	31		82		145
Depart	46	6	4	12	22		54		100	129	5	3	10	18		44		173
Total	78	11	10	22	43	35.5%	104	2.4	182	192	9	9	31	49	20.3%	126	2.6	318
West Leg Volumes																		
Approach	241	13	18	18	49		110		351	616	11	12	22	45		107		723
Depart	409	12	4	31	47		120		529	242	11	10	31	52		130		372
Total	650	25	22	49	96	12.9%	230	2.4	880	858	22	22	53	97	10.2%	237	2.4	1,095
All Legs																		
Approach	2,194	104	72	292	468		1,179		3,373	3,246	69	84	253	406		1,034		4,280
Depart	2,194	104	72	292	468		1,179		3,373	3,246	69	84	253	406		1,034		4,280
Total	4,388	208	144	584	936	17.6%	2,358	2.5	6,746	6,492	138	168	506	812	11.1%	2,068	2.5	8,560

Existing Peak Hour Volumes - Classification Counts

4 Riverside Ave and Santa Ana Ave

	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	48	9	2	2	13	21.3%	24	1.8	72	69	1	1	6	8	10.4%	22	2.8	91
NT	569	26	28	110	164	22.4%	425	2.6	994	1,047	15	22	69	106	9.2%	274	2.6	1,321
NR	10	0	3	14	17	63.0%	48	2.8	58	4	0	1	4	5	55.6%	14	2.8	18
SL	13	2	3	19	24	64.9%	66	2.8	79	4	3	6	9	18	81.8%	44	2.4	48
ST	843	35	30	96	161	16.0%	401	2.5	1,244	1,184	23	39	99	161	12.0%	410	2.5	1,594
SR	89	7	1	8	16	15.2%	37	2.3	126	67	4	1	2	7	9.5%	14	2.0	81
EL	53	7	2	8	17	24.3%	39	2.3	92	86	0	2	8	10	10.4%	28	2.8	114
ET	3	1	9	2	12	80.0%	26	2.2	29	8	0	2	1	3	27.3%	7	2.3	15
ER	43	2	3	4	9	17.3%	21	2.3	64	69	0	3	8	11	13.8%	30	2.7	99
WL	4	0	4	9	13	76.5%	35	2.7	39	20	0	6	3	9	31.0%	21	2.3	41
WT	0	0	0	13	13	100.0%	39	3.0	39	12	1	1	1	3	20.0%	7	2.3	19
WR	6	3	1	20	24	80.0%	67	2.8	73	51	1	1	4	6	10.5%	16	2.7	67
									2,909									3,508
North Leg Volumes																		
Approach	945	44	34	123	201		504		1,449	1,255	30	46	110	186		468		1,723
Depart	628	36	31	138	205		531		1,159	1,184	16	25	81	122		318		1,502
Total	1,573	80	65	261	406	20.5%	1,035	2.5	2,608	2,439	46	71	191	308	11.2%	786	2.6	3,225
South Leg Volumes																		
Approach	627	35	33	126	194		497		1,124	1,120	16	24	79	119		310		1,430
Depart	890	37	37	109	183		457		1,347	1,273	23	48	110	181		461		1,734
Total	1,517	72	70	235	377	19.9%	954	2.5	2,471	2,393	39	72	189	300	11.1%	771	2.6	3,164
East Leg Volumes																		
Approach	10	3	5	42	50		141		151	83	2	8	8	18		44		127
Depart	26	3	15	35	53		140		166	16	3	9	14	26		65		81
Total	36	6	20	77	103	74.1%	281	2.7	317	99	5	17	22	44	30.8%	109	2.5	208
West Leg Volumes																		
Approach	99	10	14	14	38		86		185	163	0	7	17	24		65		228
Depart	137	16	3	23	42		100		237	148	6	3	9	18		43		191
Total	236	26	17	37	80	25.3%	186	2.3	422	311	6	10	26	42	11.9%	108	2.6	419
All Legs																		
Approach	1,681	92	86	305	483		1,228		2,909	2,621	48	85	214	347		887		3,508
Depart	1,681	92	86	305	483		1,228		2,909	2,621	48	85	214	347		887		3,508
Total	3,362	184	172	610	966	22.3%	2,456	2.5	5,818	5,242	96	170	428	694	11.7%	1,774	2.6	7,016

Existing Peak Hour Volumes - Classification Counts

5 Riverside Ave and Jurupa Ave

	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	72	7	2	6	15	17.2%	33	2.2	105	77	1	3	7	11	12.5%	29	2.6	106
NT	616	33	28	98	159	20.5%	400	2.5	1,016	1,029	14	19	64	97	8.6%	251	2.6	1,280
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	837	26	24	79	129	13.4%	324	2.5	1,161	1,264	13	46	96	155	10.9%	400	2.6	1,664
SR	45	1	0	2	3	6.3%	8	2.7	53	36	4	0	2	6	14.3%	12	2.0	48
EL	30	2	2	1	5	14.3%	10	2.0	40	32	0	0	0	0	0.0%	0	0.0	32
ET	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ER	68	6	3	10	19	21.8%	45	2.4	113	143	0	2	6	8	5.3%	22	2.8	165
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
									2,488									3,295
North Leg Volumes																		
Approach	882	27	24	81	132		332		1,214	1,300	17	46	98	161		412		1,712
Depart	646	35	30	99	164		410		1,056	1,061	14	19	64	97		251		1,312
Total	1,528	62	54	180	296	16.2%	742	2.5	2,270	2,361	31	65	162	258	9.9%	663	2.6	3,024
South Leg Volumes																		
Approach	688	40	30	104	174		433		1,121	1,106	15	22	71	108		280		1,386
Depart	905	32	27	89	148		369		1,274	1,407	13	48	102	163		422		1,829
Total	1,593	72	57	193	322	16.8%	802	2.5	2,395	2,513	28	70	173	271	9.7%	702	2.6	3,215
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	98	8	5	11	24		55		153	175	0	2	6	8		22		197
Depart	117	8	2	8	18		41		158	113	5	3	9	17		41		154
Total	215	16	7	19	42	16.3%	96	2.3	311	288	5	5	15	25	8.0%	63	2.5	351
All Legs																		
Approach	1,668	75	59	196	330		820		2,488	2,581	32	70	175	277		714		3,295
Depart	1,668	75	59	196	330		820		2,488	2,581	32	70	175	277		714		3,295
Total	3,336	150	118	392	660	16.5%	1,640	2.5	4,976	5,162	64	140	350	554	9.7%	1,428	2.6	6,590

TOTAL PCE VOLUME AM

Int	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	335	970	0	0	1121	588	0	0	0	577	6	395	Riverside Ave and I-10 WB Ramps
2	0	950	425	422	1279	0	354	9	497	0	0	0	Riverside Ave and I-10 EB Ramps
3	74	1035	29	51	1313	438	256	20	75	31	17	34	Riverside Ave and Slover Ave
4	72	994	58	79	1244	126	92	29	64	39	39	73	Riverside Ave and Santa Ana Ave
5	105	1016	0	0	1161	53	40	0	113	0	0	0	Riverside Ave and Jurupa Ave

TOTAL PCE VOLUME PM

Int	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	362	1663	0	0	1269	426	0	0	0	609	2	570	Riverside Ave and I-10 WB Ramps
2	0	1397	657	487	1415	0	627	0	469	0	0	0	Riverside Ave and I-10 EB Ramps
3	36	1475	22	27	1548	304	441	124	158	35	32	78	Riverside Ave and Slover Ave
4	91	1321	18	48	1594	81	114	15	99	41	19	67	Riverside Ave and Santa Ana Ave
5	106	1280	0	0	1664	48	32	0	165	0	0	0	Riverside Ave and Jurupa Ave

APPENDIX **D**

INTERSECTION ANALYSIS
WORKSHEETS

APPENDIX D-1

INTERSECTION ANALYSIS
WORKSHEETS – EXISTING
CONDITIONS

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_AM.vistro
Report File: K:\...\1 EX AM.pdf

Scenario 1 EX AM
4/17/2023

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 7th Edition	NB Left	0.777	20.1	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	SB Left	0.712	20.3	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	0.888	20.5	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	SB Left	0.642	14.6	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.544	8.4	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):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
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
Proportion of CAVs [%]	0.00											
Growth 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
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]	335	970	0	0	1121	588	0	0	0	577	6	395
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
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]	85	247	0	0	285	150	0	0	0	147	2	101
Total Analysis Volume [veh/h]	341	988	0	0	1142	599	0	0	0	588	6	402
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	34	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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	62	48	48		22	22	22
g / C, Green / Cycle	0.12	0.69	0.54	0.54		0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.10	0.19	0.17	0.37		0.18	0.19	0.21
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1766	1615
c, Capacity [veh/h]	414	3567	3714	869		442	431	394
d1, Uniform Delay [s]	38.79	5.37	11.50	15.26		31.49	31.67	32.37
k, delay calibration	0.11	0.50	0.50	0.50		0.12	0.13	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.18	0.19	0.22	4.45		2.90	3.53	7.47
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	0.28	0.31	0.69		0.75	0.77	0.84
d, Delay for Lane Group [s/veh]	42.97	5.56	11.72	19.71		34.39	35.20	39.84
Lane Group LOS	D	A	B	B		C	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.86	2.05	3.01	9.31		6.87	6.98	7.52
50th-Percentile Queue Length [ft/ln]	96.52	51.17	75.35	232.70		171.81	174.39	187.89
95th-Percentile Queue Length [veh/ln]	6.95	3.68	5.43	14.31		11.17	11.31	12.01
95th-Percentile Queue Length [ft/ln]	173.74	92.11	135.63	357.79		279.29	282.67	300.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.97	5.56	0.00	0.00	11.72	19.71	0.00	0.00	0.00	34.74	35.20	39.03
Movement LOS	D	A			B	B				C	D	D
d_A, Approach Delay [s/veh]	15.16			14.46			0.00			36.48		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.08											
Intersection LOS	C											
Intersection V/C	0.777											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.265
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	867	0	689
d_b, Bicycle Delay [s]	7.61	14.45	45.00	19.34
l_b,int, Bicycle LOS Score for Intersection	2.291	2.278	4.132	3.203
Bicycle LOS	B	B	D	C

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):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	950	425	422	1279	0	354	9	497	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
Proportion of CAVs [%]	0.00											
Growth 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
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	950	425	422	1279	0	354	9	497	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	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	254	114	113	342	0	95	2	133	0	0	0
Total Analysis Volume [veh/h]	0	1016	455	451	1368	0	379	10	532	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	21	55	0	0	35	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	47	47	14	64	20	20	20	
g / C, Green / Cycle	0.52	0.52	0.15	0.71	0.23	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.27	0.30	0.13	0.38	0.17	0.18	0.19	
s, saturation flow rate [veh/h]	3618	1633	3514	3618	1810	1663	1615	
c, Capacity [veh/h]	1872	845	544	2553	412	379	368	
d1, Uniform Delay [s]	14.37	14.97	36.89	6.27	32.42	32.89	33.05	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.12	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.05	2.90	3.33	0.81	2.85	4.16	5.15	
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	0.52	0.58	0.83	0.54	0.76	0.81	0.83	
d, Delay for Lane Group [s/veh]	15.42	17.87	40.22	7.08	35.26	37.04	38.20	
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]	6.43	7.09	4.98	5.19	6.51	6.60	6.68	
50th-Percentile Queue Length [ft/ln]	160.72	177.33	124.38	129.79	162.77	164.93	166.92	
95th-Percentile Queue Length [veh/ln]	10.59	11.46	8.63	8.93	10.70	10.81	10.91	
95th-Percentile Queue Length [ft/ln]	264.67	286.53	215.83	223.21	267.38	270.24	272.86	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.51	17.87	40.22	7.08	0.00	35.60	37.04	37.71	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	16.24			15.30			36.82			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.34											
Intersection LOS	C											
Intersection V/C	0.712											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.163
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	1156	711	0
d_b, Bicycle Delay [s]	19.34	8.02	18.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.369	3.060	3.079	4.132
Bicycle LOS	B	C	C	D

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):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
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
Proportion of CAVs [%]	0.00											
Growth 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
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]	74	1035	29	51	1313	438	256	20	75	31	17	34
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
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]	20	274	8	13	347	116	68	5	20	8	4	9
Total Analysis Volume [veh/h]	78	1095	31	54	1389	463	271	21	79	33	18	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	47	0	21	58	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	5	56	56	19	19	19	19	19	19
g / C, Green / Cycle	0.07	0.63	0.63	0.06	0.62	0.62	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.30	0.03	0.49	0.53	0.20	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1882	1810	1900	1745	1371	1900	1615	1315	1900	1615
c, Capacity [veh/h]	121	1197	1186	106	1182	1086	314	401	341	275	401	341
d1, Uniform Delay [s]	40.95	8.76	8.77	41.10	12.58	13.63	38.35	28.32	29.45	33.48	28.27	28.64
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.11
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]	5.65	1.34	1.35	3.72	5.31	8.35	10.19	0.05	0.34	0.19	0.05	0.13
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	0.65	0.47	0.47	0.51	0.79	0.85	0.86	0.05	0.23	0.12	0.04	0.11
d, Delay for Lane Group [s/veh]	46.61	10.10	10.12	44.81	17.89	21.98	48.53	28.37	29.79	33.67	28.32	28.78
Lane Group LOS	D	B	B	D	B	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]	1.86	5.56	5.51	1.26	13.68	15.36	6.88	0.36	1.43	0.64	0.31	0.63
50th-Percentile Queue Length [ft/ln]	46.41	138.93	137.80	31.50	341.98	384.10	172.08	9.09	35.78	15.94	7.78	15.82
95th-Percentile Queue Length [veh/ln]	3.34	9.42	9.36	2.27	19.74	21.79	11.19	0.65	2.58	1.15	0.56	1.14
95th-Percentile Queue Length [ft/ln]	83.54	235.58	234.06	56.69	493.62	544.81	279.64	16.36	64.40	28.70	14.00	28.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.61	10.11	10.12	44.81	19.24	21.98	48.53	28.37	29.79	33.67	28.32	28.78
Movement LOS	D	B	B	D	B	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.47			20.63			43.40			30.54		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	20.49											
Intersection LOS	C											
Intersection V/C	0.888											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.941	3.377	2.483	2.339
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	1222	422	422
d_b, Bicycle Delay [s]	11.76	6.81	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	2.553	3.132	1.866	1.631
Bicycle LOS	B	C	A	A

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):	14.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
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
Proportion of CAVs [%]	0.00											
Growth 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
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]	72	994	58	79	1244	126	92	29	64	39	39	73
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
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]	19	268	16	21	335	34	25	8	17	11	11	20
Total Analysis Volume [veh/h]	78	1071	63	85	1341	136	99	31	69	42	42	79
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	51	0	21	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	60	60	6	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.66	0.66	0.07	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.30	0.05	0.39	0.40	0.12	0.04	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1840	1122	1615	1315	1900	1615
c, Capacity [veh/h]	121	1260	1236	128	1267	1227	257	268	109	316	268
d1, Uniform Delay [s]	40.95	7.30	7.30	40.79	8.22	8.28	36.95	32.69	44.33	32.00	32.90
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	5.63	1.18	1.21	5.84	2.01	2.14	1.54	0.50	2.24	0.19	0.60
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
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
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

Lane Group Results

X, volume / capacity	0.64	0.45	0.45	0.67	0.59	0.60	0.51	0.26	0.39	0.13	0.29
d, Delay for Lane Group [s/veh]	46.57	8.48	8.51	46.64	10.23	10.41	38.49	33.19	46.58	32.19	33.51
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.86	4.93	4.85	2.02	7.40	7.33	2.80	1.33	1.00	0.79	1.54
50th-Percentile Queue Length [ft/ln]	46.39	123.20	121.22	50.62	184.94	183.29	70.02	33.29	24.91	19.69	38.41
95th-Percentile Queue Length [veh/ln]	3.34	8.57	8.46	3.64	11.86	11.77	5.04	2.40	1.79	1.42	2.77
95th-Percentile Queue Length [ft/ln]	83.51	214.22	211.50	91.11	296.46	294.31	126.04	59.92	44.84	35.45	69.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.57	8.49	8.51	46.64	10.31	10.41	38.49	38.49	33.19	46.58	32.19	33.51
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	10.94			12.30			36.65			36.53		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	14.58											
Intersection LOS	B											
Intersection V/C	0.642											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.947	0.000	0.000	2.216
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1311	333	333
d_b, Bicycle Delay [s]	9.80	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.560	2.848	1.888	1.829
Bicycle LOS	B	C	A	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	105	1016	1161	53	40	113
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	267	305	14	11	30
Total Analysis Volume [veh/h]	110	1067	1220	56	42	119
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	19	70	51	0	20	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.73	0.73	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.29	0.34	0.03	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	143	3030	2623	1171	174	155
d1, Uniform Delay [s]	40.64	1.69	5.13	3.52	37.66	39.71
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]	8.40	0.32	0.60	0.08	0.71	7.75
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	0.35	0.47	0.05	0.24	0.77
d, Delay for Lane Group [s/veh]	49.04	2.01	5.73	3.60	38.37	47.46
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	1.02	3.86	0.25	0.88	2.87
50th-Percentile Queue Length [ft/ln]	67.35	25.48	96.57	6.37	22.07	71.71
95th-Percentile Queue Length [veh/ln]	4.85	1.83	6.95	0.46	1.59	5.16
95th-Percentile Queue Length [ft/ln]	121.24	45.87	173.83	11.47	39.73	129.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.04	2.01	5.73	3.60	38.37	47.46
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.40		5.63		45.09	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.41					
Intersection LOS	A					
Intersection V/C	0.544					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.863	0.000	2.048
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1067	378
d_b, Bicycle Delay [s]	2.94	9.80	29.61
l_b,int, Bicycle LOS Score for Intersection	2.531	2.612	1.560
Bicycle LOS	B	B	A

Sequence

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

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_PM.vistro
Report File: K:\...\1 EX PM.pdf

