



Traffic Impact Study

for the:

Retail and Industrial Development Project

In the City of Rialto

December 2021

Kimley»»Horn

TRAFFIC IMPACT STUDY
FOR THE PROPOSED
RETAIL AND INDUSTRIAL DEVELOPMENT PROJECT
IN THE CITY OF RIALTO

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TRAFFIC IMPACT STUDY
FOR THE PROPOSED
RETAIL AND INDUSTRIAL DEVELOPMENT
IN THE CITY OF RIALTO

I. INTRODUCTION

A. Purpose of the TIA and Study Objectives

This Traffic Impact Study has been prepared to address the traffic-related effects of the proposed retail and industrial development in the City of Rialto.

This study has been conducted in accordance with the traffic study requirements of the City of Rialto, based on the City's *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment* (October 2021), and in accordance with San Bernardino Association of Governments (SANBAG) Congestion Management Program (CMP) requirements.

This study addresses existing and future traffic conditions, taking into account the project trips to be generated by the project and potential project-related effects on the surrounding circulation system.

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 conditions:

- Existing Conditions
- Opening Year 2022 Without Project (Existing Plus Ambient Growth Plus Cumulative Projects)
- Opening Year 2022 With Project (Existing Plus Ambient Growth Plus Cumulative Projects Plus Project)

B. Site Plan Location and Study Area

The project is located on the southwest corner of the intersection of Riverside Avenue and Senior Way in the City of Rialto, north of the Interstate 10 (I-10) in the City of Rialto. The project site is shown in its regional setting on a vicinity map on Figure 1. The project site is bounded by shopping center retail to the north and south, Riverside Avenue to the East, and Willow Avenue to the West.



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FIGURE 1
VICINITY MAP
SOURCE: NEARMAP

C. Development Project Identification

The Development Project Identification will be determined upon further discussion with City staff.

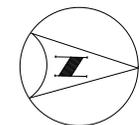
D. Development Project Description

The project will involve the construction of a shopping center with 79,676 square feet of retail use, 9,660 square feet of fast-food restaurant with drive-through use, 3,596 square feet of automated car wash use, and 83,272 square feet of general light industrial use on the currently vacant site. A copy of the project site plan is provided on Figure 2.

Vehicular access provisions for the project site would consist of the following:

- Two full-movement signalized driveways on Riverside Avenue;
- One right-in, right-out (RIRO) only unsignalized driveway on Riverside Avenue;
- One full-movement unsignalized driveway on Willow Avenue.

For purposes of this analysis, the proposed opening year for the project is Year 2022. The project will be developed in a single project phase. The project site is located approximately 1,400 feet west of the City of Colton border.



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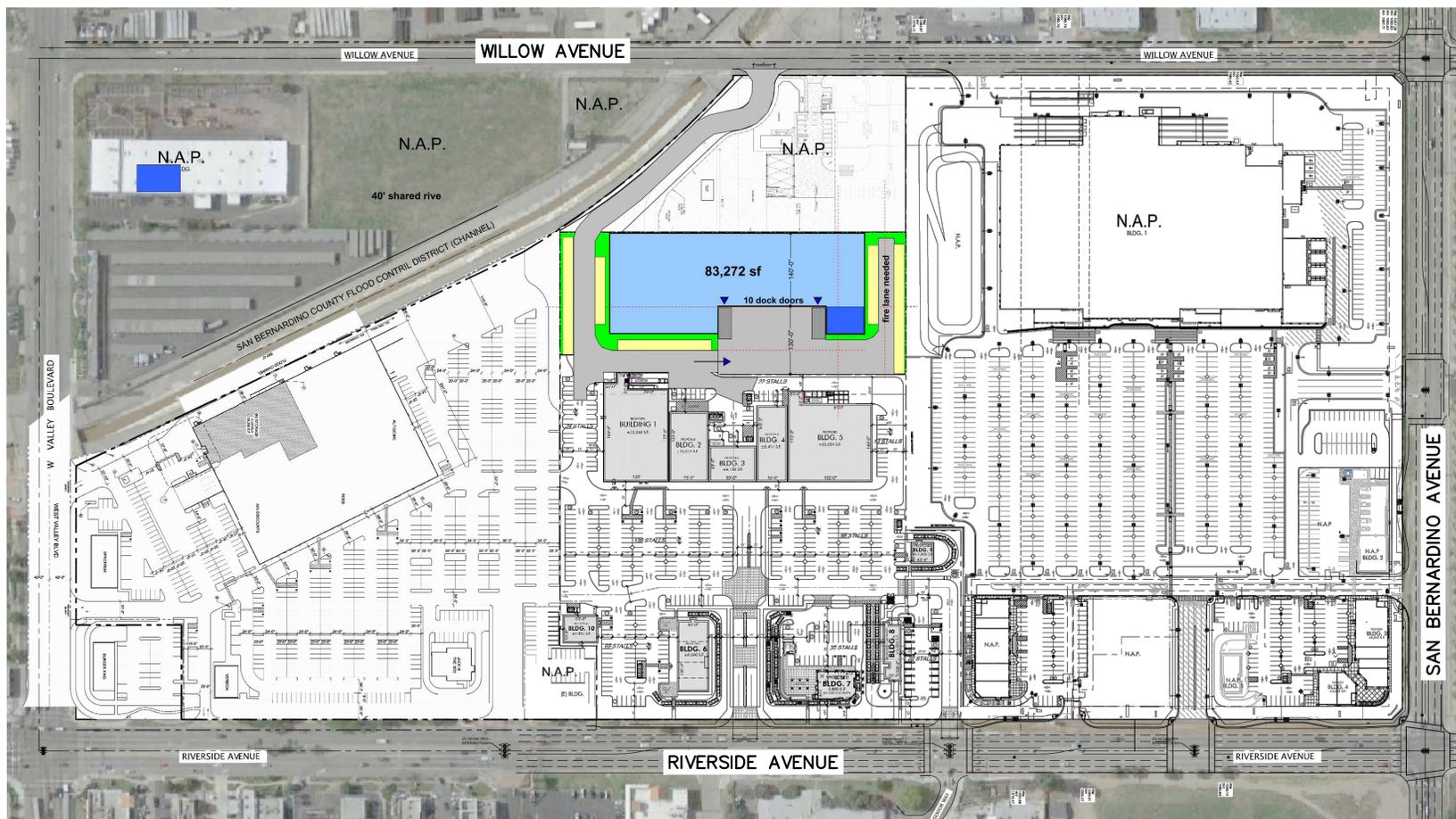


FIGURE 2
PROJECT SITE PLAN

E. Analysis Methodology

1. Intersection Analysis – HCM Methodology

Peak hour intersection operations at signalized and unsignalized intersections were evaluated using the methods prescribed in the Highway Capacity Manual (HCM) 6th 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 Trafficware SYNCHRO program and using the specified input parameters outlined in the City's Traffic Impact Analysis Guidelines.

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 6th Edition), Exhibit 18-4.

² Source: Highway Capacity Manual (HCM 6th Edition), Exhibits 19-1 and 20-2.

3. 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 Guidelines for VMT and LOS Assessment (2021)*

The minimum acceptable LOS for roadway segments in the City of Rialto is D, except for Riverside Avenue south for the Metrolink tracks all the way to the City’s southern border, which can operate at LOS E.

According to the City’s Traffic Study Guidelines, a roadway segment must mitigate their impact if the segment exceeds 1,500 feet and the V/C ratio exceeds 1.0, even if improved intersection at the ends of the segment do not exceed LOS D.

II. AREA CONDITIONS

A. Identify Study Area and Intersections

This traffic study includes documentation of existing conditions, analysis of cumulative traffic conditions, and identification of project-related effects at the following study intersections:

Existing Intersections:

1. San Bernardino Avenue at Lilac Avenue
2. San Bernardino Avenue at Willow Avenue
3. San Bernardino Avenue at Riverside Avenue
4. Riverside Avenue at Senior Way
6. Riverside Avenue at Gateway Plaza/Value Center
8. Valley Boulevard at Willow Avenue
9. Valley Boulevard at Gateway Plaza/Value Center
10. Valley Boulevard at Riverside Avenue
11. Riverside Avenue at I-10 WB Ramps
12. Riverside Avenue at I-10 EB Ramps

Future Driveway Intersections:

5. Riverside Avenue at Project Driveway
7. Willow Avenue at Project Driveway

In addition, the following roadway segments were analyzed:

- Riverside Avenue: Rialto Marketplace to Senior Way
- Riverside Avenue: Gateway Plaza/Value Center to Valley Boulevard
- Willow Avenue: Valley Boulevard to San Bernardino Avenue
- Valley Boulevard: Willow Avenue to Riverside Avenue

The study locations were established in conjunction with City staff through the Scoping Agreement process (Exhibit A of the City of Rialto *Traffic Impact Analysis Guidelines for VMT and LOS Assessment*). A copy of the Approved Scoping Agreement is provided in *Appendix A*.

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

Regional access to the site is provided primarily by the Interstate 10 (I-10) Freeway, to the south of the project site. Access to I-10 is available on the ramps along Riverside Avenue. In addition, the I-215 Freeway is located approximately 4.3 miles to the east of the site, and access to the SR-210 Freeway is approximately 4.3 miles to the west of the site.

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

San Bernardino Avenue – San Bernardino Avenue is designated as a Secondary Arterial in the City of Rialto General Plan, which would provide four travel lanes with two lanes in each direction within the project vicinity. San Bernardino Avenue traverses the City in an east-west direction, turning into Olive Street to the east. The posted speed limit on San Bernardino Avenue is 35 miles per hour (mph).

Riverside Avenue – Riverside Avenue is designated as a Modified Major Arterial II in the City of Rialto General Plan near the project vicinity, which would provide 6 travel lanes with three lanes in each direction and a raised median, east of the project. Riverside Avenue traverses the City in a north-south direction. The posted speed limit on Riverside Avenue is 40 mph.

Valley Boulevard – Valley Boulevard is designated as a Major Arterial in the City of Rialto General Plan, which would provide 4 travel lanes with 2 lanes in each direction and a two-way left-turn lane (TWLTL). Valley Boulevard traverses the City in an east-west direction. The posted speed limit on Valley Boulevard is 40 mph.

Lilac Avenue – Lilac Avenue is designated as a Collector Street in the City of Rialto General Plan, which would provide 2 travel lanes with 1 lane in each direction. Lilac Avenue traverses the City in a north-south direction. The posted speed limit on Lilac Avenue is 45 mph, and 25 mph near Joe Baca Middle School when children are present.

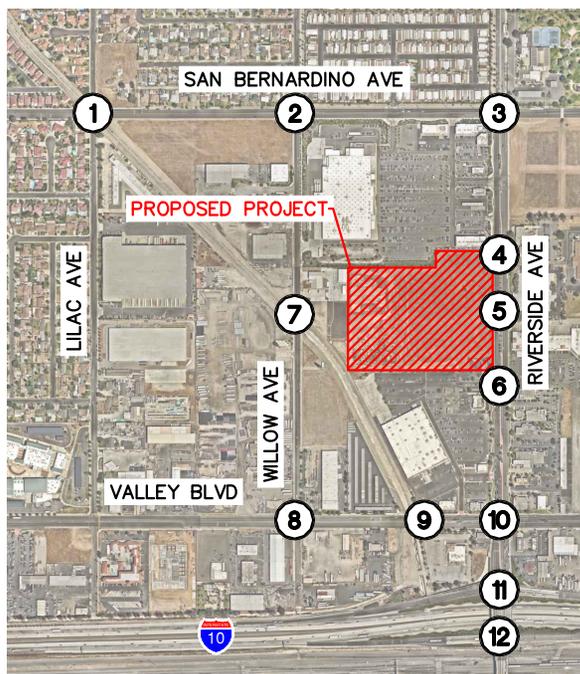
Willow Avenue – Willow Avenue is designated as a Collector Street in the City of Rialto General Plan, which would provide 2 travel lanes with 1 lane in each direction. Willow Avenue traverses the City in a north-south direction. The posted speed limit on Willow Avenue is 45 mph.

C. Existing Traffic Volumes

Existing morning peak period (7:00 to 9:00 AM) and evening peak period (4:00 to 6:00 PM) turning movement counts, as well as 24-hour roadway segment counts, were collected for the study intersections and study roadway segments. The counts were completed in September, 2021. Copies of the traffic count data worksheets are provided in *Appendix B*. Existing morning peak hour volumes, evening peak hour volumes, and daily roadway volumes are presented on Figure 4.



NOT TO SCALE



1. San Bernardino Avenue at Lilac Avenue	2. San Bernardino Avenue at Willow Avenue	3. San Bernardino Avenue at Riverside Avenue	4. Riverside Avenue at Senior Way
5. Riverside Avenue at Project Driveway	6. Riverside Avenue at Gateway Plaza/Value Center	7. Willow Avenue at Project Driveway	8. Valley Boulevard at Willow Avenue
Future Intersection		Future Intersection	
9. Valley Boulevard at Gateway Plaza/Value Center	10. Valley Boulevard at Riverside Avenue	11. Riverside Avenue at I-10 WB Ramps	12. Riverside Avenue at I-10 EB Ramps