Scenario 1 EX PM
4/27/2023

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 7th Edition	NB Left	0.723	20.0	B
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.932	27.0	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.077	43.8	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	NB Left	0.755	15.6	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.791	11.3	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):	20.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.723

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
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
Proportion of CAVs [%]	0.00											
Growth 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
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]	362	1663	0	0	1269	426	0	0	0	609	2	570
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
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]	93	426	0	0	325	109	0	0	0	156	1	146
Total Analysis Volume [veh/h]	371	1706	0	0	1302	437	0	0	0	625	2	585
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	15	47	0	0	32	0	0	0	0	0	43	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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	58	43	43		26	26	26
g / C, Green / Cycle	0.13	0.64	0.48	0.48		0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.11	0.33	0.19	0.27		0.22	0.24	0.25
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1717	1615
c, Capacity [veh/h]	445	3305	3304	773		533	506	476
d1, Uniform Delay [s]	38.38	8.77	15.07	16.76		28.82	29.27	29.85
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.12	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.17	0.58	0.35	2.98		2.23	3.29	5.74
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	0.52	0.39	0.57		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	42.56	9.34	15.42	19.74		31.05	32.56	35.59
Lane Group LOS	D	A	B	B		C	C	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.19	5.38	4.15	6.71		8.01	8.26	8.71
50th-Percentile Queue Length [ft/ln]	104.72	134.61	103.67	167.78		200.19	206.48	217.78
95th-Percentile Queue Length [veh/ln]	7.54	9.19	7.46	10.96		12.65	12.97	13.55
95th-Percentile Queue Length [ft/ln]	188.49	229.75	186.60	274.00		316.22	324.31	338.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.56	9.34	0.00	0.00	15.42	19.74	0.00	0.00	0.00	31.59	32.56	34.65
Movement LOS	D	A			B	B				C	C	C
d_A, Approach Delay [s/veh]	15.28			16.51			0.00			33.07		
Approach LOS	B			B			A			C		
d_I, Intersection Delay [s/veh]	19.99											
Intersection LOS	B											
Intersection V/C	0.723											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.336
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	644	0	889
d_b, Bicycle Delay [s]	11.76	20.67	45.00	13.89
l_b,int, Bicycle LOS Score for Intersection	2.702	2.277	4.132	3.559
Bicycle LOS	B	B	D	D

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):	27.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.932

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	1397	657	487	1415	0	627	0	469	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
Proportion of CAVs [%]	0.00											
Growth 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
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	1397	657	487	1415	0	627	0	469	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	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	359	169	125	364	0	161	0	121	0	0	0
Total Analysis Volume [veh/h]	0	1436	675	501	1454	0	644	0	482	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	18	63	0	0	27	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	43	43	15	61	23	23	23	
g / C, Green / Cycle	0.48	0.48	0.16	0.68	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.39	0.43	0.14	0.40	0.21	0.21	0.23	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1750	1615	
c, Capacity [veh/h]	1739	781	572	2449	464	449	414	
d1, Uniform Delay [s]	19.86	21.40	36.78	7.85	31.39	31.68	32.41	
k, delay calibration	0.50	0.50	0.11	0.50	0.19	0.20	0.25	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.19	15.53	4.42	1.07	5.79	7.61	15.16	
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	0.81	0.90	0.88	0.59	0.81	0.84	0.91	
d, Delay for Lane Group [s/veh]	24.05	36.93	41.20	8.92	37.18	39.28	47.57	
Lane Group LOS	C	D	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	12.62	15.88	5.62	6.66	8.19	8.46	9.43	
50th-Percentile Queue Length [ft/ln]	315.59	397.09	140.61	166.56	204.72	211.45	235.72	
95th-Percentile Queue Length [veh/ln]	18.45	22.42	9.51	10.90	12.88	13.23	14.46	
95th-Percentile Queue Length [ft/ln]	461.26	560.49	237.85	272.39	322.05	330.68	361.61	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.31	36.93	41.20	8.92	0.00	38.06	39.28	45.74	0.00	0.00	0.00
Movement LOS		C	D	D	A		D	D	D			
d_A, Approach Delay [s/veh]	28.34			17.19			41.35			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	26.97											
Intersection LOS	C											
Intersection V/C	0.932											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.290
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	1333	533	0
d_b, Bicycle Delay [s]	12.80	5.00	24.20	45.00
l_b,int, Bicycle LOS Score for Intersection	2.721	3.172	3.418	4.132
Bicycle LOS	B	C	C	D

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):	43.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.077

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
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
Proportion of CAVs [%]	0.00											
Growth 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
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]	36	1475	22	27	1548	304	441	124	158	35	32	78
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	10	393	6	7	412	81	117	33	42	9	9	21
Total Analysis Volume [veh/h]	38	1571	23	29	1649	324	470	132	168	37	34	83
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	42	0	20	52	0	0	28	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	4	52	52	4	52	52	25	25	25	25	25	25
g / C, Green / Cycle	0.05	0.58	0.58	0.04	0.57	0.57	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.42	0.02	0.52	0.55	0.36	0.07	0.10	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1890	1810	1900	1796	1295	1900	1615	1096	1900	1615
c, Capacity [veh/h]	87	1104	1098	75	1091	1031	360	528	449	268	528	449
d1, Uniform Delay [s]	41.66	13.63	13.65	42.04	16.96	18.09	37.42	25.22	26.20	31.95	23.90	24.74
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	3.45	4.12	4.17	3.27	12.14	19.31	155.72	0.25	0.52	0.23	0.05	0.20
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	0.44	0.72	0.72	0.39	0.90	0.96	1.30	0.25	0.37	0.14	0.06	0.19
d, Delay for Lane Group [s/veh]	45.11	17.75	17.82	45.30	29.10	37.41	193.14	25.47	26.72	32.18	23.95	24.94
Lane Group LOS	D	B	B	D	C	D	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]	0.90	11.69	11.69	0.69	19.59	22.51	23.56	2.19	2.91	0.70	0.53	1.35
50th-Percentile Queue Length [ft/ln]	22.38	292.28	292.25	17.24	489.80	562.73	588.95	54.70	72.73	17.49	13.32	33.80
95th-Percentile Queue Length [veh/ln]	1.61	17.30	17.30	1.24	26.85	30.29	36.27	3.94	5.24	1.26	0.96	2.43
95th-Percentile Queue Length [ft/ln]	40.28	432.47	432.44	31.03	671.28	757.25	906.80	98.47	130.92	31.49	23.97	60.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.11	17.78	17.82	45.30	32.44	37.41	193.14	25.47	26.72	32.18	23.95	24.94
Movement LOS	D	B	B	D	C	D	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	18.42			33.43			128.09			26.46		
Approach LOS	B			C			F			C		
d_I, Intersection Delay [s/veh]	43.81											
Intersection LOS	D											
Intersection V/C	1.077											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.073	3.793	2.529	2.367
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	867	1089	556	556
d_b, Bicycle Delay [s]	14.45	9.34	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.906	3.211	2.195	1.687
Bicycle LOS	C	C	B	A

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):	15.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
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
Proportion of CAVs [%]	0.00											
Growth 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
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]	91	1321	18	48	1594	81	114	15	99	41	19	67
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
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	354	5	13	427	22	31	4	26	11	5	18
Total Analysis Volume [veh/h]	97	1414	19	51	1707	87	122	16	106	44	20	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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]	12	62	0	10	60	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	61	61	5	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.68	0.68	0.06	0.66	0.66	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.38	0.38	0.03	0.47	0.48	0.12	0.07	0.03	0.01	0.04
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1868	1139	1615	1289	1900	1615
c, Capacity [veh/h]	132	1287	1281	104	1257	1236	264	267	108	314	267
d1, Uniform Delay [s]	40.89	7.54	7.55	41.14	9.76	9.89	37.14	33.54	44.39	31.67	32.80
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	7.78	1.75	1.76	3.56	3.49	3.72	1.61	0.95	2.47	0.08	0.54
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
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
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

Lane Group Results

X, volume / capacity	0.74	0.56	0.56	0.49	0.71	0.72	0.52	0.40	0.41	0.06	0.27
d, Delay for Lane Group [s/veh]	48.66	9.29	9.31	44.70	13.25	13.60	38.74	34.49	46.87	31.76	33.34
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.37	6.61	6.59	1.19	10.70	10.84	2.98	2.11	1.05	0.37	1.39
50th-Percentile Queue Length [ft/ln]	59.18	165.13	164.86	29.72	267.53	271.11	74.55	52.72	26.18	9.26	34.84
95th-Percentile Queue Length [veh/ln]	4.26	10.82	10.81	2.14	16.07	16.25	5.37	3.80	1.88	0.67	2.51
95th-Percentile Queue Length [ft/ln]	106.52	270.51	270.14	53.50	401.65	406.13	134.19	94.89	47.12	16.67	62.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.66	9.30	9.31	44.70	13.42	13.60	38.74	38.74	34.49	46.87	31.76	33.34
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	11.79			14.29			36.90			37.48		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.58											
Intersection LOS	B											
Intersection V/C	0.755											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.067	0.000	0.000	2.187
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1311	1267	333	333
d_b, Bicycle Delay [s]	5.34	6.05	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.822	3.082	1.962	1.784
Bicycle LOS	C	C	A	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.791

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	106	1280	1664	48	32	165
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	354	460	13	9	46
Total Analysis Volume [veh/h]	117	1414	1839	53	35	182
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	10	72	62	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	72	62	62	12	12
g / C, Green / Cycle	0.08	0.80	0.69	0.69	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.39	0.51	0.03	0.02	0.11
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2889	2487	1110	244	218
d1, Uniform Delay [s]	40.92	3.00	8.94	4.54	34.36	37.97
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]	11.79	0.60	2.02	0.08	0.27	8.22
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	0.83	0.49	0.74	0.05	0.14	0.84
d, Delay for Lane Group [s/veh]	52.71	3.59	10.96	4.63	34.62	46.19
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	2.72	9.88	0.29	0.69	4.35
50th-Percentile Queue Length [ft/ln]	74.60	67.88	247.06	7.35	17.20	108.65
95th-Percentile Queue Length [veh/ln]	5.37	4.89	15.04	0.53	1.24	7.76
95th-Percentile Queue Length [ft/ln]	134.28	122.18	375.94	13.24	30.95	194.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.71	3.59	10.96	4.63	34.62	46.19
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.35		10.78		44.33	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.34					
Intersection LOS	B					
Intersection V/C	0.791					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.032	0.000	2.067
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1533	1311	333
d_b, Bicycle Delay [s]	2.45	5.34	31.25
l_b,int, Bicycle LOS Score for Intersection	2.823	3.121	1.560
Bicycle LOS	C	C	A

Sequence

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

APPENDIX D-2

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_AM.vistro
Report File: K:\...\2 OY AM.pdf

Scenario 2 OY AM
4/17/2023

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 7th Edition	NB Left	0.793	20.4	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	SB Left	0.726	20.6	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	0.907	21.3	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.655	14.8	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.555	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):	20.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
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
Proportion of CAVs [%]	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]	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]	342	989	0	0	1143	600	0	0	0	589	6	403
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
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	252	0	0	291	153	0	0	0	150	2	103
Total Analysis Volume [veh/h]	348	1007	0	0	1164	611	0	0	0	600	6	410
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	34	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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	62	48	48		22	22	22
g / C, Green / Cycle	0.12	0.69	0.53	0.53		0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.10	0.19	0.17	0.38		0.19	0.19	0.21
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1766	1615
c, Capacity [veh/h]	420	3546	3674	860		449	438	401
d1, Uniform Delay [s]	38.73	5.54	11.84	15.83		31.29	31.47	32.19
k, delay calibration	0.11	0.50	0.50	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]	4.26	0.20	0.23	4.95		3.08	3.74	7.85
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	0.28	0.32	0.71		0.75	0.77	0.84
d, Delay for Lane Group [s/veh]	42.98	5.74	12.06	20.78		34.37	35.21	40.04
Lane Group LOS	D	A	B	C		C	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.94	2.14	3.14	9.83		7.02	7.13	7.70
50th-Percentile Queue Length [ft/ln]	98.57	53.49	78.41	245.66		175.46	178.18	192.44
95th-Percentile Queue Length [veh/ln]	7.10	3.85	5.65	14.97		11.36	11.51	12.25
95th-Percentile Queue Length [ft/ln]	177.42	96.28	141.13	374.18		284.08	287.63	306.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.98	5.74	0.00	0.00	12.06	20.78	0.00	0.00	0.00	34.74	35.21	39.20
Movement LOS	D	A			B	C				C	D	D
d_A, Approach Delay [s/veh]	15.30			15.07			0.00			36.54		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	20.41											
Intersection LOS	C											
Intersection V/C	0.793											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.272
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	867	0	689
d_b, Bicycle Delay [s]	7.61	14.45	45.00	19.34
l_b,int, Bicycle LOS Score for Intersection	2.305	2.292	4.132	3.236
Bicycle LOS	B	B	D	C

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):	20.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	950	425	422	1279	0	354	9	497	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
Proportion of CAVs [%]	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	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	969	434	430	1305	0	361	9	507	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	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	259	116	115	349	0	97	2	136	0	0	0
Total Analysis Volume [veh/h]	0	1036	464	460	1396	0	386	10	542	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	21	55	0	0	35	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	46	46	14	63	21	21	21	
g / C, Green / Cycle	0.51	0.51	0.16	0.70	0.23	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.31	0.13	0.39	0.17	0.19	0.19	
s, saturation flow rate [veh/h]	3618	1633	3514	3618	1810	1663	1615	
c, Capacity [veh/h]	1849	834	552	2538	420	386	374	
d1, Uniform Delay [s]	14.87	15.51	36.79	6.53	32.16	32.68	32.87	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.12	0.13	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.14	3.17	3.37	0.86	2.75	4.39	5.52	
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	0.54	0.60	0.83	0.55	0.75	0.81	0.83	
d, Delay for Lane Group [s/veh]	16.01	18.68	40.16	7.39	34.92	37.06	38.39	
Lane Group LOS	B	B	D	A	C	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.73	7.45	5.07	5.49	6.57	6.74	6.85	
50th-Percentile Queue Length [ft/ln]	168.23	186.19	126.85	137.26	164.25	168.48	171.26	
95th-Percentile Queue Length [veh/ln]	10.98	11.92	8.77	9.33	10.77	11.00	11.14	
95th-Percentile Queue Length [ft/ln]	274.59	298.09	219.21	233.32	269.34	274.91	278.58	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.10	18.68	40.16	7.39	0.00	35.32	37.06	37.82	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	16.90			15.51			36.78			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.64											
Intersection LOS	C											
Intersection V/C	0.726											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.172
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	1156	711	0
d_b, Bicycle Delay [s]	19.34	8.02	18.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.385	3.091	3.107	4.132
Bicycle LOS	B	C	C	D

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):	21.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
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
Proportion of CAVs [%]	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	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]	75	1056	30	52	1339	447	261	20	77	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
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]	20	279	8	14	354	118	69	5	20	8	4	9
Total Analysis Volume [veh/h]	79	1117	32	55	1417	473	276	21	81	34	18	37
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	47	0	21	58	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	5	56	56	19	19	19	19	19	19
g / C, Green / Cycle	0.07	0.63	0.63	0.06	0.62	0.62	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.30	0.03	0.50	0.54	0.20	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1881	1810	1900	1746	1370	1900	1615	1313	1900	1615
c, Capacity [veh/h]	122	1194	1183	109	1181	1085	313	401	341	273	401	341
d1, Uniform Delay [s]	40.95	8.92	8.92	40.98	12.81	14.04	38.51	28.32	29.48	33.59	28.27	28.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.11
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]	5.74	1.40	1.42	3.56	5.73	9.58	12.05	0.05	0.36	0.20	0.05	0.14
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	0.65	0.48	0.48	0.50	0.80	0.87	0.88	0.05	0.24	0.12	0.04	0.11
d, Delay for Lane Group [s/veh]	46.68	10.32	10.34	44.54	18.54	23.61	50.57	28.37	29.84	33.79	28.32	28.80
Lane Group LOS	D	B	B	D	B	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]	1.88	5.75	5.70	1.28	14.24	16.42	7.15	0.36	1.47	0.66	0.31	0.65
50th-Percentile Queue Length [ft/ln]	47.05	143.71	142.56	31.96	355.89	410.54	178.84	9.09	36.74	16.47	7.78	16.27
95th-Percentile Queue Length [veh/ln]	3.39	9.68	9.62	2.30	20.42	23.07	11.54	0.65	2.65	1.19	0.56	1.17
95th-Percentile Queue Length [ft/ln]	84.69	242.01	240.46	57.53	510.59	576.68	288.50	16.36	66.13	29.64	14.00	29.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.68	10.33	10.34	44.54	20.23	23.61	50.57	28.37	29.84	33.79	28.32	28.80
Movement LOS	D	B	B	D	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.67			21.74			44.89			30.61		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	21.30											
Intersection LOS	C											
Intersection V/C	0.907											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.951	3.395	2.486	2.340
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	1222	422	422
d_b, Bicycle Delay [s]	11.76	6.81	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	2.573	3.164	1.871	1.633
Bicycle LOS	B	C	A	A

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):	14.8
Analysis Method:	HCM 7th Edition	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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
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
Proportion of CAVs [%]	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	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]	73	1014	59	81	1269	129	94	30	65	40	40	74
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
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]	20	273	16	22	342	35	25	8	18	11	11	20
Total Analysis Volume [veh/h]	79	1093	64	87	1367	139	101	32	70	43	43	80
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	51	0	21	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	60	60	6	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.66	0.66	0.07	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.05	0.40	0.41	0.12	0.04	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1839	1121	1615	1313	1900	1615
c, Capacity [veh/h]	122	1259	1235	128	1267	1226	257	268	106	316	268
d1, Uniform Delay [s]	40.95	7.39	7.39	40.80	8.34	8.41	37.04	32.70	44.46	32.01	32.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	5.74	1.23	1.26	6.10	2.11	2.25	1.62	0.51	2.48	0.19	0.61
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
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
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

Lane Group Results

X, volume / capacity	0.65	0.46	0.46	0.68	0.60	0.61	0.52	0.26	0.41	0.14	0.30
d, Delay for Lane Group [s/veh]	46.68	8.62	8.65	46.90	10.45	10.66	38.65	33.21	46.95	32.20	33.52
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	5.09	5.01	2.08	7.65	7.61	2.87	1.35	1.02	0.81	1.56
50th-Percentile Queue Length [ft/ln]	47.05	127.16	125.17	51.97	191.37	190.16	71.87	33.79	25.60	20.17	38.92
95th-Percentile Queue Length [veh/ln]	3.39	8.79	8.68	3.74	12.19	12.13	5.17	2.43	1.84	1.45	2.80
95th-Percentile Queue Length [ft/ln]	84.69	219.63	216.92	93.55	304.81	303.23	129.37	60.83	46.08	36.31	70.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.68	8.63	8.65	46.90	10.54	10.66	38.65	38.65	33.21	46.95	32.20	33.52
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	11.06			12.54			36.78			36.66		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	14.76											
Intersection LOS	B											
Intersection V/C	0.655											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.957	0.000	0.000	2.218
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1311	333	333
d_b, Bicycle Delay [s]	9.80	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.579	2.874	1.895	1.834
Bicycle LOS	B	C	A	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
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]	107	1036	1184	54	41	115
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	272	311	14	11	30
Total Analysis Volume [veh/h]	112	1088	1244	57	43	121
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	19	70	51	0	20	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.34	0.04	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	145	3025	2614	1167	176	157
d1, Uniform Delay [s]	40.58	1.73	5.28	3.59	37.57	39.65
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]	8.35	0.33	0.62	0.08	0.71	7.74
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	0.36	0.48	0.05	0.24	0.77
d, Delay for Lane Group [s/veh]	48.93	2.06	5.90	3.67	38.28	47.39
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.74	1.07	4.04	0.26	0.90	2.91
50th-Percentile Queue Length [ft/ln]	68.48	26.87	101.09	6.59	22.56	72.85
95th-Percentile Queue Length [veh/ln]	4.93	1.93	7.28	0.47	1.62	5.25
95th-Percentile Queue Length [ft/ln]	123.27	48.36	181.97	11.86	40.61	131.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.93	2.06	5.90	3.67	38.28	47.39
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.44		5.81		45.00	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.50					
Intersection LOS	A					
Intersection V/C	0.555					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.871	0.000	2.050
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1067	378
d_b, Bicycle Delay [s]	2.94	9.80	29.61
l_b,int, Bicycle LOS Score for Intersection	2.550	2.633	1.560
Bicycle LOS	B	B	A

Sequence

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

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_PM.vistro
Report File: K:\...\2 OY PM.pdf

Scenario 2 OY PM
4/27/2023

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 7th Edition	NB Left	0.737	20.3	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.951	28.2	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.099	46.8	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	NB Left	0.770	15.9	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.807	11.7	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):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
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
Proportion of CAVs [%]	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]	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]	369	1696	0	0	1294	435	0	0	0	621	2	581
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
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]	95	435	0	0	332	112	0	0	0	159	1	149
Total Analysis Volume [veh/h]	378	1739	0	0	1327	446	0	0	0	637	2	596
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	15	47	0	0	32	0	0	0	0	0	43	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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	57	43	43		27	27	27
g / C, Green / Cycle	0.13	0.63	0.47	0.47		0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.11	0.34	0.19	0.28		0.23	0.24	0.25
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1717	1615
c, Capacity [veh/h]	451	3280	3258	763		542	514	484
d1, Uniform Delay [s]	38.32	9.09	15.52	17.32		28.58	29.04	29.63
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.13	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.24	0.62	0.38	3.27		2.22	3.47	6.02
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	0.84	0.53	0.41	0.58		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	42.56	9.71	15.90	20.59		30.79	32.50	35.65
Lane Group LOS	D	A	B	C		C	C	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.27	5.65	4.32	7.04		8.13	8.42	8.90
50th-Percentile Queue Length [ft/ln]	106.76	141.35	107.91	175.97		203.34	210.52	222.41
95th-Percentile Queue Length [veh/ln]	7.66	9.55	7.72	11.39		12.81	13.18	13.79
95th-Percentile Queue Length [ft/ln]	191.49	238.85	193.09	284.75		320.28	329.49	344.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.56	9.71	0.00	0.00	15.90	20.59	0.00	0.00	0.00	31.40	32.50	34.68
Movement LOS	D	A			B	C				C	C	C
d_A, Approach Delay [s/veh]	15.58			17.08			0.00			32.98		
Approach LOS	B			B			A			C		
d_I, Intersection Delay [s/veh]	20.29											
Intersection LOS	C											
Intersection V/C	0.737											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.343
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	644	0	889
d_b, Bicycle Delay [s]	11.76	20.67	45.00	13.89
l_b,int, Bicycle LOS Score for Intersection	2.724	2.291	4.132	3.597
Bicycle LOS	B	B	D	D

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):	28.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	1397	657	487	1415	0	627	0	469	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
Proportion of CAVs [%]	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	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	1425	670	497	1443	0	640	0	478	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	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	366	172	128	371	0	164	0	123	0	0	0
Total Analysis Volume [veh/h]	0	1465	689	511	1483	0	658	0	491	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	18	63	0	0	27	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	43	43	15	61	23	23	23	
g / C, Green / Cycle	0.48	0.48	0.16	0.67	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.40	0.44	0.15	0.41	0.21	0.22	0.24	
s, saturation flow rate [veh/h]	3618	1625	3514	3618	1810	1750	1615	
c, Capacity [veh/h]	1717	771	580	2435	471	455	420	
d1, Uniform Delay [s]	20.60	22.25	36.70	8.15	31.24	31.53	32.29	
k, delay calibration	0.50	0.50	0.11	0.50	0.20	0.21	0.26	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	5.02	19.39	4.55	1.14	6.14	8.05	16.07	
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	0.84	0.93	0.88	0.61	0.81	0.84	0.91	
d, Delay for Lane Group [s/veh]	25.61	41.65	41.24	9.29	37.39	39.58	48.36	
Lane Group LOS	C	D	D	A	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	13.37	17.31	5.75	7.01	8.40	8.68	9.72	
50th-Percentile Queue Length [ft/ln]	334.29	432.74	143.64	175.18	209.93	217.05	243.08	
95th-Percentile Queue Length [veh/ln]	19.37	24.13	9.68	11.35	13.15	13.51	14.84	
95th-Percentile Queue Length [ft/ln]	484.21	603.32	241.91	283.72	328.74	337.86	370.93	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.93	41.65	41.24	9.29	0.00	38.30	39.58	46.43	0.00	0.00	0.00
Movement LOS		C	D	D	A		D	D	D			
d_A, Approach Delay [s/veh]	30.96			17.48			41.78			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	28.23											
Intersection LOS	C											
Intersection V/C	0.951											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.301
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	1333	533	0
d_b, Bicycle Delay [s]	12.80	5.00	24.20	45.00
l_b,int, Bicycle LOS Score for Intersection	2.744	3.205	3.455	4.132
Bicycle LOS	B	C	C	D

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):	46.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.099

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
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
Proportion of CAVs [%]	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	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]	37	1505	22	28	1579	310	450	126	161	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	10	401	6	7	420	83	120	34	43	10	9	21
Total Analysis Volume [veh/h]	39	1603	23	30	1682	330	479	134	171	38	35	85
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	42	0	20	52	0	0	28	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	4	52	52	4	52	52	25	25	25	25	25	25
g / C, Green / Cycle	0.05	0.58	0.58	0.04	0.57	0.57	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.43	0.02	0.53	0.56	0.37	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1796	1292	1900	1615	1091	1900	1615
c, Capacity [veh/h]	88	1102	1097	76	1090	1030	358	528	449	266	528	449
d1, Uniform Delay [s]	41.62	13.89	13.91	41.98	17.39	18.60	37.47	25.25	26.25	32.11	23.91	24.78
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	3.46	4.45	4.51	3.26	14.10	22.94	169.39	0.25	0.53	0.24	0.05	0.20
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	0.44	0.74	0.74	0.39	0.92	0.98	1.34	0.25	0.38	0.14	0.07	0.19
d, Delay for Lane Group [s/veh]	45.09	18.33	18.42	45.24	31.49	41.54	206.86	25.50	26.78	32.36	23.97	24.98
Lane Group LOS	D	B	B	D	C	D	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]	0.92	12.19	12.19	0.71	20.89	24.34	24.78	2.22	2.97	0.72	0.55	1.39
50th-Percentile Queue Length [ft/ln]	22.95	304.64	304.79	17.80	522.21	608.59	619.62	55.60	74.20	18.03	13.72	34.66
95th-Percentile Queue Length [veh/ln]	1.65	17.91	17.92	1.28	28.38	32.44	38.33	4.00	5.34	1.30	0.99	2.50
95th-Percentile Queue Length [ft/ln]	41.30	447.77	447.95	32.04	709.59	810.88	958.19	100.08	133.56	32.46	24.69	62.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.09	18.38	18.42	45.24	35.53	41.54	206.86	25.50	26.78	32.36	23.97	24.98
Movement LOS	D	B	B	D	D	D	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	19.00			36.64			136.59			26.53		
Approach LOS	B			D			F			C		
d_I, Intersection Delay [s/veh]	46.84											
Intersection LOS	D											
Intersection V/C	1.099											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.086	3.820	2.533	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	867	1089	556	556
d_b, Bicycle Delay [s]	14.45	9.34	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.933	3.244	2.206	1.690
Bicycle LOS	C	C	B	A

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):	15.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
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
Proportion of CAVs [%]	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	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]	93	1347	18	49	1626	83	116	15	101	42	19	68
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
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]	25	361	5	13	435	22	31	4	27	11	5	18
Total Analysis Volume [veh/h]	100	1442	19	52	1741	89	124	16	108	45	20	73
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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]	12	62	0	10	60	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	61	61	5	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.68	0.68	0.06	0.66	0.66	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.39	0.39	0.03	0.48	0.49	0.12	0.07	0.03	0.01	0.05
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1868	1138	1615	1287	1900	1615
c, Capacity [veh/h]	132	1285	1279	105	1256	1235	264	267	106	315	267
d1, Uniform Delay [s]	40.92	7.66	7.67	41.12	9.97	10.12	37.19	33.57	44.48	31.66	32.81
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	8.42	1.83	1.85	3.60	3.74	4.01	1.65	0.98	2.69	0.08	0.54
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
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
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

Lane Group Results

X, volume / capacity	0.76	0.57	0.57	0.50	0.73	0.74	0.53	0.40	0.43	0.06	0.27
d, Delay for Lane Group [s/veh]	49.33	9.49	9.52	44.72	13.72	14.13	38.84	34.55	47.17	31.74	33.36
Lane Group LOS	D	A	A	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.46	6.84	6.83	1.21	11.17	11.36	3.03	2.15	1.07	0.37	1.41
50th-Percentile Queue Length [ft/ln]	61.48	171.03	170.80	30.30	279.24	283.93	75.79	53.80	26.86	9.26	35.34
95th-Percentile Queue Length [veh/ln]	4.43	11.13	11.12	2.18	16.65	16.88	5.46	3.87	1.93	0.67	2.54
95th-Percentile Queue Length [ft/ln]	110.66	278.26	277.97	54.55	416.26	422.11	136.42	96.83	48.34	16.67	63.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.33	9.50	9.52	44.72	13.91	14.13	38.84	38.84	34.55	47.17	31.74	33.36
Movement LOS	D	A	A	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	12.06			14.77			36.97			37.63		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.93											
Intersection LOS	B											
Intersection V/C	0.770											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.080	0.000	0.000	2.187
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1311	1267	333	333
d_b, Bicycle Delay [s]	5.34	6.05	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.847	3.112	1.969	1.787
Bicycle LOS	C	C	A	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
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]	108	1306	1697	49	33	168
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	361	469	14	9	46
Total Analysis Volume [veh/h]	119	1443	1875	54	36	186
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	10	72	62	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	72	62	62	12	12
g / C, Green / Cycle	0.08	0.80	0.69	0.69	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.03	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2881	2479	1107	248	221
d1, Uniform Delay [s]	40.97	3.11	9.26	4.61	34.19	37.87
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]	12.78	0.63	2.21	0.08	0.27	8.29
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	0.85	0.50	0.76	0.05	0.15	0.84
d, Delay for Lane Group [s/veh]	53.74	3.73	11.47	4.70	34.46	46.17
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.07	2.88	10.43	0.30	0.71	4.44
50th-Percentile Queue Length [ft/ln]	76.72	72.05	260.87	7.58	17.64	111.05
95th-Percentile Queue Length [veh/ln]	5.52	5.19	15.73	0.55	1.27	7.90
95th-Percentile Queue Length [ft/ln]	138.10	129.70	393.32	13.65	31.74	197.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.74	3.73	11.47	4.70	34.46	46.17
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.54		11.28		44.27	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.68					
Intersection LOS	B					
Intersection V/C	0.807					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.043	0.000	2.070
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1533	1311	333
d_b, Bicycle Delay [s]	2.45	5.34	31.25
l_b,int, Bicycle LOS Score for Intersection	2.848	3.151	1.560
Bicycle LOS	C	C	A

Sequence

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

APPENDIX D-3

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
PLUS PROJECT

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_AM.vistro
Report File: K:\...\3 OY WP AM.pdf

Scenario 3 OY WP AM
4/21/2023

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 7th Edition	NB Left	0.810	21.2	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	SB Left	0.753	21.1	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	0.924	22.1	C
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.664	16.4	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.555	8.5	A
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.129	11.8	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):	21.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
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
Proportion of CAVs [%]	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]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	1	0	0	1	0	0	0	0	24	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]	377	990	0	0	1144	600	0	0	0	613	6	403
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
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]	96	252	0	0	291	153	0	0	0	156	2	103
Total Analysis Volume [veh/h]	384	1008	0	0	1165	611	0	0	0	624	6	410
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	34	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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	61	47	47		23	23	23
g / C, Green / Cycle	0.12	0.68	0.53	0.53		0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.17	0.38		0.19	0.20	0.21
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1772	1615
c, Capacity [veh/h]	430	3521	3621	847		458	448	409
d1, Uniform Delay [s]	38.93	5.71	12.23	16.35		31.06	31.21	31.97
k, delay calibration	0.11	0.50	0.50	0.50		0.14	0.15	0.19
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	6.70	0.20	0.24	5.27		3.29	3.89	8.31
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	0.89	0.29	0.32	0.72		0.76	0.77	0.85
d, Delay for Lane Group [s/veh]	45.63	5.92	12.46	21.62		34.35	35.10	40.28
Lane Group LOS	D	A	B	C		C	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.51	2.19	3.21	10.07		7.19	7.29	7.92
50th-Percentile Queue Length [ft/ln]	112.71	54.85	80.21	251.82		179.86	182.34	197.96
95th-Percentile Queue Length [veh/ln]	7.99	3.95	5.77	15.28		11.59	11.72	12.53
95th-Percentile Queue Length [ft/ln]	199.76	98.73	144.37	381.94		289.83	293.07	313.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.63	5.92	0.00	0.00	12.46	21.62	0.00	0.00	0.00	34.68	35.10	39.48
Movement LOS	D	A			B	C				C	D	D
d_A, Approach Delay [s/veh]	16.87			15.61			0.00			36.58		
Approach LOS	B			B			A			D		
d_I, Intersection Delay [s/veh]	21.21											
Intersection LOS	C											
Intersection V/C	0.810											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.280
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	867	0	689
d_b, Bicycle Delay [s]	7.61	14.45	45.00	19.34
l_b,int, Bicycle LOS Score for Intersection	2.325	2.292	4.132	3.276
Bicycle LOS	B	B	D	C

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):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	950	425	422	1279	0	354	9	497	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
Proportion of CAVs [%]	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	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	34	0	25	0	0	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
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	1005	468	430	1330	0	361	9	530	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	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	269	125	115	356	0	97	2	142	0	0	0
Total Analysis Volume [veh/h]	0	1075	501	460	1422	0	386	10	567	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	21	55	0	0	35	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	46	46	14	63	21	21	21	
g / C, Green / Cycle	0.51	0.51	0.16	0.70	0.24	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.29	0.32	0.13	0.39	0.18	0.19	0.20	
s, saturation flow rate [veh/h]	3618	1626	3514	3618	1810	1658	1615	
c, Capacity [veh/h]	1826	821	552	2515	431	395	384	
d1, Uniform Delay [s]	15.55	16.30	36.79	6.88	31.78	32.39	32.59	
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]	1.33	3.81	3.37	0.93	2.61	4.84	6.06	
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	0.58	0.64	0.83	0.57	0.75	0.81	0.83	
d, Delay for Lane Group [s/veh]	16.87	20.10	40.16	7.81	34.39	37.23	38.65	
Lane Group LOS	B	C	D	A	C	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.35	8.22	5.07	5.85	6.65	6.96	7.11	
50th-Percentile Queue Length [ft/ln]	183.69	205.42	126.85	146.28	166.23	174.10	177.82	
95th-Percentile Queue Length [veh/ln]	11.79	12.92	8.77	9.82	10.88	11.29	11.49	
95th-Percentile Queue Length [ft/ln]	294.82	322.94	219.21	245.46	271.95	282.30	287.16	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.95	20.10	40.16	7.81	0.00	34.87	37.23	38.04	0.00	0.00	0.00
Movement LOS		B	C	D	A		C	D	D			
d_A, Approach Delay [s/veh]	17.95			15.72			36.76			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.10											
Intersection LOS	C											
Intersection V/C	0.753											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.190
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	1156	711	0
d_b, Bicycle Delay [s]	19.34	8.02	18.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.426	3.112	3.149	4.132
Bicycle LOS	B	C	C	D