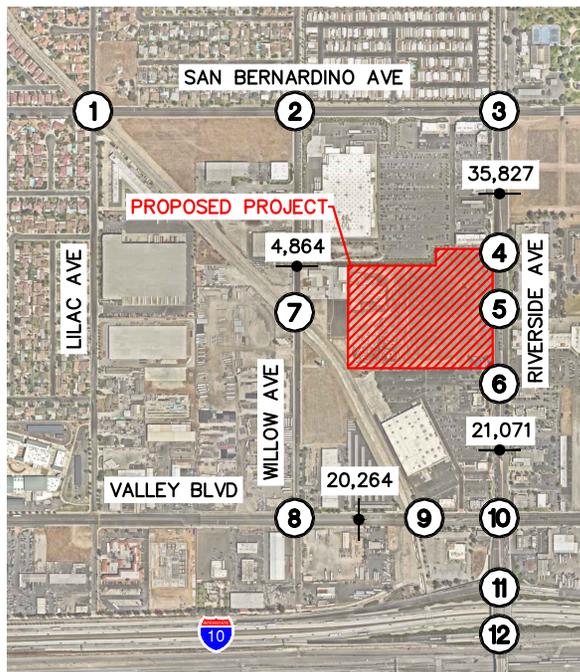
LEGEND:

- = Study Intersection
- = Turn or Through Lane
- = Signal
- = Stop Sign
- = Defacto Right Turn

FIGURE 3
EXISTING LANE CONFIGURATION AND
TRAFFIC CONTROL



NOT TO SCALE



1. San Bernardino Avenue at Lilac Avenue	2. San Bernardino Avenue at Willow Avenue	3. San Bernardino Avenue at Riverside Avenue	4. Riverside Avenue at Senior Way
5. Riverside Avenue at Project Driveway	6. Riverside Avenue at Gateway Plaza/ Value Center	7. Willow Avenue at Project Driveway	8. Valley Boulevard at Willow Avenue
Future Intersection		Future Intersection	
9. Valley Boulevard at Gateway Plaza/ Value Center	10. Valley Boulevard at Riverside Avenue	11. Riverside Avenue at I-10 WB Ramps	12. Riverside Avenue at I-10 EB Ramps

LEGEND:

- (X) = Study Intersection
- XX/YY = AM/PM Peak Hour Volumes
- X,XXX = Average Daily Traffic Volume

FIGURE 4
EXISTING TRAFFIC VOLUMES

D. Existing Delay and Level of Service

Peak Hour Operating Conditions

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

Review of this table indicates that all study intersections currently operate at an acceptable Level of Service. Copies of Existing Conditions intersection analysis worksheets are provided in *Appendix C*.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Existing Conditions are shown on Table 2.

Review of this table indicates that the study roadway segments are currently operating within their current Level of Service D capacity.

E. Transit Service

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

OmniTrans Route 19 operates between the City of Fontana and the City of Yucaipa, traveling through Rialto along San Bernardino Avenue in the project vicinity. Route 19 operates on weekdays from 4:49 AM to 10:33 PM with approximately 30-minute to 60-minute headways (the time between bus arrivals), on Saturdays from 5:20 AM to 9:42 PM with approximately 1-hour headways, and on Sundays from 6:40 AM to 7:08 PM with approximately 1-hour headways.

OmniTrans Route 22 operates between the City of Rialto and the City of Colton along Riverside Avenue and Valley Boulevard in the project vicinity. Route 22 operates on weekdays from 5:05 AM to 9:43 PM with approximately 1-hour headways, on Saturdays from 7:13 AM to 7:28 PM with approximately 1-hour headways, and on Sundays from 7:28 AM to 7:28 PM with approximately 1-hour headways.

TABLE 1
SUMMARY OF INTERSECTION OPERATION
EXISTING CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	San Bernardino Ave at Lilac Ave	U	13.9	B	12.6	B
2	San Bernardino Ave at Willow Ave	U	23.1	C	27.3	D
3	San Bernardino Ave at Riverside Dr	S	30.1	C	34.6	C
4	Riverside Dr at Senior Wy	S	2.2	A	3.3	A
5	Riverside Dr at Project Dwy	Future				
6	Riverside Dr at Gateway Plaza/Value Ctr	S	4.6	A	7.8	A
7	Willow Ave at Project Dwy	Future				
8	Valley Blvd at Willow Ave	S	22.1	C	21.2	C
9	Valley Blvd at Gateway Plaza/Value Ctr	S	20.6	C	19.3	B
10	Valley Blvd at Riverside Dr	S	17.5	B	16.9	B
11	Riverside Dr at I-10 WB Ramps	S	12.0	B	11.9	B
12	Riverside Dr at I-10 EB Ramps	S	9.9	A	18.2	B

Notes:

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

TABLE 2
SUMMARY OF ROADWAY ANALYSIS
EXISTING CONDITIONS

Roadway	Segment	Roadway Classification	LOS Capacity ¹	Existing ADT	V/C	LOS
Riverside Avenue	Senior Way to Rialto Marketplace	Modified Major Arterial II	49,499	35,827	0.724	C
	Gateway Plaza/Value Center to Valley Boulevard	Modified Major Arterial II	49,499	21,071	0.426	A
Willow Avenue	Valley Boulevard to San Bernardino Avenue	Collector Street	12,499	4,864	0.389	A
Valley Boulevard	Willow Avenue to Riverside Avenue	Major Arterial ²	35,998	20,264	0.563	A

Notes: ¹ Source: *City of Rialto Traffic Impact Analysis Guidelines for VMT and LOS Assessment (2021)*.

² Valley Boulevard currently provides 4 lanes in this segment of the roadway. The daily capacity for a 2-lane arterial has been factored proportionately to reflect 4 lanes.

LOS = Level of Service

ADT = Average Daily Traffic

V/C = Volume to Capacity

III. PROJECTED FUTURE TRAFFIC

A. Opening Year 2022 Without Project (Existing Plus Ambient Growth Plus Cumulative Projects)

1. Ambient Growth Rate

An ambient growth rate of 2.0% per year to Opening Year 2022 was applied to existing peak hour traffic volumes to develop the base Opening Year 2022 forecasts.

2. Cumulative Projects

In addition to ambient growth, traffic volumes for Cumulative Projects (approved and pending projects) were added to the base Opening Year 2022 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.

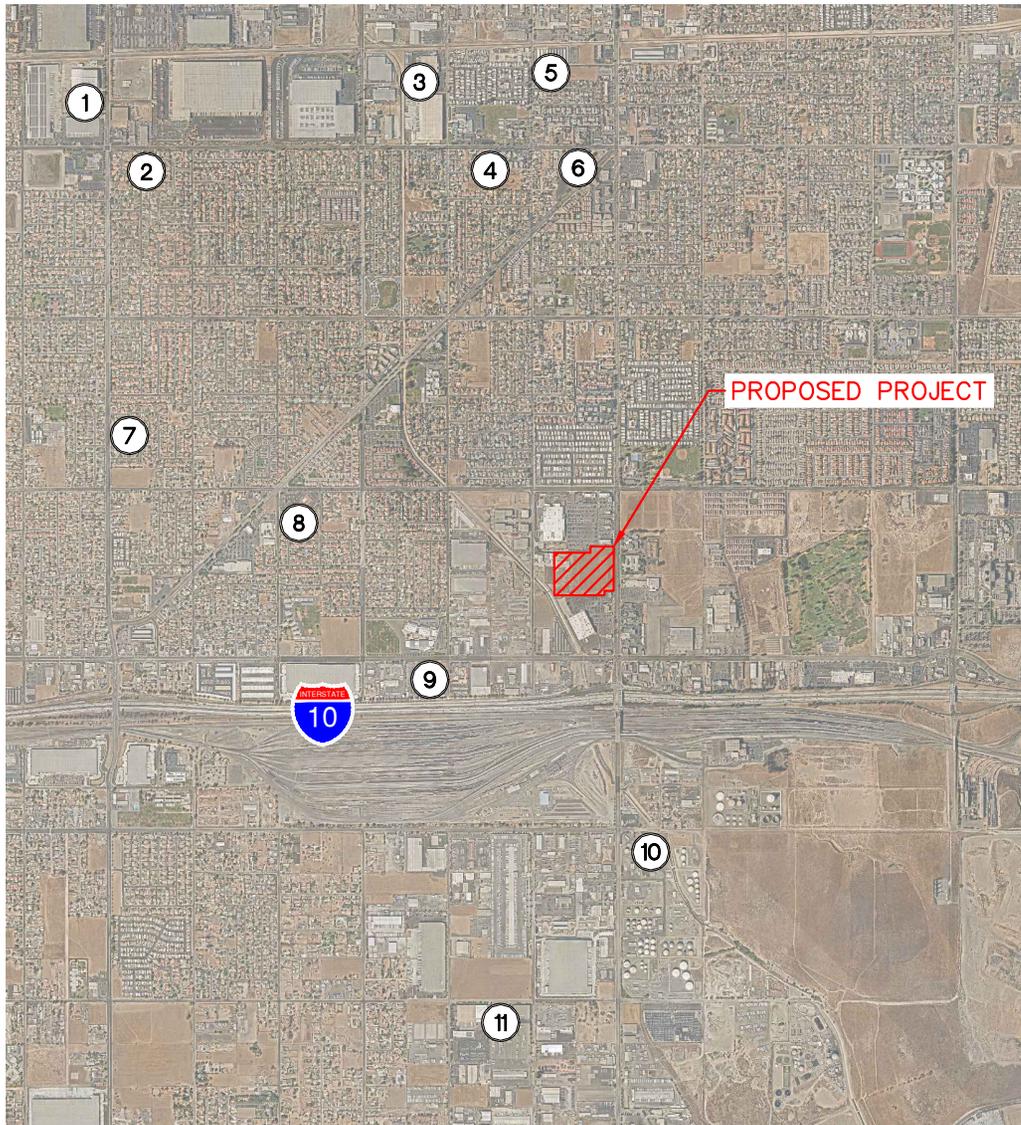
A summary of Cumulative Projects in the project vicinity and the trip generation associated with each is provided on Table 3. The locations of the Cumulative Projects are shown on Figure 5. Cumulative Project traffic volumes are shown on Figure 6. Cumulative Project Trip Distribution and Trip Assignment sheets are provided in *Appendix D*.

The Opening Year 2022 Without Project traffic volumes, and are shown on Figure 7.

TABLE 3
SUMMARY OF CUMULATIVE PROJECTS

Proj #	Description	Land Use	Quantity	Units	Trip Generation Estimates						
					Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1	NWC Cedar Ave and Merrill Ave	Warehousing	127.990	KSF	223	17	5	22	7	18	25
2	N/S Merrill Ave, 250' E of Cedar Ave	Manufacturing	4.500	KSF	18	2	1	3	1	2	3
3	NWC of Lilac Ave and Merrill Ave	Single-Family Detached Housing	65	DU	614	12	36	48	41	24	65
4	364 W Merrill Ave	Single-Family Detached Housing	2	DU	19	0	1	1	1	1	2
5	Bonnie View Dr and Willow Ave	Single-Family Detached Housing	29	DU	274	5	16	21	18	11	29
6	164 W Merrill Ave	Senior Adult Housing-Detached	70	DU	299	6	11	17	13	8	21
7	Cedar Ave, between Woodcrest St and Miramont St	Single-Family Detached Housing	10	DU	94	2	6	8	6	4	10
8	San Bernardino Ave, between Spruce Ave and Idylwild Ave	Single-Family Detached Housing	19	DU	179	4	11	15	12	7	19
9	515 W Valley Blvd	Automobile Sales (New)	4.642	KSF	129	6	2	8	5	7	12
10	Slover Ave, 190' W of Riverside Ave	Recreational Vehicle Sales	17.000	KSF	85	7	1	8	4	9	13
11	SWC of Santa Ana Ave and Willow Ave	Manufacturing	47.447	KSF	186	23	7	30	10	22	32
Total Project Trips					2,120	84	97	181	118	113	231

DU = Dwelling Unit, KSF = 1,000 square feet

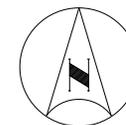


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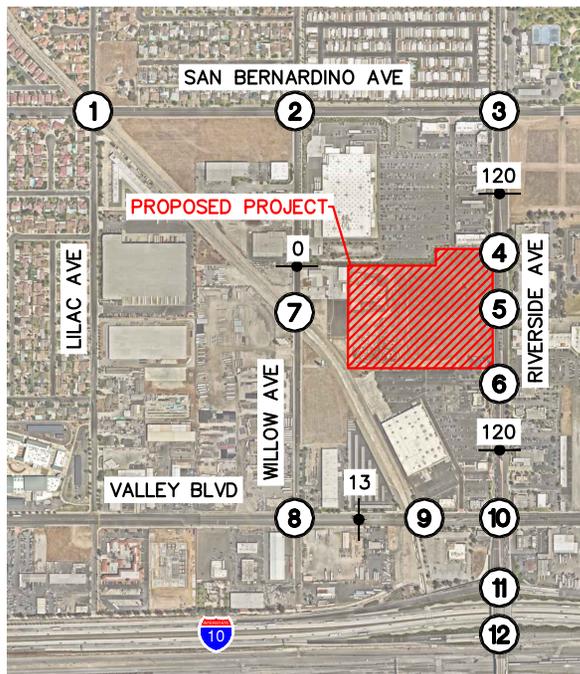
LEGEND:

(X) = Cumulative Project Location

FIGURE 5
 CUMULATIVE PROJECT LOCATIONS
 SOURCE: NEARMAP



NOT TO SCALE



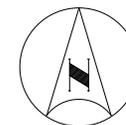
1. San Bernardino Avenue at Lilac Avenue	2. San Bernardino Avenue at Willow Avenue	3. San Bernardino Avenue at Riverside Avenue	4. Riverside Avenue at Senior Way
←2/5	←2/5	↓6/4 ←2/5	↓6/4
4/3→	4/3→	4/3→ ↑2/7	↑2/7
5. Riverside Avenue at Project Driveway	6. Riverside Avenue at Gateway Plaza/ Value Center	7. Willow Avenue at Project Driveway	8. Valley Boulevard at Willow Avenue
Future Intersection	←6/4 ↑2/7	Future Intersection	←1/1
0/1→	0/1→ ↑2/7	0/2→ ↑1/4 ↑2/1	0/1→
9. Valley Boulevard at Gateway Plaza/ Value Center	10. Valley Boulevard at Riverside Avenue	11. Riverside Avenue at I-10 WB Ramps	12. Riverside Avenue at I-10 EB Ramps
←1/1	↓6/4 ←1/1	↖3/2 ↗3/2 ↑1/4 ↑2/1	↖2/1 ↗3/2 ↑1/4 ↑2/1
0/1→	0/1→ ↑2/7	0/2→ ↑1/4 ↑2/1	1/4→ ↑2/1 0/2→ 0/2→

LEGEND:

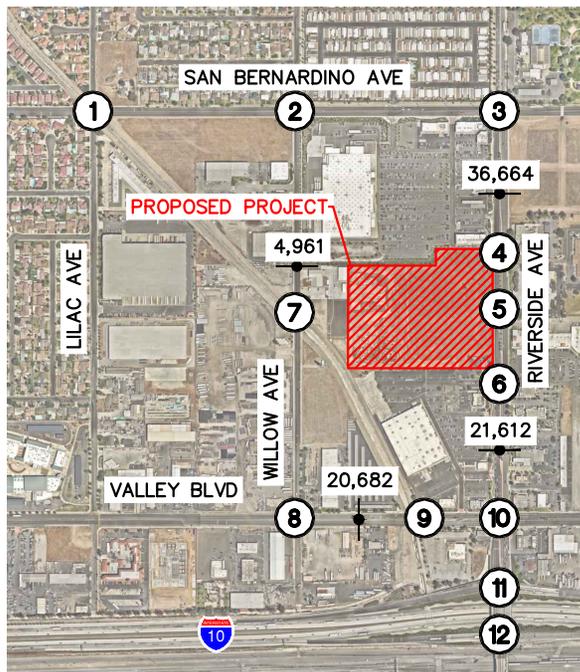
- (X) = Study Intersection
- xx/yy = AM/PM Peak Hour Volumes
- XXX = Average Daily Traffic Volume
- = Average Daily Traffic Volume

FIGURE 6
CUMULATIVE PROJECT
TRAFFIC VOLUMES





NOT TO SCALE



1. San Bernardino Avenue at Lilac Avenue	2. San Bernardino Avenue at Willow Avenue	3. San Bernardino Avenue at Riverside Avenue	4. Riverside Avenue at Senior Way
5. Riverside Avenue at Project Driveway	6. Riverside Avenue at Gateway Plaza/ Value Center	7. Willow Avenue at Project Driveway	8. Valley Boulevard at Willow Avenue
Future Intersection		Future Intersection	
9. Valley Boulevard at Gateway Plaza/ Value Center	10. Valley Boulevard at Riverside Avenue	11. Riverside Avenue at I-10 WB Ramps	12. Riverside Avenue at I-10 EB Ramps

LEGEND:

- (X) = Study Intersection
- XX/YY = AM/PM Peak Hour Volumes
- X,XXX = Average Daily Traffic Volume
- = Volume

FIGURE 7
 OPENING YEAR 2022 WITHOUT PROJECT
 TRAFFIC VOLUMES



3. Opening Year 2022 Without Project 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 the Opening Year 2022 Without Project scenario are shown on Table 4.

Review of this table indicates that all study intersections would continue to operate at an acceptable Level of Service. Copies of Opening Year 2022 Without Project intersection analysis worksheets are provided in *Appendix C*.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Opening Year 2022 Without Project are shown on Table 5.

Review of this table indicates that the study roadway segments are currently operating within their current Level of Service D capacity.

B. Project Traffic

1. Project Trip Generation

Trip generation estimates for the project are based on daily and peak hourly trip generation rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). ITE trip generation estimates for the project are based on the trip generation rates for the following ITE Land Uses: ITE Land Use 110 – General Light Industrial; and ITE Land Use 821 – Shopping Plaza (40K-150K). It is assumed that trips generated by the shopping plaza are all passenger vehicle trips. According to the ITE 10th Edition Supplement, the trips generated by the light industrial use would be 92% passenger vehicles and 8% trucks. The City of Rialto TIA Report Guidelines specify a truck split of 70% of trucks being 4+-axle, 28% of trucks being 3-axle, 2% of trucks being 2-axle. These truck classification splits were applied to the daily and peak hour trip generation to develop an estimate of truck volumes by number of axles which would be associated with the proposed project.

TABLE 4
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2022 WITHOUT PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	San Bernardino Ave at Lilac Ave	U	14.2	B	13.0	B
2	San Bernardino Ave at Willow Ave	U	24.5	C	29.4	D
3	San Bernardino Ave at Riverside Dr	S	30.8	C	37.4	D
4	Riverside Dr at Senior Wy	S	2.2	A	3.3	A
5	Riverside Dr at Project Dwy	Future				
6	Riverside Dr at Gateway Plaza/Value Ctr	S	4.6	A	8.0	A
7	Willow Ave at Project Dwy	Future				
8	Valley Blvd at Willow Ave	S	22.1	C	20.7	C
9	Valley Blvd at Gateway Plaza/Value Ctr	S	20.6	C	19.2	B
10	Valley Blvd at Riverside Dr	S	18.1	B	17.6	B
11	Riverside Dr at I-10 WB Ramps	S	12.2	B	12.3	B
12	Riverside Dr at I-10 EB Ramps	S	10.2	B	19.4	B

Note:

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

TABLE 5
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2022 WITHOUT PROJECT

Roadway	Segment	LOS Capacity ¹	Opening Year ADT	Cumulative Projects ADT	Opening Year + Cumulative Projects ADT	V/C	LOS
Riverside Avenue	Senior Way to Rialto Marketplace	49,499	36,544	120	36,664	0.741	C
	Gateway Plaza/Value Center to Valley Boulevard	49,499	21,492	120	21,612	0.437	A
Willow Avenue	Valley Boulevard to San Bernardino Avenue	12,499	4,961	0	4,961	0.397	A
Valley Boulevard	Willow Avenue to Riverside Avenue	35,998	20,669	13	20,682	0.575	A

Notes: ¹ Source: *City of Rialto Traffic Impact Analysis Guidelines for VMT and LOS Assessment (2021)*

ADT = Average Daily Traffic

V/C = Volume to Capacity

Passenger car equivalent (PCE) factors were then applied to the truck types, based on number of axles (1.5 PCE for 2-axle trucks, 2.0 PCE for 3-axle trucks, and 3.0 PCE for 4+-axle trucks) to determine the total PCE volumes to be generated by the project. The trip generation rates and PCE factors, and the resulting trip generation estimates for the project, are summarized on Table 6. With the PCE factors, the project is estimated to generate 6,396 PCE trips on a daily basis, with 290 PCE trips in the morning peak hour, and 628 PCE trips in the evening peak hour.