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):	22.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
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
Proportion of CAVs [%]	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	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	70	0	0	48	0	0	0	1	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]	76	1126	30	52	1387	447	261	20	78	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
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]	20	298	8	14	367	118	69	5	21	8	4	9
Total Analysis Volume [veh/h]	80	1192	32	55	1468	473	276	21	83	34	18	37
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	47	0	21	58	0	0	22	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	5	56	56	19	19	19	19	19	19
g / C, Green / Cycle	0.07	0.63	0.63	0.06	0.62	0.62	0.21	0.21	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.32	0.32	0.03	0.51	0.55	0.20	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1883	1810	1900	1750	1370	1900	1615	1311	1900	1615
c, Capacity [veh/h]	122	1194	1183	109	1181	1087	313	401	341	272	401	341
d1, Uniform Delay [s]	40.95	9.18	9.18	40.98	13.18	14.48	38.51	28.32	29.52	33.68	28.27	28.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.11
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]	5.85	1.59	1.60	3.56	6.51	11.17	12.05	0.05	0.37	0.20	0.05	0.14
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	0.66	0.51	0.52	0.50	0.82	0.89	0.88	0.05	0.24	0.13	0.04	0.11
d, Delay for Lane Group [s/veh]	46.80	10.76	10.79	44.54	19.69	25.65	50.57	28.37	29.89	33.88	28.32	28.80
Lane Group LOS	D	B	B	D	B	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]	1.91	6.32	6.27	1.28	15.18	17.71	7.15	0.36	1.51	0.66	0.31	0.65
50th-Percentile Queue Length [ft/ln]	47.71	157.88	156.81	31.96	379.54	442.74	178.84	9.09	37.70	16.50	7.78	16.27
95th-Percentile Queue Length [veh/ln]	3.44	10.44	10.38	2.30	21.57	24.61	11.54	0.65	2.71	1.19	0.56	1.17
95th-Percentile Queue Length [ft/ln]	85.88	260.92	259.49	57.53	539.29	615.28	288.50	16.36	67.86	29.69	14.00	29.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.80	10.77	10.79	44.54	21.71	25.65	50.57	28.37	29.89	33.88	28.32	28.80
Movement LOS	D	B	B	D	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.98			23.27			44.82			30.64		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	22.06											
Intersection LOS	C											
Intersection V/C	0.924											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.972	3.416	2.487	2.340
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	1222	422	422
d_b, Bicycle Delay [s]	11.76	6.81	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	2.635	3.206	1.873	1.633
Bicycle LOS	B	C	A	A

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):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
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
Proportion of CAVs [%]	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	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	49	0	0	0	1	0	2	1	71
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]	73	1014	61	130	1269	129	94	31	65	42	41	145
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
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]	20	273	16	35	342	35	25	8	18	11	11	39
Total Analysis Volume [veh/h]	79	1093	66	140	1367	139	101	33	70	45	44	156
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	51	0	21	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	9	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.64	0.64	0.10	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.08	0.40	0.41	0.13	0.04	0.03	0.02	0.10
s, saturation flow rate [veh/h]	1810	1900	1862	1810	1900	1840	1067	1615	1312	1900	1615
c, Capacity [veh/h]	122	1208	1184	177	1266	1226	248	269	99	316	269
d1, Uniform Delay [s]	40.95	8.63	8.63	39.69	8.34	8.43	37.21	32.68	44.72	32.01	34.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	5.74	1.39	1.42	7.66	2.11	2.26	1.84	0.51	3.22	0.20	1.98
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
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
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

Lane Group Results

X, volume / capacity	0.65	0.48	0.48	0.79	0.60	0.61	0.54	0.26	0.45	0.14	0.58
d, Delay for Lane Group [s/veh]	46.68	10.02	10.06	47.36	10.45	10.69	39.05	33.19	47.94	32.21	36.59
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	5.72	5.62	3.36	7.64	7.63	2.92	1.35	1.08	0.83	3.25
50th-Percentile Queue Length [ft/ln]	47.05	142.92	140.62	84.09	191.07	190.63	73.07	33.79	27.10	20.65	81.20
95th-Percentile Queue Length [veh/ln]	3.39	9.64	9.51	6.05	12.18	12.15	5.26	2.43	1.95	1.49	5.85
95th-Percentile Queue Length [ft/ln]	84.69	240.95	237.86	151.36	304.41	303.85	131.53	60.82	48.77	37.17	146.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.68	10.04	10.06	47.36	10.55	10.69	39.05	39.05	33.19	47.94	32.21	36.59
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	12.38			13.69			37.04			37.89		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.41											
Intersection LOS	B											
Intersection V/C	0.664											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.960	0.000	0.000	2.251
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1311	333	333
d_b, Bicycle Delay [s]	9.80	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.581	2.918	1.896	1.964
Bicycle LOS	B	C	A	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	1	1	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]	107	1037	1185	55	42	115
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	272	311	14	11	30
Total Analysis Volume [veh/h]	112	1089	1245	58	44	121
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	19	70	51	0	20	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.34	0.04	0.02	0.07
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	145	3025	2614	1167	176	157
d1, Uniform Delay [s]	40.58	1.73	5.28	3.60	37.59	39.64
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]	8.35	0.33	0.62	0.08	0.73	7.72
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	0.36	0.48	0.05	0.25	0.77
d, Delay for Lane Group [s/veh]	48.93	2.06	5.91	3.68	38.32	47.36
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.74	1.08	4.05	0.27	0.92	2.91
50th-Percentile Queue Length [ft/ln]	68.48	26.93	101.25	6.71	23.10	72.83
95th-Percentile Queue Length [veh/ln]	4.93	1.94	7.29	0.48	1.66	5.24
95th-Percentile Queue Length [ft/ln]	123.27	48.47	182.25	12.08	41.59	131.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.93	2.06	5.91	3.68	38.32	47.36
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.44		5.81		44.95	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.51					
Intersection LOS	A					
Intersection V/C	0.555					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.872	0.000	2.051
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1067	378
d_b, Bicycle Delay [s]	2.94	9.80	29.61
l_b,int, Bicycle LOS Score for Intersection	2.550	2.635	1.560
Bicycle LOS	B	B	A

Sequence

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

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.129

Intersection Setup

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

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	183	0	0	168
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]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	74	0	0	52	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]	74	0	187	52	0	171
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]	19	0	49	14	0	45
Total Analysis Volume [veh/h]	78	0	197	55	0	180
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
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	0.13	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.82	10.27	0.00	0.00	7.72	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.00	11.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.82		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.81					
Intersection LOS	B					

249 Santa Ana Avenue Truck Terminal

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Report File: K:\...\3 OY WP PM.pdf

Scenario 3 OY WP PM
4/27/2023

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 7th Edition	NB Left	0.764	21.3	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	NB Right	0.986	31.2	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.141	53.1	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	SB Left	0.784	25.2	C
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.809	11.7	B
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.139	11.0	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):	21.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
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
Proportion of CAVs [%]	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]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	5	0	0	4	0	0	0	0	61	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]	406	1701	0	0	1298	435	0	0	0	682	2	581
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
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]	104	436	0	0	333	112	0	0	0	175	1	149
Total Analysis Volume [veh/h]	416	1745	0	0	1331	446	0	0	0	699	2	596
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	15	47	0	0	32	0	0	0	0	0	43	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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	56	41	41		28	28	28
g / C, Green / Cycle	0.13	0.62	0.45	0.45		0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.12	0.34	0.19	0.28		0.24	0.25	0.27
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1731	1615
c, Capacity [veh/h]	469	3207	3126	732		568	543	507
d1, Uniform Delay [s]	38.34	9.82	16.68	18.60		27.85	28.26	28.95
k, delay calibration	0.11	0.50	0.50	0.50		0.13	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]	5.88	0.67	0.43	3.76		2.52	3.64	6.65
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	0.89	0.54	0.43	0.61		0.76	0.80	0.85
d, Delay for Lane Group [s/veh]	44.22	10.49	17.11	22.36		30.38	31.89	35.60
Lane Group LOS	D	B	B	C		C	C	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.81	5.99	4.53	7.40		8.52	8.79	9.38
50th-Percentile Queue Length [ft/ln]	120.36	149.70	113.26	184.92		213.02	219.74	234.45
95th-Percentile Queue Length [veh/ln]	8.41	10.00	8.02	11.86		13.31	13.65	14.40
95th-Percentile Queue Length [ft/ln]	210.32	250.03	200.53	296.43		332.70	341.29	360.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.22	10.49	0.00	0.00	17.11	22.36	0.00	0.00	0.00	30.95	31.89	34.58
Movement LOS	D	B			B	C				C	C	C
d_A, Approach Delay [s/veh]	16.98			18.42			0.00			32.62		
Approach LOS	B			B			A			C		
d_I, Intersection Delay [s/veh]	21.35											
Intersection LOS	C											
Intersection V/C	0.764											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.363
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	978	644	0	889
d_b, Bicycle Delay [s]	11.76	20.67	45.00	13.89
l_b,int, Bicycle LOS Score for Intersection	2.748	2.293	4.132	3.700
Bicycle LOS	B	B	D	D

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):	31.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.986

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	1397	657	487	1415	0	627	0	469	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
Proportion of CAVs [%]	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	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	42	36	0	65	0	0	0	58	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	1467	706	497	1508	0	640	0	536	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	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	377	181	128	387	0	164	0	138	0	0	0
Total Analysis Volume [veh/h]	0	1508	726	511	1550	0	658	0	551	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	18	63	0	0	27	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	42	42	15	60	24	24	24	
g / C, Green / Cycle	0.47	0.47	0.16	0.67	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.41	0.46	0.15	0.43	0.22	0.23	0.25	
s, saturation flow rate [veh/h]	3618	1621	3514	3618	1810	1733	1615	
c, Capacity [veh/h]	1694	759	580	2412	482	462	430	
d1, Uniform Delay [s]	21.62	23.53	36.70	8.74	31.15	31.55	32.27	
k, delay calibration	0.50	0.50	0.11	0.50	0.22	0.25	0.28	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	6.85	28.31	4.55	1.33	7.68	11.01	20.43	
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	0.98	0.88	0.64	0.84	0.87	0.94	
d, Delay for Lane Group [s/veh]	28.47	51.83	41.24	10.07	38.83	42.56	52.69	
Lane Group LOS	C	D	D	B	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	14.78	20.30	5.75	7.83	9.04	9.53	10.74	
50th-Percentile Queue Length [ft/ln]	369.46	507.42	143.64	195.67	226.03	238.19	268.53	
95th-Percentile Queue Length [veh/ln]	21.08	27.69	9.68	12.41	13.97	14.59	16.12	
95th-Percentile Queue Length [ft/ln]	527.08	692.14	241.91	310.37	349.31	364.75	402.91	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	28.76	51.83	41.24	10.07	0.00	40.27	42.56	49.97	0.00	0.00	0.00
Movement LOS		C	D	D	B		D	D	D			
d_A, Approach Delay [s/veh]	36.26			17.80			44.69			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	31.20											
Intersection LOS	C											
Intersection V/C	0.986											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.319
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	1333	533	0
d_b, Bicycle Delay [s]	12.80	5.00	24.20	45.00
l_b,int, Bicycle LOS Score for Intersection	2.788	3.260	3.554	4.132
Bicycle LOS	C	C	D	D

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):	53.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.141

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
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
Proportion of CAVs [%]	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	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	78	0	0	123	0	0	0	3	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]	40	1583	22	28	1702	310	450	126	164	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	11	421	6	7	453	83	120	34	44	10	9	21
Total Analysis Volume [veh/h]	43	1686	23	30	1813	330	479	134	175	38	35	85
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	42	0	20	52	0	0	28	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	5	52	52	4	51	51	25	25	25	25	25	25
g / C, Green / Cycle	0.05	0.58	0.58	0.04	0.57	0.57	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.45	0.02	0.56	0.59	0.37	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1802	1292	1900	1615	1087	1900	1615
c, Capacity [veh/h]	93	1102	1097	76	1084	1029	358	528	449	263	528	449
d1, Uniform Delay [s]	41.48	14.43	14.47	41.98	19.01	19.31	37.47	25.25	26.32	32.29	23.91	24.78
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	3.54	5.37	5.46	3.26	24.60	39.53	169.39	0.25	0.55	0.25	0.05	0.20
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	0.46	0.78	0.78	0.39	0.99	1.04	1.34	0.25	0.39	0.14	0.07	0.19
d, Delay for Lane Group [s/veh]	45.01	19.81	19.93	45.24	43.62	58.84	206.86	25.50	26.88	32.54	23.97	24.98
Lane Group LOS	D	B	B	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]	1.01	13.47	13.50	0.71	26.69	30.09	24.78	2.22	3.05	0.72	0.55	1.39
50th-Percentile Queue Length [ft/ln]	25.23	336.65	337.39	17.80	667.15	752.27	619.62	55.60	76.16	18.10	13.72	34.66
95th-Percentile Queue Length [veh/ln]	1.82	19.48	19.52	1.28	35.16	40.44	38.33	4.00	5.48	1.30	0.99	2.50
95th-Percentile Queue Length [ft/ln]	45.41	487.11	488.01	32.04	878.95	1010.99	958.19	100.08	137.10	32.57	24.69	62.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.01	19.87	19.93	45.24	49.84	58.84	206.86	25.50	26.88	32.54	23.97	24.98
Movement LOS	D	B	B	D	D	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	20.49			51.15			136.05			26.57		
Approach LOS	C			D			F			C		
d_I, Intersection Delay [s/veh]	53.06											
Intersection LOS	D											
Intersection V/C	1.141											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.122	3.854	2.535	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	867	1089	556	556
d_b, Bicycle Delay [s]	14.45	9.34	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	3.005	3.352	2.210	1.690
Bicycle LOS	C	C	B	A

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):	25.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
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
Proportion of CAVs [%]	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	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	7	126	0	0	0	3	0	8	3	81
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]	93	1347	25	175	1626	83	116	18	101	50	22	149
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
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]	25	361	7	47	435	22	31	5	27	13	6	40
Total Analysis Volume [veh/h]	100	1442	27	187	1741	89	124	19	108	54	24	160
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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]	12	62	0	10	60	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	7	59	59	7	59	59	15	15	15	15	15
g / C, Green / Cycle	0.07	0.66	0.66	0.08	0.66	0.66	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.39	0.39	0.10	0.48	0.49	0.13	0.07	0.04	0.01	0.10
s, saturation flow rate [veh/h]	1810	1900	1888	1810	1900	1868	1066	1615	1284	1900	1615
c, Capacity [veh/h]	132	1246	1238	141	1254	1233	252	269	95	317	269
d1, Uniform Delay [s]	40.92	8.71	8.73	41.50	10.03	10.19	37.45	33.49	44.85	31.65	34.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	8.42	2.06	2.09	158.34	3.75	4.06	1.99	0.96	5.25	0.10	2.09
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
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
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

Lane Group Results

X, volume / capacity	0.76	0.59	0.59	1.33	0.73	0.74	0.57	0.40	0.57	0.08	0.59
d, Delay for Lane Group [s/veh]	49.33	10.78	10.82	199.84	13.78	14.24	39.45	34.45	50.10	31.75	36.78
Lane Group LOS	D	B	B	F	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.46	7.59	7.58	9.27	11.17	11.42	3.14	2.15	1.33	0.45	3.34
50th-Percentile Queue Length [ft/ln]	61.48	189.85	189.53	231.72	279.34	285.38	78.54	53.74	33.32	11.13	83.61
95th-Percentile Queue Length [veh/ln]	4.43	12.11	12.10	15.56	16.66	16.96	5.65	3.87	2.40	0.80	6.02
95th-Percentile Queue Length [ft/ln]	110.66	302.84	302.41	389.01	416.39	423.90	141.36	96.73	59.97	20.03	150.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.33	10.80	10.82	199.84	14.00	14.24	39.45	39.45	34.45	50.10	31.75	36.78
Movement LOS	D	B	B	F	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	13.25			31.24			37.30			39.30		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	25.16											
Intersection LOS	C											
Intersection V/C	0.784											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.095	0.000	0.000	2.247
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1311	1267	333	333
d_b, Bicycle Delay [s]	5.34	6.05	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.854	3.224	1.974	1.952
Bicycle LOS	C	C	A	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	5	3	3	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]	108	1310	1702	52	36	168
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	362	470	14	10	46
Total Analysis Volume [veh/h]	119	1448	1881	57	40	186
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	10	72	62	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	72	62	62	12	12
g / C, Green / Cycle	0.08	0.80	0.69	0.69	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.04	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	141	2880	2478	1106	248	221
d1, Uniform Delay [s]	40.97	3.12	9.30	4.63	34.26	37.87
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]	12.78	0.63	2.24	0.09	0.30	8.26
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	0.85	0.50	0.76	0.05	0.16	0.84
d, Delay for Lane Group [s/veh]	53.74	3.75	11.54	4.71	34.56	46.13
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.07	2.90	10.51	0.32	0.79	4.44
50th-Percentile Queue Length [ft/ln]	76.72	72.54	262.84	8.02	19.64	111.00
95th-Percentile Queue Length [veh/ln]	5.52	5.22	15.83	0.58	1.41	7.90
95th-Percentile Queue Length [ft/ln]	138.10	130.57	395.78	14.44	35.36	197.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.74	3.75	11.54	4.71	34.56	46.13
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.54		11.34		44.08	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.73					
Intersection LOS	B					
Intersection V/C	0.809					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.045	0.000	2.072
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1533	1311	333
d_b, Bicycle Delay [s]	2.45	5.34	31.25
l_b,int, Bicycle LOS Score for Intersection	2.852	3.158	1.560
Bicycle LOS	C	C	A

Sequence

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

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.139

Intersection Setup

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

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	81	0	0	127
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]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	0	0	136	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]	92	0	83	136	0	130
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	0	22	36	0	34
Total Analysis Volume [veh/h]	97	0	87	143	0	137
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
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	0.14	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.97	9.86	0.00	0.00	7.67	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.48	0.48	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.99	11.99	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.97		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.29					
Intersection LOS	B					