Not all trips from the project are anticipated to be new. Some trips are expected to be captured by the internal land uses, or from the existing flow of traffic passing the site. Internal capture and pass-by were applied to the project based on discussion with the City and methodology within the City of Rialto TIA Report Guidelines.

2. Trip Distribution and Assignment

Trip distribution assumptions for the project were developed by taking into account the proposed site uses, and the routes to and from the freeway system for the vehicles. Trip distribution assumptions are shown on Figure 8. The resulting project-related trips are shown on Figure 9. Pass-by volumes which are shown on Figure 10 were then added to the project-related trips to determine total project traffic volumes. The resulting project volumes are shown on Figure 11.

C. Opening Year 2022 With Project (Existing Plus Ambient Growth Plus Cumulative Projects Plus Project)

Peak Hour Operating Conditions

The total proposed project traffic volumes were added to the Opening Year 2022 Without Project traffic volumes to determine the Opening Year 2022 With Project conditions. The resulting Opening Year 2022 With Project traffic volumes are shown on Figure 12. Intersection Level of Service analysis was conducted for the morning and evening peak hours, and the results of this analysis are shown on Table 7. Intersection analysis worksheets for this scenario are provided in *Appendix C*.

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

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Opening Year 2022 With Project conditions are shown on Table 8.

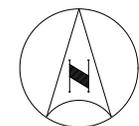
Review of this table indicates that the study roadway segments would continue to operate within their current Level of Service D capacity with the addition of Project traffic.

TABLE 6
SUMMARY OF PROJECT TRIP GENERATION

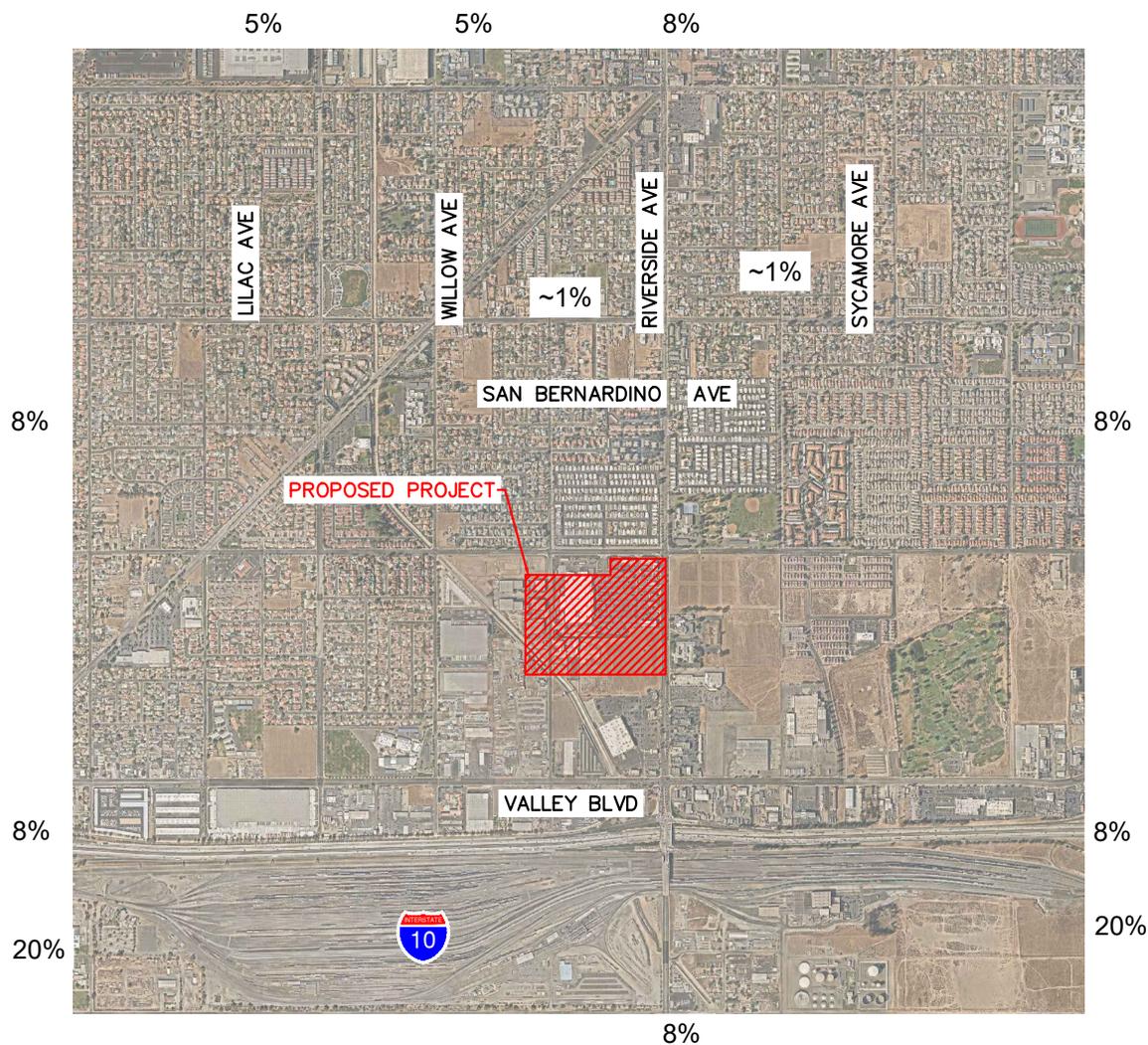
Land Use		ITE Code	Unit	Trip Generation Rates ¹							
				Daily	AM Peak Hour			PM Peak Hour			
					In	Out	Total	In	Out	Total	
Shopping Plaza (40K - 150K)		821	KSF	94.490	2.189	1.341	3.53	4.334	4.696	9.03	
General Light Industrial		110	KSF	4.870	0.651	0.089	0.74	0.091	0.559	0.65	
Land Use		Quantity	Unit	Trip Generation Estimates							
				Daily	AM Peak Hour			PM Peak Hour			
					In	Out	Total	In	Out	Total	
Shopping Plaza (40K - 150K)		93.023	KSF	8,790	204	125	329	403	437	840	
<i>Internal Capture 10%²</i>				-879	-20	-13	-33	-40	-44	-84	
<i>Pass-by 25%²</i>				-1,978	-46	-28	-74	-91	-98	-189	
General Light Industrial		83.272	KSF	406	54	7	61	8	47	55	
Passenger Vehicles	92.00%			374	50	6	56	7	43	50	
Trucks	8.00%			32	4	1	5	1	4	5	
GENERAL LIGHT INDUSTRIAL PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)											
Vehicle Type		Vehicle Mix ²	Daily Vehicles	PCE Factor ²	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Passenger Vehicles		92.00%	374	1.0	374	50	6	56	7	43	50
2-Axle Trucks		0.16%	1	1.5	2	0	0	0	0	0	0
3-Axle Trucks		2.24%	9	2.0	18	2	0	2	0	2	2
4+ Axle Trucks		5.60%	23	3.0	69	9	1	10	1	8	9
Total Truck PCE Trips					89	11	1	12	1	10	11
Total Proposed Project PCE Trips					463	61	7	68	8	53	61
Total Project Trips					6,396	199	91	290	280	348	628
¹ Source: Institute of Transportation Engineers (ITE) <u>Trip Generation Manual</u> , 11th Edition											
² Source: City of Rialto Traffic Impact Analysis Report Guidelines and Requirements											