APPENDIX D-4

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
CUMULATIVE

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_AM.vistro
Report File: K:\...\4 OY CP AM.pdf

Scenario 4 OY CP AM
4/21/2023

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 7th Edition	WB Right	0.964	27.9	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.888	27.1	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.104	45.2	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.743	16.9	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.560	8.7	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):	27.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
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
Proportion of CAVs [%]	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]	102	128	0	0	95	95	0	0	0	151	0	128
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]	444	1117	0	0	1238	695	0	0	0	740	6	531
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
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]	113	284	0	0	315	177	0	0	0	188	2	135
Total Analysis Volume [veh/h]	452	1137	0	0	1261	708	0	0	0	754	6	541
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	16	61	0	0	45	0	0	0	0	0	29	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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]	13	58	42	42		26	26	26
g / C, Green / Cycle	0.14	0.65	0.47	0.47		0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.13	0.22	0.18	0.44		0.24	0.25	0.27
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1758	1615
c, Capacity [veh/h]	508	3345	3233	757		519	505	464
d1, Uniform Delay [s]	37.80	7.21	15.55	22.63		30.08	30.36	31.27
k, delay calibration	0.11	0.50	0.50	0.50		0.26	0.28	0.33
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.59	0.28	0.36	20.33		8.25	10.38	21.27
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	0.89	0.34	0.39	0.94		0.83	0.86	0.94
d, Delay for Lane Group [s/veh]	43.40	7.49	15.91	42.96		38.34	40.75	52.54
Lane Group LOS	D	A	B	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.19	2.98	4.09	17.38		9.71	10.06	11.60
50th-Percentile Queue Length [ft/ln]	129.84	74.43	102.26	434.51		242.87	251.47	289.99
95th-Percentile Queue Length [veh/ln]	8.93	5.36	7.36	24.22		14.83	15.26	17.19
95th-Percentile Queue Length [ft/ln]	223.28	133.97	184.07	605.44		370.66	381.50	429.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.40	7.49	0.00	0.00	15.91	42.96	0.00	0.00	0.00	39.36	40.75	50.20
Movement LOS	D	A			B	D				D	D	D
d_A, Approach Delay [s/veh]	17.70			25.64			0.00			43.87		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	27.93											
Intersection LOS	C											
Intersection V/C	0.964											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.365
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1289	933	0	578
d_b, Bicycle Delay [s]	5.69	12.80	45.00	22.76
l_b,int, Bicycle LOS Score for Intersection	2.434	2.372	4.132	3.706
Bicycle LOS	B	B	D	D

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):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	950	425	422	1279	0	354	9	497	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
Proportion of CAVs [%]	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	102	102	95	151	0	128	0	151	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	1071	536	525	1456	0	489	9	658	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	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	286	143	140	389	0	131	2	176	0	0	0
Total Analysis Volume [veh/h]	0	1145	573	561	1557	0	523	10	704	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	39	0	20	59	0	0	31	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	39	39	16	58	26	26	26	
g / C, Green / Cycle	0.43	0.43	0.18	0.65	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.32	0.35	0.16	0.43	0.23	0.25	0.26	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1669	1615	
c, Capacity [veh/h]	1569	700	635	2343	517	477	461	
d1, Uniform Delay [s]	21.12	22.37	35.94	9.81	29.74	30.49	30.83	
k, delay calibration	0.50	0.50	0.11	0.50	0.23	0.28	0.30	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.03	10.28	4.29	1.51	6.04	11.32	14.87	
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	0.73	0.82	0.88	0.66	0.80	0.86	0.89	
d, Delay for Lane Group [s/veh]	24.15	32.66	40.23	11.32	35.78	41.81	45.70	
Lane Group LOS	C	C	D	B	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	10.09	12.00	6.25	8.58	8.87	9.70	10.20	
50th-Percentile Queue Length [ft/ln]	252.34	300.07	156.34	214.41	221.70	242.58	255.03	
95th-Percentile Queue Length [veh/ln]	15.30	17.68	10.35	13.38	13.75	14.81	15.44	
95th-Percentile Queue Length [ft/ln]	382.60	442.11	258.87	334.48	343.79	370.29	385.98	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.15	32.66	40.23	11.32	0.00	37.05	41.81	44.09	0.00	0.00	0.00
Movement LOS		C	C	D	B		D	D	D			
d_A, Approach Delay [s/veh]	26.99			18.98			41.10			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	27.08											
Intersection LOS	C											
Intersection V/C	0.888											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.274
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	1244	622	0
d_b, Bicycle Delay [s]	16.20	6.42	21.36	45.00
l_b,int, Bicycle LOS Score for Intersection	2.505	3.307	3.601	4.132
Bicycle LOS	B	C	D	D

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):	45.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.104

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
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
Proportion of CAVs [%]	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	105	0	0	194	109	98	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]	75	1161	30	52	1533	556	359	20	77	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
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]	20	307	8	14	406	147	95	5	20	8	4	9
Total Analysis Volume [veh/h]	79	1229	32	55	1622	588	380	21	81	34	18	37
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	31	0	34	55	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	54	54	5	53	53	22	22	22	22	22	22
g / C, Green / Cycle	0.07	0.60	0.60	0.06	0.59	0.59	0.24	0.24	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.33	0.33	0.03	0.58	0.64	0.28	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1883	1810	1900	1737	1370	1900	1615	1313	1900	1615
c, Capacity [veh/h]	121	1133	1123	107	1118	1022	360	464	395	319	464	395
d1, Uniform Delay [s]	40.96	11.00	11.00	41.08	18.21	18.52	37.84	25.98	27.05	30.89	25.93	26.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.35	0.11	0.11	0.11	0.11	0.11
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]	5.78	1.99	2.01	3.76	24.23	52.70	54.79	0.04	0.25	0.14	0.03	0.10
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	0.65	0.56	0.56	0.51	0.99	1.08	1.05	0.05	0.21	0.11	0.04	0.09
d, Delay for Lane Group [s/veh]	46.74	12.99	13.02	44.84	42.44	71.22	92.63	26.02	27.30	31.03	25.97	26.39
Lane Group LOS	D	B	B	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]	1.88	7.45	7.41	1.28	27.07	33.35	13.45	0.34	1.39	0.63	0.30	0.62
50th-Percentile Queue Length [ft/ln]	47.08	186.35	185.19	32.08	676.85	833.81	336.21	8.62	34.82	15.64	7.38	15.43
95th-Percentile Queue Length [veh/ln]	3.39	11.93	11.87	2.31	35.61	45.65	20.06	0.62	2.51	1.13	0.53	1.11
95th-Percentile Queue Length [ft/ln]	84.74	298.28	296.78	57.75	890.19	1141.32	501.42	15.52	62.67	28.16	13.28	27.78

Movement, Approach, & Intersection Results

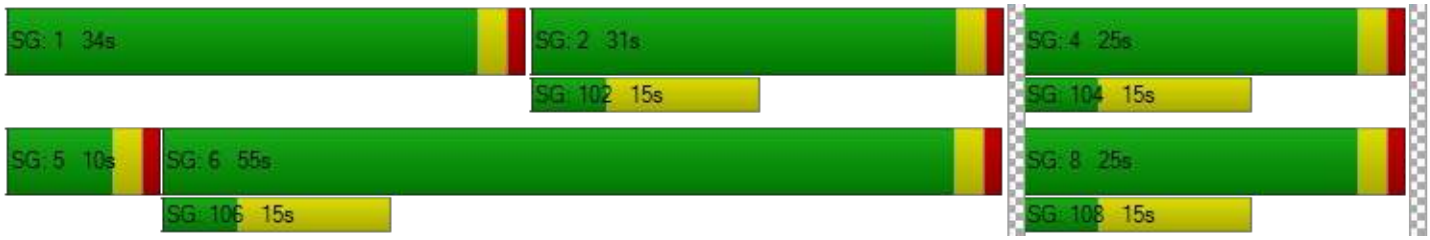
d_M, Delay for Movement [s/veh]	46.74	13.00	13.02	44.84	51.61	71.22	92.63	26.02	27.30	31.03	25.97	26.39
Movement LOS	D	B	B	D	D	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	14.99			56.54			78.75			28.08		
Approach LOS	B			E			E			C		
d_I, Intersection Delay [s/veh]	45.16											
Intersection LOS	D											
Intersection V/C	1.104											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.003	3.630	2.529	2.340
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	1156	489	489
d_b, Bicycle Delay [s]	21.36	8.02	25.69	25.69
l_b,int, Bicycle LOS Score for Intersection	2.665	3.428	1.957	1.633
Bicycle LOS	B	C	A	A

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):	16.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
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
Proportion of CAVs [%]	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	17	2	56	56	51	30	1	0	1	0	35
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]	73	1031	61	137	1325	180	124	31	65	41	40	109
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
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]	20	278	16	37	357	48	33	8	18	11	11	29
Total Analysis Volume [veh/h]	79	1111	66	148	1428	194	134	33	70	44	43	117
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	56	0	16	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	57	57	9	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.63	0.63	0.10	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.08	0.43	0.44	0.16	0.04	0.03	0.02	0.07
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1823	1052	1615	1312	1900	1615
c, Capacity [veh/h]	122	1198	1175	186	1265	1213	247	269	84	317	269
d1, Uniform Delay [s]	40.90	8.93	8.94	39.45	8.82	9.01	38.66	32.67	44.99	31.97	33.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	5.58	1.47	1.50	7.54	2.55	2.88	3.19	0.51	4.91	0.19	1.11
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
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
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

Lane Group Results

X, volume / capacity	0.65	0.50	0.50	0.80	0.65	0.66	0.67	0.26	0.52	0.14	0.43
d, Delay for Lane Group [s/veh]	46.48	10.40	10.44	46.99	11.37	11.89	41.85	33.17	49.90	32.17	34.80
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.88	5.95	5.86	3.54	8.72	8.86	3.81	1.35	1.09	0.81	2.35
50th-Percentile Queue Length [ft/ln]	46.94	148.81	146.49	88.60	218.11	221.40	95.35	33.78	27.21	20.17	58.67
95th-Percentile Queue Length [veh/ln]	3.38	9.95	9.83	6.38	13.57	13.74	6.87	2.43	1.96	1.45	4.22
95th-Percentile Queue Length [ft/ln]	84.50	248.84	245.74	159.49	339.22	343.41	171.64	60.81	48.97	36.30	105.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.48	10.42	10.44	46.99	11.59	11.89	41.85	41.85	33.17	49.90	32.17	34.80
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	12.69			14.59			39.29			37.50		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.94											
Intersection LOS	B											
Intersection V/C	0.743											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.972	0.000	0.000	2.243
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	1311	333	333
d_b, Bicycle Delay [s]	7.61	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.596	3.020	1.951	1.896
Bicycle LOS	B	C	A	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	5	2	1	0	0	1
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]	112	1038	1185	54	41	116
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	273	311	14	11	30
Total Analysis Volume [veh/h]	118	1090	1245	57	43	122
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	20	70	50	0	20	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.34	0.04	0.02	0.08
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	152	3022	2597	1159	177	158
d1, Uniform Delay [s]	40.37	1.74	5.46	3.71	37.52	39.62
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]	8.10	0.34	0.64	0.08	0.70	7.75
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	0.36	0.48	0.05	0.24	0.77
d, Delay for Lane Group [s/veh]	48.47	2.08	6.10	3.79	38.22	47.36
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.87	1.09	4.16	0.27	0.90	2.94
50th-Percentile Queue Length [ft/ln]	71.77	27.25	104.01	6.76	22.54	73.44
95th-Percentile Queue Length [veh/ln]	5.17	1.96	7.49	0.49	1.62	5.29
95th-Percentile Queue Length [ft/ln]	129.18	49.05	187.22	12.17	40.57	132.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.47	2.08	6.10	3.79	38.22	47.36
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.61		6.00		44.98	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.68					
Intersection LOS	A					
Intersection V/C	0.560					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.873	0.000	2.052
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1044	378
d_b, Bicycle Delay [s]	2.94	10.27	29.61
l_b,int, Bicycle LOS Score for Intersection	2.556	2.634	1.560
Bicycle LOS	B	B	A

Sequence

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

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_PM.vistro
Report File: K:\...\4 OY CP PM.pdf

Scenario 4 OY CP PM
4/21/2023

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 7th Edition	SB Right	1.001	30.5	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	1.181	61.8	E
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.268	94.8	F
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.871	18.8	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.811	11.9	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):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.001

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
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
Proportion of CAVs [%]	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]	150	179	0	0	196	196	0	0	0	107	0	179
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]	519	1875	0	0	1490	631	0	0	0	728	2	760
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
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	481	0	0	382	162	0	0	0	187	1	195
Total Analysis Volume [veh/h]	532	1923	0	0	1528	647	0	0	0	747	2	779
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	57	0	0	40	0	0	0	0	0	33	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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]	14	54	37	37		30	30	30
g / C, Green / Cycle	0.16	0.60	0.41	0.41		0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.37	0.22	0.40		0.28	0.30	0.32
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1701	1615
c, Capacity [veh/h]	547	3111	2844	666		601	565	537
d1, Uniform Delay [s]	37.81	11.40	19.97	25.94		27.92	28.64	29.31
k, delay calibration	0.11	0.50	0.50	0.50		0.36	0.40	0.43
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	12.63	0.93	0.73	28.65		10.29	16.74	25.63
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	0.97	0.62	0.54	0.97		0.85	0.90	0.95
d, Delay for Lane Group [s/veh]	50.44	12.33	20.70	54.60		38.22	45.38	54.94
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]	6.67	7.50	5.94	18.04		11.51	12.67	14.10
50th-Percentile Queue Length [ft/ln]	166.80	187.39	148.45	451.11		287.76	316.75	352.41
95th-Percentile Queue Length [veh/ln]	10.91	11.99	9.93	25.01		17.07	18.51	20.25
95th-Percentile Queue Length [ft/ln]	272.70	299.65	248.36	625.28		426.86	462.69	506.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.44	12.33	0.00	0.00	20.70	54.60	0.00	0.00	0.00	40.50	45.38	51.63
Movement LOS	D	B			C	D				D	D	D
d_A, Approach Delay [s/veh]	20.59			30.78			0.00			46.18		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	30.54											
Intersection LOS	C											
Intersection V/C	1.001											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.438
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	822	0	667
d_b, Bicycle Delay [s]	7.20	15.61	45.00	20.00
l_b,int, Bicycle LOS Score for Intersection	2.910	2.457	4.132	4.081
Bicycle LOS	C	B	D	D

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):	61.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.181

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	1397	657	487	1415	0	627	0	469	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
Proportion of CAVs [%]	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	150	151	196	107	0	179	0	108	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	1575	821	693	1550	0	819	0	586	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	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	405	211	178	398	0	210	0	151	0	0	0
Total Analysis Volume [veh/h]	0	1619	844	712	1593	0	842	0	602	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	46	0	19	65	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	43	43	16	62	22	22	22	
g / C, Green / Cycle	0.48	0.48	0.18	0.69	0.24	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.52	0.20	0.44	0.27	0.27	0.30	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1756	1615	
c, Capacity [veh/h]	1728	772	625	2492	442	429	395	
d1, Uniform Delay [s]	22.21	23.50	37.00	7.78	34.00	34.00	34.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.32	0.34	0.39	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	11.09	61.03	67.59	1.27	60.77	73.91	115.72	
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	0.94	1.09	1.14	0.64	1.09	1.12	1.22	
d, Delay for Lane Group [s/veh]	33.31	84.53	104.59	9.05	94.77	107.91	149.72	
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]	17.57	28.11	12.58	7.40	16.84	17.91	21.05	
50th-Percentile Queue Length [ft/ln]	439.16	702.75	314.44	185.10	420.90	447.76	526.30	
95th-Percentile Queue Length [veh/ln]	24.44	39.35	19.57	11.87	24.72	26.49	31.75	
95th-Percentile Queue Length [ft/ln]	610.99	983.78	489.14	296.66	618.01	662.13	793.71	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	33.31	84.53	104.59	9.05	0.00	100.40	107.91	141.34	0.00	0.00	0.00
Movement LOS		C	F	F	A		F	F	F			
d_A, Approach Delay [s/veh]	50.86			38.56			117.46			0.00		
Approach LOS	D			D			F			A		
d_I, Intersection Delay [s/veh]	61.78											
Intersection LOS	E											
Intersection V/C	1.181											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.475
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	956	1378	489	0
d_b, Bicycle Delay [s]	12.27	4.36	25.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.914	3.461	3.942	4.132
Bicycle LOS	C	C	D	D

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):	94.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.268

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
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
Proportion of CAVs [%]	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	206	0	0	125	90	94	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]	37	1711	22	28	1704	400	544	126	161	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	10	456	6	7	454	106	145	34	43	10	9	21
Total Analysis Volume [veh/h]	39	1822	23	30	1815	426	579	134	171	38	35	85
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	35	0	20	45	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	4	45	45	4	45	45	32	32	32	32	32	32
g / C, Green / Cycle	0.05	0.50	0.50	0.04	0.50	0.50	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.02	0.49	0.49	0.02	0.59	0.63	0.45	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1892	1810	1900	1781	1292	1900	1615	1091	1900	1615
c, Capacity [veh/h]	88	954	950	76	942	883	464	676	574	361	676	574
d1, Uniform Delay [s]	41.62	21.68	21.76	41.98	22.69	22.69	33.92	20.11	20.90	25.73	19.04	19.73
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	3.46	22.16	22.92	3.26	95.95	130.15	128.06	0.14	0.29	0.13	0.03	0.12
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	0.44	0.97	0.97	0.39	1.19	1.27	1.25	0.20	0.30	0.11	0.05	0.15
d, Delay for Lane Group [s/veh]	45.09	43.84	44.67	45.24	118.64	152.84	161.98	20.25	21.19	25.86	19.07	19.84
Lane Group LOS	D	D	D	D	F	F	F	C	C	C	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.92	23.00	23.23	0.71	43.26	48.93	26.79	1.93	2.58	0.63	0.48	1.21
50th-Percentile Queue Length [ft/ln]	22.95	574.99	580.66	17.80	1081.53	1223.20	669.73	48.34	64.39	15.76	11.94	30.14
95th-Percentile Queue Length [veh/ln]	1.65	30.86	31.13	1.28	61.36	71.32	40.29	3.48	4.64	1.13	0.86	2.17
95th-Percentile Queue Length [ft/ln]	41.30	771.61	778.25	32.04	1534.10	1783.06	1007.27	87.01	115.89	28.37	21.49	54.25

Movement, Approach, & Intersection Results

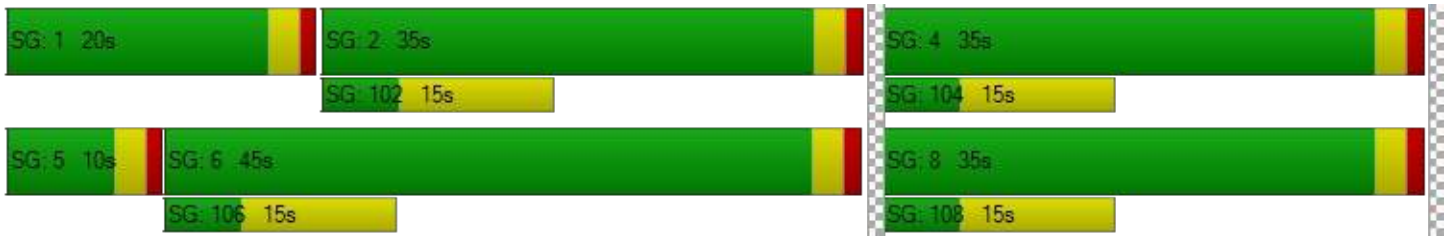
d_M, Delay for Movement [s/veh]	45.09	44.25	44.67	45.24	131.72	152.84	161.98	20.25	21.19	25.86	19.07	19.84
Movement LOS	D	D	D	D	F	F	F	C	C	C	B	B
d_A, Approach Delay [s/veh]	44.27			134.54			113.26			21.12		
Approach LOS	D			F			F			C		
d_I, Intersection Delay [s/veh]	94.75											
Intersection LOS	F											
Intersection V/C	1.268											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.143	4.051	2.571	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	933	711	711
d_b, Bicycle Delay [s]	18.69	12.80	18.69	18.69
l_b,int, Bicycle LOS Score for Intersection	3.114	3.433	2.289	1.690
Bicycle LOS	C	C	B	A

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):	18.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
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
Proportion of CAVs [%]	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	56	1	40	24	34	57	0	0	2	1	59
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]	93	1403	19	89	1650	117	173	15	101	44	20	127
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
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]	25	376	5	24	442	31	46	4	27	12	5	34
Total Analysis Volume [veh/h]	100	1502	20	95	1767	125	185	16	108	47	21	136
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	48	0	23	61	0	0	19	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	59	59	6	59	59	16	16	16	16	16
g / C, Green / Cycle	0.07	0.65	0.65	0.07	0.65	0.65	0.18	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.40	0.40	0.05	0.50	0.51	0.19	0.07	0.04	0.01	0.08
s, saturation flow rate [veh/h]	1810	1900	1891	1810	1900	1857	1057	1615	1287	1900	1615
c, Capacity [veh/h]	129	1236	1230	130	1236	1208	265	287	80	338	287
d1, Uniform Delay [s]	41.07	9.18	9.19	40.92	10.93	11.19	38.84	32.60	45.00	30.76	33.22
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.15	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	9.41	2.31	2.33	7.69	4.55	5.11	6.04	0.81	6.59	0.08	1.21
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
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
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

Lane Group Results

X, volume / capacity	0.77	0.62	0.62	0.73	0.77	0.78	0.76	0.38	0.58	0.06	0.47
d, Delay for Lane Group [s/veh]	50.48	11.49	11.52	48.62	15.48	16.29	44.88	33.42	51.59	30.84	34.43
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.49	8.22	8.22	2.32	12.57	12.99	4.84	2.11	1.19	0.38	2.72
50th-Percentile Queue Length [ft/ln]	62.24	205.53	205.41	57.91	314.37	324.70	121.06	52.76	29.66	9.56	68.03
95th-Percentile Queue Length [veh/ln]	4.48	12.92	12.92	4.17	18.39	18.90	8.45	3.80	2.14	0.69	4.90
95th-Percentile Queue Length [ft/ln]	112.04	323.08	322.93	104.24	459.76	472.46	211.28	94.96	53.39	17.21	122.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.48	11.51	11.52	48.62	15.86	16.29	44.88	44.88	33.42	51.59	30.84	34.43
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	13.91			17.45			40.87			38.02		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.83											
Intersection LOS	B											
Intersection V/C	0.871											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.097	0.000	0.000	2.214
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	1289	356	356
d_b, Bicycle Delay [s]	11.25	5.69	30.42	30.42
l_b,int, Bicycle LOS Score for Intersection	2.898	3.199	2.069	1.896
Bicycle LOS	C	C	B	A

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	11.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.811

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	2	1	2	0	0	2
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]	110	1307	1699	49	33	170
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	361	469	14	9	47
Total Analysis Volume [veh/h]	122	1444	1877	54	36	188
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	71	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	72	61	61	12	12
g / C, Green / Cycle	0.08	0.80	0.68	0.68	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.03	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	153	2873	2447	1093	252	225
d1, Uniform Delay [s]	40.45	3.17	9.79	4.87	34.03	37.75
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]	9.14	0.63	2.37	0.09	0.26	8.03
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	0.50	0.77	0.05	0.14	0.84
d, Delay for Lane Group [s/veh]	49.59	3.80	12.15	4.96	34.29	45.78
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.01	2.94	10.91	0.32	0.70	4.47
50th-Percentile Queue Length [ft/ln]	75.14	73.51	272.69	7.88	17.59	111.79
95th-Percentile Queue Length [veh/ln]	5.41	5.29	16.32	0.57	1.27	7.94
95th-Percentile Queue Length [ft/ln]	135.25	132.32	408.10	14.19	31.66	198.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.59	3.80	12.15	4.96	34.29	45.78
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.37		11.95		43.94	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.95					
Intersection LOS	B					
Intersection V/C	0.811					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.044	0.000	2.072
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1511	1267	356
d_b, Bicycle Delay [s]	2.69	6.05	30.42
l_b,int, Bicycle LOS Score for Intersection	2.852	3.153	1.560
Bicycle LOS	C	C	A

Sequence

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

APPENDIX D-5

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
CUMULATIVE PLUS PROJECT

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_AM.vistro
Report File: K:\...\5 OY WP CP AM.pdf

Scenario 5 OY WP CP AM
4/21/2023

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 7th Edition	WB Right	0.982	29.2	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	0.920	28.3	C
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	EB Left	1.121	48.7	D
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.757	18.6	B
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.560	8.7	A
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.149	13.1	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):	29.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.982

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	335	970	0	0	1121	588	0	0	0	577	6	395
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
Proportion of CAVs [%]	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]	102	128	0	0	95	95	0	0	0	151	0	128
Site-Generated Trips [veh/h]	35	1	0	0	1	0	0	0	0	24	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]	479	1118	0	0	1239	695	0	0	0	764	6	531
Peak Hour Factor	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	0.9820
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]	122	285	0	0	315	177	0	0	0	195	2	135
Total Analysis Volume [veh/h]	488	1138	0	0	1262	708	0	0	0	778	6	541
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	16	61	0	0	45	0	0	0	0	0	29	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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]	13	58	42	42		26	26	26
g / C, Green / Cycle	0.14	0.64	0.47	0.47		0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.14	0.22	0.18	0.44		0.24	0.25	0.27
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1763	1615
c, Capacity [veh/h]	508	3335	3220	754		523	509	467
d1, Uniform Delay [s]	38.25	7.29	15.66	22.79		30.10	30.36	31.32
k, delay calibration	0.11	0.50	0.50	0.50		0.27	0.29	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	11.49	0.28	0.36	20.94		9.02	11.14	23.45
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	0.96	0.34	0.39	0.94		0.84	0.87	0.95
d, Delay for Lane Group [s/veh]	49.74	7.57	16.02	43.73		39.12	41.50	54.77
Lane Group LOS	D	A	B	D		D	D	D
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.05	3.01	4.11	17.56		10.01	10.35	12.09
50th-Percentile Queue Length [ft/ln]	151.33	75.15	102.87	438.93		250.30	258.82	302.32
95th-Percentile Queue Length [veh/ln]	10.09	5.41	7.41	24.43		15.20	15.63	17.80
95th-Percentile Queue Length [ft/ln]	252.20	135.27	185.17	610.73		380.03	390.74	444.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.74	7.57	0.00	0.00	16.02	43.73	0.00	0.00	0.00	40.15	41.50	52.33
Movement LOS	D	A			B	D				D	D	D
d_A, Approach Delay [s/veh]	20.23			25.98			0.00			45.13		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	29.24											
Intersection LOS	C											
Intersection V/C	0.982											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.372
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1289	933	0	578
d_b, Bicycle Delay [s]	5.69	12.80	45.00	22.76
l_b,int, Bicycle LOS Score for Intersection	2.454	2.372	4.132	3.746
Bicycle LOS	B	B	D	D

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):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.920

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	950	425	422	1279	0	354	9	497	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
Proportion of CAVs [%]	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	102	102	95	151	0	128	0	151	0	0	0
Site-Generated Trips [veh/h]	0	36	34	0	25	0	0	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
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	1107	570	525	1481	0	489	9	681	0	0	0
Peak Hour Factor	1.0000	0.9350	0.9350	0.9350	0.9350	1.0000	0.9350	0.9350	0.9350	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	296	152	140	396	0	131	2	182	0	0	0
Total Analysis Volume [veh/h]	0	1184	610	561	1584	0	523	10	728	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	39	0	20	59	0	0	31	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	39	39	16	58	26	26	26	
g / C, Green / Cycle	0.43	0.43	0.18	0.64	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.33	0.38	0.16	0.44	0.23	0.25	0.26	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1665	1615	
c, Capacity [veh/h]	1555	694	635	2329	524	482	467	
d1, Uniform Delay [s]	21.75	23.51	35.94	10.15	29.59	30.40	30.71	
k, delay calibration	0.50	0.50	0.11	0.50	0.24	0.29	0.31	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.57	14.78	4.29	1.62	6.38	12.24	15.73	
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	0.76	0.88	0.88	0.68	0.80	0.87	0.90	
d, Delay for Lane Group [s/veh]	25.32	38.29	40.23	11.78	35.97	42.64	46.45	
Lane Group LOS	C	D	D	B	D	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	10.77	13.98	6.25	8.99	9.08	10.01	10.50	
50th-Percentile Queue Length [ft/ln]	269.19	349.60	156.34	224.87	226.97	250.24	262.55	
95th-Percentile Queue Length [veh/ln]	16.15	20.12	10.35	13.91	14.02	15.20	15.82	
95th-Percentile Queue Length [ft/ln]	403.73	502.93	258.87	347.83	350.51	379.96	395.42	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.32	38.29	40.23	11.78	0.00	37.28	42.64	44.84	0.00	0.00	0.00
Movement LOS		C	D	D	B		D	D	D			
d_A, Approach Delay [s/veh]	29.73			19.22			41.69			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	28.29											
Intersection LOS	C											
Intersection V/C	0.920											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.292
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	1244	622	0
d_b, Bicycle Delay [s]	16.20	6.42	21.36	45.00
l_b,int, Bicycle LOS Score for Intersection	2.546	3.329	3.640	4.132
Bicycle LOS	B	C	D	D

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):	48.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.121

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	74	1035	29	51	1313	438	256	20	75	31	17	34
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
Proportion of CAVs [%]	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	105	0	0	194	109	98	0	0	0	0	0
Site-Generated Trips [veh/h]	1	70	0	0	48	0	0	0	1	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]	76	1231	30	52	1581	556	359	20	78	32	17	35
Peak Hour Factor	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450	0.9450
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]	20	326	8	14	418	147	95	5	21	8	4	9
Total Analysis Volume [veh/h]	80	1303	32	55	1673	588	380	21	83	34	18	37
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	31	0	34	55	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	54	54	5	53	53	22	22	22	22	22	22
g / C, Green / Cycle	0.07	0.60	0.60	0.06	0.59	0.59	0.24	0.24	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.35	0.03	0.60	0.65	0.28	0.01	0.05	0.03	0.01	0.02
s, saturation flow rate [veh/h]	1810	1900	1884	1810	1900	1740	1370	1900	1615	1311	1900	1615
c, Capacity [veh/h]	122	1133	1123	107	1118	1024	360	464	395	318	464	395
d1, Uniform Delay [s]	40.96	11.32	11.34	41.08	18.53	18.53	37.84	25.98	27.08	30.97	25.93	26.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.35	0.11	0.11	0.11	0.11	0.11
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]	5.89	2.27	2.30	3.76	29.77	61.21	54.79	0.04	0.26	0.15	0.03	0.10
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	0.66	0.59	0.59	0.51	1.01	1.10	1.05	0.05	0.21	0.11	0.04	0.09
d, Delay for Lane Group [s/veh]	46.85	13.59	13.63	44.84	48.30	79.73	92.63	26.02	27.34	31.11	25.97	26.39
Lane Group LOS	D	B	B	D	F	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]	1.91	8.15	8.11	1.28	29.36	35.83	13.45	0.34	1.43	0.63	0.30	0.62
50th-Percentile Queue Length [ft/ln]	47.74	203.87	202.87	32.08	733.89	895.65	336.21	8.62	35.73	15.67	7.38	15.43
95th-Percentile Queue Length [veh/ln]	3.44	12.84	12.79	2.31	38.62	49.47	20.06	0.62	2.57	1.13	0.53	1.11
95th-Percentile Queue Length [ft/ln]	85.93	320.95	319.67	57.75	965.45	1236.69	501.42	15.52	64.31	28.20	13.28	27.78

Movement, Approach, & Intersection Results

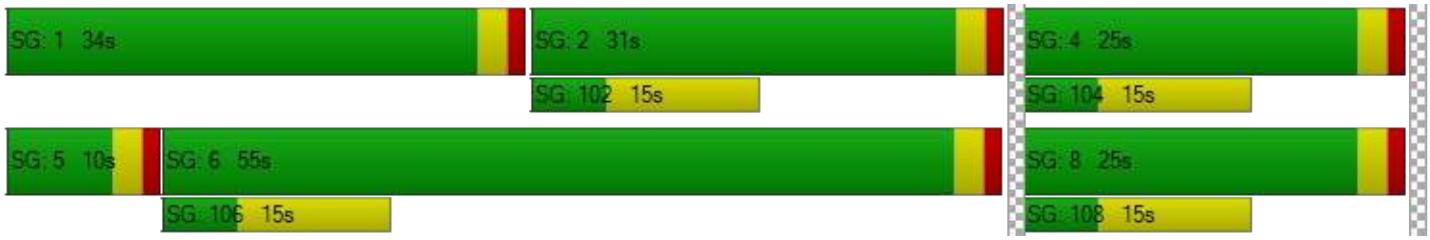
d_M, Delay for Movement [s/veh]	46.85	13.61	13.63	44.84	58.49	79.73	92.63	26.02	27.34	31.11	25.97	26.39
Movement LOS	D	B	B	D	E	E	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	15.49			63.56			78.54			28.11		
Approach LOS	B			E			E			C		
d_I, Intersection Delay [s/veh]	48.71											
Intersection LOS	D											
Intersection V/C	1.121											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.024	3.651	2.530	2.340
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	1156	489	489
d_b, Bicycle Delay [s]	21.36	8.02	25.69	25.69
l_b,int, Bicycle LOS Score for Intersection	2.727	3.470	1.959	1.633
Bicycle LOS	B	C	A	A

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):	18.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	72	994	58	79	1244	126	92	29	64	39	39	73
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
Proportion of CAVs [%]	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	17	2	56	56	51	30	1	0	1	0	35
Site-Generated Trips [veh/h]	0	0	2	49	0	0	0	1	0	2	1	71
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]	73	1031	63	186	1325	180	124	32	65	43	41	180
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
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]	20	278	17	50	357	48	33	9	18	12	11	48
Total Analysis Volume [veh/h]	79	1111	68	200	1428	194	134	34	70	46	44	194
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	56	0	16	62	0	0	18	0	0	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	54	54	12	60	60	15	15	15	15	15
g / C, Green / Cycle	0.07	0.60	0.60	0.13	0.67	0.67	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.31	0.11	0.43	0.44	0.17	0.04	0.04	0.02	0.12
s, saturation flow rate [veh/h]	1810	1900	1862	1810	1900	1823	991	1615	1311	1900	1615
c, Capacity [veh/h]	124	1144	1121	238	1263	1212	237	269	88	317	269
d1, Uniform Delay [s]	40.84	10.38	10.39	38.18	8.84	9.06	39.04	32.67	44.95	31.99	35.52
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	5.39	1.69	1.73	7.84	2.55	2.90	3.88	0.51	4.74	0.20	3.62
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	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
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

Lane Group Results

X, volume / capacity	0.64	0.52	0.52	0.84	0.65	0.67	0.71	0.26	0.52	0.14	0.72
d, Delay for Lane Group [s/veh]	46.23	12.07	12.12	46.01	11.39	11.96	42.92	33.17	49.69	32.19	39.14
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.87	6.64	6.54	4.76	8.71	8.90	3.91	1.35	1.13	0.83	4.23
50th-Percentile Queue Length [ft/ln]	46.80	166.08	163.43	118.90	217.71	222.57	97.68	33.78	28.33	20.65	105.71
95th-Percentile Queue Length [veh/ln]	3.37	10.87	10.73	8.33	13.55	13.80	7.03	2.43	2.04	1.49	7.60
95th-Percentile Queue Length [ft/ln]	84.25	271.76	268.26	208.31	338.70	344.91	175.83	60.81	50.99	37.17	190.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.23	12.09	12.12	46.01	11.64	11.96	42.92	42.92	33.17	49.69	32.19	39.14
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	14.24			15.45			40.05			39.77		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.57											
Intersection LOS	B											
Intersection V/C	0.757											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.975	0.000	0.000	2.275
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1178	1311	333	333
d_b, Bicycle Delay [s]	7.61	5.34	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.597	3.063	1.952	2.028
Bicycle LOS	B	C	A	B