TABLE 6
SUMMARY OF PROJECT TRIP GENERATION

Land Use		ITE Code	Unit	Trip Generation Rates ¹							
				Daily	AM Peak Hour			PM Peak Hour			
					In	Out	Total	In	Out	Total	
Shopping Plaza (40K - 150K)		821	KSF	94.490	2.189	1.341	3.53	4.334	4.696	9.03	
General Light Industrial		110	KSF	4.870	0.651	0.089	0.74	0.091	0.559	0.65	
Land Use		Quantity	Unit	Trip Generation Estimates							
				Daily	AM Peak Hour			PM Peak Hour			
					In	Out	Total	In	Out	Total	
Shopping Plaza (40K - 150K)		93.023	KSF	8,790	204	125	329	403	437	840	
<i>Internal Capture 10%²</i>				-879	-20	-13	-33	-40	-44	-84	
<i>Pass-by 25%²</i>				-1,978	-46	-28	-74	-91	-98	-189	
General Light Industrial		83.272	KSF	406	54	7	61	8	47	55	
Passenger Vehicles	92.00%			374	50	6	56	7	43	50	
Trucks	8.00%			32	4	1	5	1	4	5	
GENERAL LIGHT INDUSTRIAL PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)											
Vehicle Type		Vehicle Mix ²	Daily Vehicles	PCE Factor ²	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Passenger Vehicles		92.00%	374	1.0	374	50	6	56	7	43	50
2-Axle Trucks		0.16%	1	1.5	2	0	0	0	0	0	0
3-Axle Trucks		2.24%	9	2.0	18	2	0	2	0	2	2
4+ Axle Trucks		5.60%	23	3.0	69	9	1	10	1	8	9
Total Truck PCE Trips					89	11	1	12	1	10	11
Total Proposed Project PCE Trips					463	61	7	68	8	53	61
Total Project Trips					6,396	199	91	290	280	348	628
¹ Source: Institute of Transportation Engineers (ITE) <u>Trip Generation Manual</u> , 11th Edition											
² Source: City of Rialto Traffic Impact Analysis Report Guidelines and Requirements											



NOT TO SCALE



LEGEND:

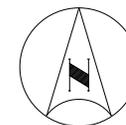


Project Site

XX%

Trip Distribution Percentage

FIGURE 8
PROJECT TRIP DISTRIBUTION ASSUMPTIONS
SOURCE: NEARMAP



NOT TO SCALE



1. San Bernardino Avenue at Lilac Avenue	2. San Bernardino Avenue at Willow Avenue	3. San Bernardino Avenue at Riverside Avenue	4. Riverside Avenue at Senior Way
5. Riverside Avenue at Project Driveway	6. Riverside Avenue at Gateway Plaza/ Value Center	7. Willow Avenue at Project Driveway	8. Valley Boulevard at Willow Avenue
9. Valley Boulevard at Gateway Plaza/ Value Center	10. Valley Boulevard at Riverside Avenue	11. Riverside Avenue at I-10 WB Ramps	12. Riverside Avenue at I-10 EB Ramps

LEGEND:

- (X) = Study Intersection
- xx/yy = AM/PM Peak Hour Volumes
- X,XXX = Average Daily Traffic Volume
- = Volume

FIGURE 9
PROJECT-RELATED TRAFFIC VOLUMES





NOT TO SCALE



4. Riverside Avenue at Senior Way		6. Riverside Avenue at Gateway Plaza/ Value Center	
$\begin{matrix} \curvearrowright 10/20 \\ \curvearrowleft -10/-20 \end{matrix}$		$\begin{matrix} \curvearrowright 7/13 \\ \curvearrowleft -7/-13 \end{matrix}$	
$\begin{matrix} 6/21 \curvearrowright \\ 7/25 \curvearrowright \end{matrix}$	$\begin{matrix} 12/23 \curvearrowright \\ -12/-23 \curvearrowright \end{matrix}$	$\begin{matrix} 11/38 \curvearrowright \\ 4/14 \curvearrowright \end{matrix}$	$\begin{matrix} 18/35 \curvearrowright \\ -18/-35 \curvearrowright \end{matrix}$

FIGURE 10
PASS-BY TRAFFIC VOLUMES

LEGEND:

(X) = Study Intersection

xx/yy = AM/PM Peak Hour Volumes



NOT TO SCALE



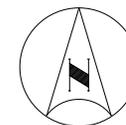
1. San Bernardino Avenue at Lilac Avenue	2. San Bernardino Avenue at Willow Avenue	3. San Bernardino Avenue at Riverside Avenue	4. Riverside Avenue at Senior Way
5. Riverside Avenue at Project Driveway	6. Riverside Avenue at Gateway Plaza/ Value Center	7. Willow Avenue at Project Driveway	8. Valley Boulevard at Willow Avenue
9. Valley Boulevard at Gateway Plaza/ Value Center	10. Valley Boulevard at Riverside Avenue	11. Riverside Avenue at I-10 WB Ramps	12. Riverside Avenue at I-10 EB Ramps

LEGEND:

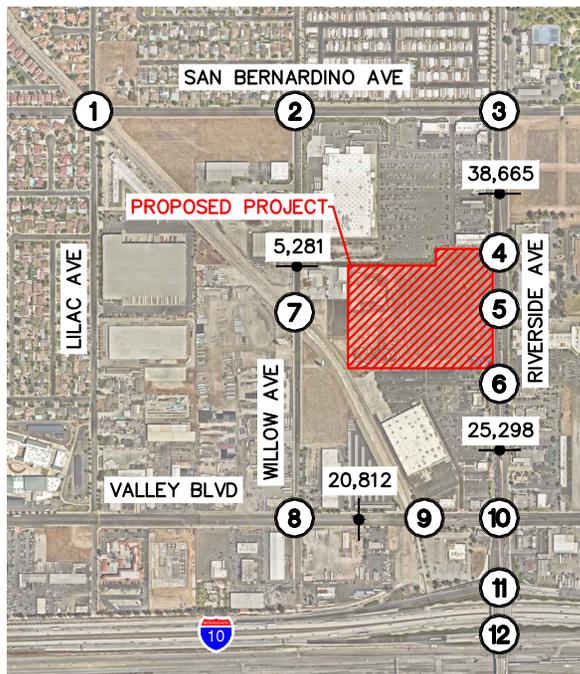
- (X) = Study Intersection
- xx/yy = AM/PM Peak Hour Volumes
- X,XXX = Average Daily Traffic Volume
- = Volume