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	105	1016	1161	53	40	113
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	5	2	1	0	0	1
Site-Generated Trips [veh/h]	0	1	1	1	1	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]	112	1039	1186	55	42	116
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	273	311	14	11	30
Total Analysis Volume [veh/h]	118	1091	1246	58	44	122
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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]	20	70	50	0	20	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	75	65	65	9	9
g / C, Green / Cycle	0.08	0.84	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.34	0.04	0.02	0.08
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	152	3022	2597	1159	177	158
d1, Uniform Delay [s]	40.37	1.75	5.46	3.72	37.53	39.61
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]	8.10	0.34	0.64	0.08	0.72	7.73
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	0.36	0.48	0.05	0.25	0.77
d, Delay for Lane Group [s/veh]	48.47	2.08	6.10	3.80	38.26	47.34
Lane Group LOS	D	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.87	1.09	4.17	0.28	0.92	2.94
50th-Percentile Queue Length [ft/ln]	71.77	27.32	104.17	6.89	23.08	73.41
95th-Percentile Queue Length [veh/ln]	5.17	1.97	7.50	0.50	1.66	5.29
95th-Percentile Queue Length [ft/ln]	129.18	49.17	187.51	12.40	41.54	132.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.47	2.08	6.10	3.80	38.26	47.34
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.61		6.00		44.93	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.69					
Intersection LOS	A					
Intersection V/C	0.560					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	2.873	0.000	2.053
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1489	1044	378
d_b, Bicycle Delay [s]	2.94	10.27	29.61
l_b,int, Bicycle LOS Score for Intersection	2.557	2.635	1.560
Bicycle LOS	B	B	A

Sequence

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

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.149

Intersection Setup

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

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	230	0	0	201
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]	0	0	18	0	0	6
Site-Generated Trips [veh/h]	74	0	0	52	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]	74	0	253	52	0	211
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]	19	0	67	14	0	56
Total Analysis Volume [veh/h]	78	0	266	55	0	222
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
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	0.15	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.09	11.00	0.00	0.00	7.88	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.52	0.52	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.02	13.02	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.09		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.64					
Intersection LOS	B					

249 Santa Ana Avenue Truck Terminal

Vistro File: K:\...\Rialto_249 Santa Ana Ave_PM.vistro
Report File: K:\...\5 OY WP CP PM.pdf

Scenario 5 OY WP CP PM
4/21/2023

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 7th Edition	NB Left	1.028	33.9	C
2	Riverside Ave / I-10 EB Ramps	Signalized	HCM 7th Edition	EB Right	1.221	70.1	E
3	Riverside Ave / Slover Ave	Signalized	HCM 7th Edition	SB Right	1.310	113.0	F
4	Riverside Ave / Santa Ana Ave	Signalized	HCM 7th Edition	WB Left	0.894	22.7	C
5	Riverside Ave / Jurupa Ave	Signalized	HCM 7th Edition	NB Left	0.813	12.0	B
6	Santa Ana Ave / West Dwy	Two-way stop	HCM 7th Edition	NB Left	0.143	11.2	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):	33.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.028

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			I-10 WB Ramps			I-10 WB Ramps		
Base Volume Input [veh/h]	362	1663	0	0	1269	426	0	0	0	609	2	570
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
Proportion of CAVs [%]	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]	150	179	0	0	196	196	0	0	0	107	0	179
Site-Generated Trips [veh/h]	37	5	0	0	4	0	0	0	0	61	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]	556	1880	0	0	1494	631	0	0	0	789	2	760
Peak Hour Factor	0.9750	0.9750	1.0000	1.0000	0.9750	0.9750	1.0000	1.0000	1.0000	0.9750	0.9750	0.9750
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]	143	482	0	0	383	162	0	0	0	202	1	195
Total Analysis Volume [veh/h]	570	1928	0	0	1532	647	0	0	0	809	2	779
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	57	0	0	40	0	0	0	0	0	33	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90		90	90	90
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]	14	54	37	37		30	30	30
g / C, Green / Cycle	0.16	0.60	0.41	0.41		0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.16	0.37	0.22	0.40		0.29	0.31	0.33
s, saturation flow rate [veh/h]	3514	5176	6901	1615		1810	1713	1615
c, Capacity [veh/h]	547	3105	2837	664		603	571	538
d1, Uniform Delay [s]	38.00	11.47	20.06	26.04		28.28	28.96	29.77
k, delay calibration	0.11	0.50	0.50	0.50		0.38	0.42	0.46
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	30.26	0.94	0.74	29.21		13.30	20.84	33.72
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	1.04	0.62	0.54	0.97		0.88	0.93	0.98
d, Delay for Lane Group [s/veh]	68.26	12.42	20.80	55.25		41.59	49.80	63.49
Lane Group LOS	F	B	C	E		D	D	E
Critical Lane Group	Yes	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.20	7.56	5.97	18.17		12.56	13.88	15.91
50th-Percentile Queue Length [ft/ln]	204.93	188.99	149.35	454.15		313.98	347.06	397.87
95th-Percentile Queue Length [veh/ln]	13.14	12.07	9.98	25.16		18.37	19.99	22.46
95th-Percentile Queue Length [ft/ln]	328.45	301.71	249.56	628.90		459.28	499.82	561.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.26	12.42	0.00	0.00	20.80	55.25	0.00	0.00	0.00	44.42	49.80	59.11
Movement LOS	F	B			C	E				D	D	E
d_A, Approach Delay [s/veh]	25.16			31.03			0.00			51.62		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	33.92											
Intersection LOS	C											
Intersection V/C	1.028											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.458
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	822	0	667
d_b, Bicycle Delay [s]	7.20	15.61	45.00	20.00
l_b,int, Bicycle LOS Score for Intersection	2.934	2.458	4.132	4.183
Bicycle LOS	C	B	D	D

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):	70.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.221

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
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	1397	657	487	1415	0	627	0	469	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
Proportion of CAVs [%]	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	150	151	196	107	0	179	0	108	0	0	0
Site-Generated Trips [veh/h]	0	42	36	0	65	0	0	0	58	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	1617	857	693	1615	0	819	0	644	0	0	0
Peak Hour Factor	1.0000	0.9730	0.9730	0.9730	0.9730	1.0000	0.9730	0.9730	0.9730	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	415	220	178	415	0	210	0	165	0	0	0
Total Analysis Volume [veh/h]	0	1662	881	712	1660	0	842	0	662	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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	46	0	19	65	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90	90	
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]	43	43	16	62	22	22	22	
g / C, Green / Cycle	0.48	0.48	0.18	0.69	0.24	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.46	0.55	0.20	0.46	0.28	0.29	0.31	
s, saturation flow rate [veh/h]	3618	1615	3514	3618	1810	1742	1615	
c, Capacity [veh/h]	1728	772	625	2492	442	426	395	
d1, Uniform Delay [s]	22.70	23.50	37.00	8.05	34.00	34.00	34.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.35	0.37	0.42	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	14.28	78.97	67.59	1.43	78.38	96.86	137.48	
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	0.96	1.14	1.14	0.67	1.13	1.18	1.27	
d, Delay for Lane Group [s/veh]	36.98	102.47	104.59	9.48	112.38	130.86	171.48	
Lane Group LOS	D	F	F	A	F	F	F	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	19.06	31.96	12.58	8.00	19.00	20.48	23.44	
50th-Percentile Queue Length [ft/ln]	476.57	798.88	314.44	200.00	475.02	512.02	585.96	
95th-Percentile Queue Length [veh/ln]	26.22	45.40	19.57	12.64	28.04	30.50	35.53	
95th-Percentile Queue Length [ft/ln]	655.58	1135.08	489.14	315.96	700.95	762.40	888.20	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	36.98	102.47	104.59	9.48	0.00	119.86	130.86	161.62	0.00	0.00	0.00
Movement LOS		D	F	F	A		F	F	F			
d_A, Approach Delay [s/veh]	59.67			38.03			138.24			0.00		
Approach LOS	E			D			F			A		
d_I, Intersection Delay [s/veh]	70.08											
Intersection LOS	E											
Intersection V/C	1.221											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.493
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	956	1378	489	0
d_b, Bicycle Delay [s]	12.27	4.36	25.69	45.00
l_b,int, Bicycle LOS Score for Intersection	2.958	3.517	4.041	4.132
Bicycle LOS	C	D	D	D

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):	113.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.310

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 Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Slover Ave			Slover Ave		
Base Volume Input [veh/h]	36	1475	22	27	1548	304	441	124	158	35	32	78
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
Proportion of CAVs [%]	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	206	0	0	125	90	94	0	0	0	0	0
Site-Generated Trips [veh/h]	3	78	0	0	123	0	0	0	3	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]	40	1789	22	28	1827	400	544	126	164	36	33	80
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	11	476	6	7	486	106	145	34	44	10	9	21
Total Analysis Volume [veh/h]	43	1905	23	30	1946	426	579	134	175	38	35	85
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	35	0	20	45	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	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	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	5	45	45	4	44	44	32	32	32	32	32	32
g / C, Green / Cycle	0.05	0.50	0.50	0.04	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.02	0.51	0.51	0.02	0.62	0.66	0.45	0.07	0.11	0.03	0.02	0.05
s, saturation flow rate [veh/h]	1810	1900	1892	1810	1900	1787	1292	1900	1615	1087	1900	1615
c, Capacity [veh/h]	93	954	950	76	937	881	464	676	574	357	676	574
d1, Uniform Delay [s]	41.48	22.40	22.40	41.98	22.81	22.81	33.92	20.11	20.96	25.88	19.04	19.73
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	3.54	31.66	32.83	3.26	128.29	163.45	128.06	0.14	0.30	0.13	0.03	0.12
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	0.46	1.01	1.01	0.39	1.27	1.35	1.25	0.20	0.30	0.11	0.05	0.15
d, Delay for Lane Group [s/veh]	45.01	54.06	55.23	45.24	151.11	186.27	161.98	20.25	21.26	26.01	19.07	19.84
Lane Group LOS	D	F	F	D	F	F	F	C	C	C	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.01	26.69	26.89	0.71	51.47	57.00	26.79	1.93	2.64	0.63	0.48	1.21
50th-Percentile Queue Length [ft/ln]	25.23	667.33	672.25	17.80	1286.65	1425.01	669.73	48.34	66.08	15.81	11.94	30.14
95th-Percentile Queue Length [veh/ln]	1.82	35.46	35.81	1.28	74.60	84.63	40.29	3.48	4.76	1.14	0.86	2.17
95th-Percentile Queue Length [ft/ln]	45.41	886.41	895.17	32.04	1864.91	2115.63	1007.27	87.01	118.95	28.47	21.49	54.25

Movement, Approach, & Intersection Results

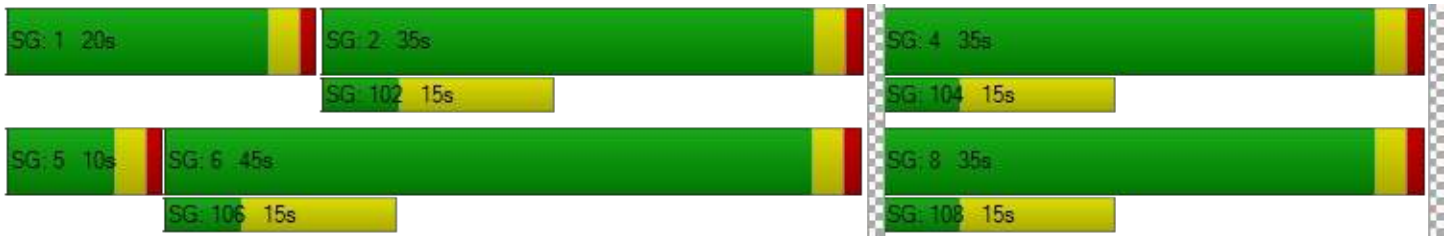
d_M, Delay for Movement [s/veh]	45.01	54.64	55.23	45.24	164.84	186.27	161.98	20.25	21.26	26.01	19.07	19.84
Movement LOS	D	F	E	D	F	F	F	C	C	C	B	B
d_A, Approach Delay [s/veh]	54.44			167.15			112.86			21.16		
Approach LOS	D			F			F			C		
d_I, Intersection Delay [s/veh]	113.00											
Intersection LOS	F											
Intersection V/C	1.310											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.180	4.086	2.573	2.369
Crosswalk LOS	C	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	933	711	711
d_b, Bicycle Delay [s]	18.69	12.80	18.69	18.69
l_b,int, Bicycle LOS Score for Intersection	3.186	3.541	2.292	1.690
Bicycle LOS	C	D	B	A

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):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.894

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 Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Riverside Ave			Riverside Ave			Santa Ana Ave			Santa Ana Ave		
Base Volume Input [veh/h]	91	1321	18	48	1594	81	114	15	99	41	19	67
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
Proportion of CAVs [%]	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	56	1	40	24	34	57	0	0	2	1	59
Site-Generated Trips [veh/h]	0	0	7	126	0	0	0	3	0	8	3	81
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]	93	1403	26	215	1650	117	173	18	101	52	23	208
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
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]	25	376	7	58	442	31	46	5	27	14	6	56
Total Analysis Volume [veh/h]	100	1502	28	230	1767	125	185	19	108	56	25	223
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
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	48	0	23	61	0	0	19	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	
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	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	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	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	52	52	13	59	59	16	16	16	16	16
g / C, Green / Cycle	0.07	0.57	0.57	0.15	0.65	0.65	0.18	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.40	0.40	0.13	0.50	0.51	0.21	0.07	0.04	0.01	0.14
s, saturation flow rate [veh/h]	1810	1900	1888	1810	1900	1857	971	1615	1284	1900	1615
c, Capacity [veh/h]	130	1087	1080	271	1236	1208	249	287	81	338	287
d1, Uniform Delay [s]	41.06	13.80	13.83	37.25	10.94	11.20	39.50	32.60	45.00	30.83	35.30
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.19	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	9.31	3.84	3.90	7.20	4.55	5.11	11.23	0.81	9.87	0.09	4.51
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	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
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

Lane Group Results

X, volume / capacity	0.77	0.70	0.71	0.85	0.77	0.78	0.82	0.38	0.69	0.07	0.78
d, Delay for Lane Group [s/veh]	50.37	17.64	17.73	44.45	15.49	16.31	50.72	33.42	54.87	30.92	39.81
Lane Group LOS	D	B	B	D	B	B	D	C	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.49	11.17	11.17	5.39	12.58	12.99	5.29	2.11	1.46	0.46	4.93
50th-Percentile Queue Length [ft/ln]	62.17	279.30	279.19	134.66	314.50	324.83	132.19	52.76	36.54	11.41	123.29
95th-Percentile Queue Length [veh/ln]	4.48	16.65	16.65	9.19	18.40	18.90	9.06	3.80	2.63	0.82	8.57
95th-Percentile Queue Length [ft/ln]	111.91	416.34	416.20	229.82	459.92	472.62	226.47	94.96	65.77	20.53	214.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.37	17.69	17.73	44.45	15.87	16.31	50.72	50.72	33.42	54.87	30.92	39.81
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	D
d_A, Approach Delay [s/veh]	19.69			18.99			44.73			41.85		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.68											
Intersection LOS	C											
Intersection V/C	0.894											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.113	0.000	0.000	2.274
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	1289	356	356
d_b, Bicycle Delay [s]	11.25	5.69	30.42	30.42
l_b,int, Bicycle LOS Score for Intersection	2.904	3.310	2.074	2.061
Bicycle LOS	C	C	B	B

Sequence

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

Intersection Level Of Service Report
Intersection 5: Riverside Ave / Jurupa Ave

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.813

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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Riverside Ave		Riverside Ave		Jurupa Ave	
Base Volume Input [veh/h]	106	1280	1664	48	32	165
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	2	1	2	0	0	2
Site-Generated Trips [veh/h]	0	4	5	3	3	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]	110	1311	1704	52	36	170
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	362	471	14	10	47
Total Analysis Volume [veh/h]	122	1449	1883	57	40	188
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
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner 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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
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	71	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
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]	90	90	90	90	90	90
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	72	61	61	12	12
g / C, Green / Cycle	0.08	0.80	0.68	0.68	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.40	0.52	0.04	0.02	0.12
s, saturation flow rate [veh/h]	1810	3618	3618	1615	1810	1615
c, Capacity [veh/h]	153	2873	2447	1092	252	225
d1, Uniform Delay [s]	40.45	3.18	9.83	4.88	34.10	37.74
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]	9.14	0.64	2.40	0.09	0.29	8.00
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	0.50	0.77	0.05	0.16	0.84
d, Delay for Lane Group [s/veh]	49.59	3.81	12.23	4.97	34.40	45.75
Lane Group LOS	D	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.01	2.96	10.99	0.33	0.78	4.47
50th-Percentile Queue Length [ft/ln]	75.14	74.01	274.76	8.34	19.59	111.74
95th-Percentile Queue Length [veh/ln]	5.41	5.33	16.43	0.60	1.41	7.94
95th-Percentile Queue Length [ft/ln]	135.25	133.22	410.68	15.02	35.26	198.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.59	3.81	12.23	4.97	34.40	45.75
Movement LOS	D	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.37		12.01		43.76	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	12.00					
Intersection LOS	B					
Intersection V/C	0.813					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.046	0.000	2.074
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1511	1267	356
d_b, Bicycle Delay [s]	2.69	6.05	30.42
l_b,int, Bicycle LOS Score for Intersection	2.856	3.160	1.560
Bicycle LOS	C	C	A

Sequence

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

Intersection Level Of Service Report
Intersection 6: Santa Ana Ave / West Dwy

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.143

Intersection Setup

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

Volumes

Name	West Dwy		Santa Ana Ave		Santa Ana Ave	
Base Volume Input [veh/h]	0	0	81	0	0	127
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]	0	0	6	0	0	18
Site-Generated Trips [veh/h]	92	0	0	136	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]	92	0	89	136	0	148
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	0	23	36	0	39
Total Analysis Volume [veh/h]	97	0	94	143	0	156
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
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	0.14	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.21	9.96	0.00	0.00	7.68	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.50	0.50	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.47	12.47	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.21		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.22					
Intersection LOS	B					

APPENDIX D-6

INTERSECTION ANALYSIS
WORKSHEETS – OPENING YEAR 2024
CUMULATIVE PLUS PROJECT – WITH
IMPROVEMENTS

Option 1: Add a NBR Turn Lane

Number	2											
Intersection	Riverside Ave / I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
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	950	425	422	1279	0	354	9	497	0	0	0
Total Analysis Volume [veh/h]	0	1184	610	561	1584	0	523	10	728	0	0	0

Intersection Settings

Cycle Length [s]	90											
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	39	0	19	58	0	0	32	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, 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	0.43	0.43	0.18	0.64	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.23	0.38	0.16	0.44	0.23	0.25	0.26	
so, Base Saturation Flow per Lane [pc/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	1665	1615	
c, Capacity [veh/h]	2220	693	625	2315	531	488	474	
X, volume / capacity	0.53	0.88	0.90	0.68	0.79	0.86	0.89	
d, Delay for Lane Group [s/veh]	19.95	38.57	41.15	12.04	35.22	41.32	44.77	
Lane Group LOS	B	D	D	B	D	D	D	

Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.01	14.03	6.33	9.12	8.98	9.85	10.31	
50th-Percentile Queue Length [ft/ln]	150.18	350.66	158.19	227.89	224.60	246.32	257.69	
95th-Percentile Queue Length [veh/ln]	10.03	20.17	10.45	14.07	13.90	15.00	15.57	
95th-Percentile Queue Length [ft/ln]	250.66	504.22	261.33	351.68	347.49	375.01	389.32	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.95	38.57	41.15	12.04	0.00	36.42	41.32	43.31	0.00	0.00	0.00
Movement LOS		B	D	D	B		D	D	D			
Critical Movement		No	No	No	No		No	No	Yes			
d_A, Approach Delay [s/veh]	26.28			19.65			40.43			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	26.98											
Intersection LOS	C											
Intersection V/C	0.920											

Option 1: Add a NBR Turn Lane

Number	2											
Intersection	Riverside Ave / I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
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	1397	657	487	1415	0	627	0	469	0	0	0
Total Analysis Volume [veh/h]	0	1662	881	712	1660	0	842	0	662	0	0	0

Intersection Settings

Cycle Length [s]	90											
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	44	0	19	63	0	0	27	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, 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	0.46	0.46	0.18	0.67	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.32	0.55	0.20	0.46	0.28	0.29	0.31	
so, Base Saturation Flow per Lane [pc/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	1742	1615	
c, Capacity [veh/h]	2358	736	625	2412	483	465	431	
X, volume / capacity	0.70	1.20	1.14	0.69	1.04	1.08	1.16	
d, Delay for Lane Group [s/veh]	21.45	126.31	104.59	10.87	77.62	92.16	126.61	
Lane Group LOS	C	F	F	B	F	F	F	

Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	9.15	35.30	12.58	8.90	16.15	17.42	20.27	
50th-Percentile Queue Length [ft/ln]	228.66	882.54	314.44	222.59	403.67	435.58	506.77	
95th-Percentile Queue Length [veh/ln]	14.11	51.05	19.57	13.80	23.27	25.38	30.13	
95th-Percentile Queue Length [ft/ln]	352.66	1276.23	489.14	344.93	581.63	634.55	753.30	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.45	126.31	104.59	10.87	0.00	83.51	92.16	118.25	0.00	0.00	0.00
Movement LOS		C	F	F	B		F	F	F			
Critical Movement		No	Yes	No	No		No	No	No			
d_A, Approach Delay [s/veh]	57.78			39.00			98.80			0.00		
Approach LOS	E			D			F			A		
d_I, Intersection Delay [s/veh]	60.45											
Intersection LOS	E											
Intersection V/C	1.221											

Option 1: Add a 3rd NB and SB Through Lane

Number	3											
Intersection	Riverside Ave / Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
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]	74	1035	29	51	1313	438	256	20	75	31	17	34
Total Analysis Volume [veh/h]	80	1303	32	55	1673	588	380	21	83	34	18	37

Intersection Settings

Cycle Length [s]	90											
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	37	0	22	49	0	0	31	0	0	31	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, 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	0.53	0.53	0.06	0.52	0.52	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.03	0.42	0.44	0.28	0.01	0.05	0.03	0.01	0.02
so, Base Saturation Flow per Lane [pc/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	1877	1810	3618	1665	1370	1900	1615	1311	1900	1615
c, Capacity [veh/h]	122	1916	994	107	1887	868	454	591	502	410	591	502
X, volume / capacity	0.66	0.46	0.46	0.51	0.81	0.85	0.84	0.04	0.17	0.08	0.03	0.07
d, Delay for Lane Group [s/veh]	46.83	13.95	14.68	44.81	21.70	28.35	45.11	21.62	22.67	25.96	21.58	21.92
Lane Group LOS	D	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]	1.91	5.36	5.76	1.28	13.01	14.31	9.58	0.31	1.28	0.56	0.26	0.55
50th-Percentile Queue Length [ft/ln]	47.73	133.89	143.98	32.07	325.16	357.70	239.46	7.71	31.90	14.05	6.60	13.79
95th-Percentile Queue Length [veh/ln]	3.44	9.15	9.69	2.31	18.92	20.51	14.65	0.56	2.30	1.01	0.48	0.99
95th-Percentile Queue Length [ft/ln]	85.92	228.78	242.37	57.73	473.02	512.78	366.35	13.88	57.42	25.30	11.88	24.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.83	14.19	14.68	44.81	22.28	28.35	45.11	21.62	22.67	25.96	21.58	21.92
Movement LOS	D	B	B	D	C	C	D	C	C	C	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	16.04			24.35			40.24			23.39		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	23.39											
Intersection LOS	C											
Intersection V/C	0.880											

Option 1: Add a 3rd NB and SB Through Lane

Number	3											
Intersection	Riverside Ave / Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
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]	36	1475	22	27	1548	304	441	124	158	35	32	78
Total Analysis Volume [veh/h]	43	1905	23	30	1946	426	579	134	175	38	35	85

Intersection Settings

Cycle Length [s]	90											
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	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [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
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	35	0	14	39	0	0	41	0	0	41	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
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, 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	0.44	0.44	0.04	0.43	0.43	0.42	0.42	0.42	0.42	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.35	0.35	0.02	0.44	0.45	0.45	0.07	0.11	0.03	0.02	0.05
so, Base Saturation Flow per Lane [pc/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	1888	1810	3618	1735	1292	1900	1615	1087	1900	1615
c, Capacity [veh/h]	93	1575	822	77	1542	739	555	802	682	439	802	682
X, volume / capacity	0.46	0.80	0.80	0.39	1.03	1.07	1.04	0.17	0.26	0.09	0.04	0.12
d, Delay for Lane Group [s/veh]	44.95	26.52	30.31	45.20	56.05	78.01	80.60	16.26	17.04	21.02	15.33	15.94
Lane Group LOS	D	C	C	D	F	F	F	B	B	C	B	B

Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.01	11.90	13.30	0.71	21.86	25.47	19.96	1.69	2.31	0.56	0.42	1.05
50th-Percentile Queue Length [ft/ln]	25.21	297.51	332.50	17.79	546.51	636.77	498.94	42.21	57.65	13.91	10.43	26.31
95th-Percentile Queue Length [veh/ln]	1.81	17.56	19.28	1.28	30.12	35.36	28.11	3.04	4.15	1.00	0.75	1.89
95th-Percentile Queue Length [ft/ln]	45.37	438.94	482.03	32.03	753.11	883.96	702.85	75.97	103.78	25.04	18.77	47.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.95	27.79	30.31	45.20	60.14	78.01	80.60	16.26	17.04	21.02	15.33	15.94
Movement LOS	D	C	C	D	E	E	F	B	B	C	B	B
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	28.20			63.12			58.36			17.03		
Approach LOS	C			E			E			B		
d_I, Intersection Delay [s/veh]	48.29											
Intersection LOS	D											
Intersection V/C	1.069											

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 Avenue at I-10 WB Ramps		102	128	0	0	95	95	0	0	0	151	0	128
2	Riverside Avenue at I-10 EB Ramps		0	102	102	95	151	0	128	0	151	0	0	0
3	Riverside Avenue at Slover Avenue		0	105	0	0	194	109	98	0	0	0	0	0
4	Riverside Avenue at Santa Ana Avenue		0	17	2	56	56	51	30	1	0	1	0	35
5	Riverside Avenue at Jurupa Avenue		5	2	0	0	1	0	0	0	1	0	0	0
6	Santa Ana Avenue at Project Driveway		0	0	0	0	0	0	0	18	0	0	6	0
7		0	0	0	0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	0	0	0	0	0
10		0	0	0	0	0	0	0	0	0	0	0	0	0
11		0	0	0	0	0	0	0	0	0	0	0	0	0
12		0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps		150	179	0	0	196	196	0	0	0	107	0	179
2	Riverside Avenue at I-10 EB Ramps		0	150	151	196	107	0	179	0	108	0	0	0
3	Riverside Avenue at Slover Avenue		0	206	0	0	125	90	94	0	0	0	0	0
4	Riverside Avenue at Santa Ana Avenue		0	56	1	40	24	34	57	0	0	2	1	59
5	Riverside Avenue at Jurupa Avenue		2	1	0	0	2	0	0	0	2	0	0	0
6	Santa Ana Avenue at Project Driveway		0	0	0	0	0	0	0	6	0	0	18	0
7		0	0	0	0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	0	0	0	0	0
10		0	0	0	0	0	0	0	0	0	0	0	0	0
11		0	0	0	0	0	0	0	0	0	0	0	0	0
12		0	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	1	Riverside Avenue at I-10 WB Ramps

Mirror distribution? N Entire Intersection

Mirror distribution?

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	128	0	0	0	0	0	0	0	133	0	128
AM Out		96	0	0	0	95	95	0	0	0	0	0	0
AM Tot		96	128	0	0	95	95	0	0	0	133	0	128
PM In		0	179	0	0	0	0	0	0	0	101	0	179
PM Out		131	0	0	0	196	196	0	0	0	0	0	0
PM Tot		131	179	0	0	196	196	0	0	0	101	0	179

Zone #	1	CP #1,10

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		30%										30%
N	0%	0%	0%	0%	30%	30%	0%	0%	0%	0%	0%	0%
AM Out					30%	30%						
PM In	0%	30%	0%	0%	0%	0%	0%	0%	0%		0%	30%
PM Out	0%	0%	0%	0%	30%	30%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	425	0	128	0	0	0	0	0	0	0	0	0	128
AM Out	318	0	0	0	0	95	95	0	0	0	0	0	0
PM In	597	0	179	0	0	0	0	0	0	0	0	0	179
PM Out	654	0	0	0	0	196	196	0	0	0	0	0	0

Zone #	2	CP #5,7,12,13

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	362	0	0	0	0	0	0	0	0	0	54	0	0
AM Out	325	49	0	0	0	0	0	0	0	0	0	0	0
PM In	299	0	0	0	0	0	0	0	0	0	45	0	0
PM Out	312	47	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	CP #3,4,6

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										25%		
N	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out	25%											
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%
PM Out	25%	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	203	0	0	0	0	0	0	0	0	0	51	0	0
AM Out	151	38	0	0	0	0	0	0	0	0	0	0	0
PM In	175	0	0	0	0	0	0	0	0	0	44	0	0
PM Out	222	56	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	CP #2,8

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	140	0	0	0	0	0	0	0	0	0	28	0	0
AM Out	43	9	0	0	0	0	0	0	0	0	0	0	0
PM In	60	0	0	0	0	0	0	0	0	0	12	0	0
PM Out	139	28	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	2	Riverside Avenue at I-10 EB Ramps

N

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	133	0	128	0	133	0	0	0
AM Out		0	96	96	95	0	0	0	0	0	0	0	0
AM Tot		0	96	96	95	133	0	128	0	133	0	0	0
PM In		0	0	0	0	101	0	179	0	101	0	0	0
PM Out		0	131	131	196	0	0	0	0	0	0	0	0
PM Tot		0	131	131	196	101	0	179	0	101	0	0	0

Zone #	1	CP #1,10

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In							30%					
N	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out				30%								
PM In	0%	0%	0%	0%	0%	0%	30%	0%	0%		0%	0%
PM Out	0%	0%	0%	30%	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	425	0	0	0	0	0	0	128	0	0	0	0	0
AM Out	318	0	0	0	95	0	0	0	0	0	0	0	0
PM In	597	0	0	0	0	0	0	179	0	0	0	0	0
PM Out	654	0	0	0	196	0	0	0	0	0	0	0	0

Zone #	2	CP #5,7,12,13

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	362	0	0	0	0	54	0	0	0	54	0	0	0
AM Out	325	0	49	49	0	0	0	0	0	0	0	0	0
PM In	299	0	0	0	0	45	0	0	0	45	0	0	0
PM Out	312	0	47	47	0	0	0	0	0	0	0	0	0

Zone #	3	CP #3,4,6

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					25%				25%			
N	0%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out		25%	25%									
PM In	0%	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%
PM Out	0%	25%	25%	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	203	0	0	0	0	51	0	0	0	51	0	0	0
AM Out	151	0	38	38	0	0	0	0	0	0	0	0	0
PM In	175	0	0	0	0	44	0	0	0	44	0	0	0
PM Out	222	0	56	56	0	0	0	0	0	0	0	0	0

Zone #	4	CP #2,8

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	140	0	0	0	0	28	0	0	0	28	0	0	0
AM Out	43	0	9	9	0	0	0	0	0	0	0	0	0
PM In	60	0	0	0	0	12	0	0	0	12	0	0	0
PM Out	139	0	28	28	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	3	Riverside Avenue at Slover Avenue

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	158	109	0	0	0	0	0	0
AM Out		0	93	0	0	0	0	98	0	0	0	0	0
AM Tot		0	93	0	0	158	109	98	0	0	0	0	0
PM In		0	0	0	0	112	90	0	0	0	0	0	0
PM Out		0	167	0	0	0	0	94	0	0	0	0	0
PM Tot		0	167	0	0	112	90	94	0	0	0	0	0

Zone #	1	CP #1,10

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	425	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	318	0	0	0	0	0	0	0	0	0	0	0	0
PM In	597	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	654	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	CP #5,7,12,13

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						30%						
Y	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	362	0	0	0	0	0	109	0	0	0	0	0	0
AM Out	325	0	0	0	0	0	0	98	0	0	0	0	0
PM In	299	0	0	0	0	0	90	0	0	0	0	0	0
PM Out	312	0	0	0	0	0	0	94	0	0	0	0	0

Zone #	3	CP #3,4,6

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					50%							
Y	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	50%	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	203	0	0	0	0	102	0	0	0	0	0	0	0
AM Out	151	0	76	0	0	0	0	0	0	0	0	0	0
PM In	175	0	0	0	0	88	0	0	0	0	0	0	0
PM Out	222	0	111	0	0	0	0	0	0	0	0	0	0

Zone #	4	CP #2,8

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In					40%							
Y	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	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	140	0	0	0	0	56	0	0	0	0	0	0	0
AM Out	43	0	17	0	0	0	0	0	0	0	0	0	0
PM In	60	0	0	0	0	24	0	0	0	0	0	0	0
PM Out	139	0	56	0	0	0	0	0	0	0	0	0	0

CUMULATIVE PROJECTS - DISTRIBUTION

Related Project: 9 Rialto Industrial Building

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	2									7		
2	Riverside Avenue at I-10 EB Ramps		2	3		7				8			
3	Riverside Avenue at Slover Avenue		5			15							
4	Riverside Avenue at Santa Ana Avenue	0	0	2	15	0	0	0	1	0	1	0	5
5	Riverside Avenue at Jurupa Avenue		2			1							
6	Santa Ana Avenue at Project Driveway								18			6	
7	0												
8	0												
9	0												

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	7									2		
2	Riverside Avenue at I-10 EB Ramps		7	8		2				3			
3	Riverside Avenue at Slover Avenue		15			5							
4	Riverside Avenue at Santa Ana Avenue	0	0	1	5	0	0	0	0	0	2	1	15
5	Riverside Avenue at Jurupa Avenue		1			2							
6	Santa Ana Avenue at Project Driveway								6			18	
7	0												
8	0												
9	0												

CUMULATIVE PROJECTS - DISTRIBUTION

Related Project: 11 2720 Willow

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	4									11		
2	Riverside Avenue at I-10 EB Ramps		4	3		11				10			
3	Riverside Avenue at Slover Avenue		7			21							
4	Riverside Avenue at Santa Ana Avenue	0	0	0	0	0	21	7	0	0	0	0	0
5	Riverside Avenue at Jurupa Avenue	5								1			
6	Santa Ana Avenue at Project Driveway												
7	0												
8	0												
9	0												

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Riverside Avenue at I-10 WB Ramps	12									4		
2	Riverside Avenue at I-10 EB Ramps		12	12		4				4			
3	Riverside Avenue at Slover Avenue		24			8							
4	Riverside Avenue at Santa Ana Avenue	0	0	0	0	0	8	24	0	0	0	0	0
5	Riverside Avenue at Jurupa Avenue	2								2			
6	Santa Ana Avenue at Project Driveway												
7	0												
8	0												
9	0												