FIGURE 11
TOTAL PROJECT TRAFFIC VOLUMES





NOT TO SCALE



1. San Bernardino Avenue at Lilac Avenue	2. San Bernardino Avenue at Willow Avenue	3. San Bernardino Avenue at Riverside Avenue	4. Riverside Avenue at Senior Way
5. Riverside Avenue at Project Driveway	6. Riverside Avenue at Gateway Plaza/ Value Center	7. Willow Avenue at Project Driveway	8. Valley Boulevard at Willow Avenue
9. Valley Boulevard at Gateway Plaza/ Value Center	10. Valley Boulevard at Riverside Avenue	11. Riverside Avenue at I-10 WB Ramps	12. Riverside Avenue at I-10 EB Ramps

LEGEND:

- (X) = Study Intersection
- XX/YY = AM/PM Peak Hour Volumes
- X,XXX = Average Daily Traffic Volume

FIGURE 12
OPENING YEAR 2022 WITH PROJECT
TRAFFIC VOLUMES

TABLE 7
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2022 WITH PROJECT CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour					PM Peak Hour				
			Without Project		With Project		Change in Delay	Without Project		With Project		Change in Delay
			Delay	LOS	Delay	LOS		Delay	LOS	Delay	LOS	
1	San Bernardino Ave at Lilac Ave	U	14.2	B	15.0	B	0.8	13.0	B	14.0	B	1.0
2	San Bernardino Ave at Willow Ave	U	24.5	C	27.6	D	3.1	29.4	D	39.9	E	10.5
3	San Bernardino Ave at Riverside Dr	S	30.8	C	33.0	C	2.2	37.4	D	40.7	D	3.3
4	Riverside Dr at Senior Wy	S	2.2	A	5.7	A	3.5	3.3	A	10.9	B	7.6
5	Riverside Dr at Project Dwy	Future			9.3	A				10.0	B	
6	Riverside Dr at Gateway Plaza/Value Ctr	S	4.6	A	5.6	A	1.0	8.0	A	11.2	B	3.2
7	Willow Ave at Project Dwy	Future			8.6	A				8.7	A	
8	Valley Blvd at Willow Ave	S	22.1	C	22.1	C	0.0	20.7	C	20.7	C	0.0
9	Valley Blvd at Gateway Plaza/Value Ctr	S	20.6	C	20.6	C	0.0	19.2	B	19.2	B	0.0
10	Valley Blvd at Riverside Dr	S	18.1	B	18.2	B	0.1	17.6	B	19.3	B	1.7
11	Riverside Dr at I-10 WB Ramps	S	12.2	B	12.6	B	0.4	12.3	B	13.5	B	1.2
12	Riverside Dr at I-10 EB Ramps	S	10.2	B	10.7	B	0.5	19.4	B	25.5	C	6.1

Notes:

- Delay values for unsignalized (U) intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

TABLE 8
SUMMARY OF ROADWAY ANALYSIS
OPENING YEAR 2022 WITH PROJECT

Roadway	Segment	LOS Capacity ¹	Opening Year ADT	Cumulative Projects ADT	Opening Year + Cumulative Projects ADT	Net Daily Project Traffic	Opening Year + Cumulative + Project ADT	V/C	LOS
Riverside Avenue	Senior Way to Rialto Marketplace	49,499	36,544	120	36,664	2,001	38,665	0.781	C
	Gateway Plaza/Value Center to Valley Boulevard	49,499	21,492	120	21,612	3,686	25,298	0.511	A
Willow Avenue	Valley Boulevard to San Bernardino Avenue	12,499	4,961	0	4,961	320	5,281	0.423	A
Valley Boulevard	Willow Avenue to Riverside Avenue	35,998	20,669	13	20,682	130	20,812	0.578	A

Notes: ¹ Source: *City of Rialto Traffic Impact Analysis Guidelines for VMT and LOS Assessment (2021)*

LOS = Level of Service

ADT = Average Daily Traffic

V/C = Volume to Capacity

IV. STORAGE CAPACITY AT LEFT-TURN POCKETS

Per request from City staff, queue lengths at left-turn pockets were assessed at the following locations:

- Riverside Avenue at Senior Way
 - Northbound Left Turn
 - Eastbound Left Turn
- Riverside Avenue at Gateway Plaza/Value Center
 - Northbound Left Turn
- Riverside Avenue at I-10 Westbound Ramps
 - Northbound Left Turn
- Riverside Avenue at I-10 Eastbound Ramps
 - Southbound Left Turn

A summary of left-turn pocket storage capacity, as well as the 50th and 95th percentile queue lengths at the locations noted above are shown on Table 9 for all scenarios. Review of this table indicates that all left-turn pocket queues would be within the available storage capacity for all study scenarios. The left-turn pocket capacity worksheets are provided in *Appendix C*.

V. DELIVERY TRUCK DRIVEWAY ACCESS

Vehicular access provisions for delivery trucks at the proposed site would be provided via four driveways: two full-movement signalized driveways on Riverside Avenue; one RIRO only unsignalized driveway on Riverside Avenue; and one full-movement unsignalized driveway on Willow Avenue.

Truck turn templates for delivery trucks taking access at the project driveways are shown on Figure 13.

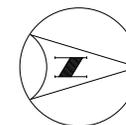
VI. VEHICLE MILES TRAVELED

A. Vehicle Miles Traveled (VMT) Analysis

To be consistent with the previous Traffic Impact Study that was completed for this project, LOS was the decided metric used for determining the project impacts and mitigations for the proposed project; therefore, a VMT analysis was not performed for this project.

TABLE 9
SUMMARY OF LEFT-TURN POCKET STORAGE CAPACITY
RESIDENTIAL AND INDUSTRIAL DEVELOPMENT PROJECT

Intersection	Peak Hour	Left-Turn Movement	Storage Capacity (ft/ln)	Existing		Opening Year 2022		Opening Year 2022 Plus Project	
				50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile
Riverside Avenue at Senior Way	AM	NBL	150	Future		Future		0	42
	PM			Future		Future		10	68
	AM	EBL	200	Future		Future		0	7
	PM			Future		Future		36	117
Riverside Avenue at Gateway Plaza/Value Center	AM	NBL	230	Future		Future		17	97
	PM			Future		Future		57	202
Riverside Avenue at I-10 Westbound Ramps	AM	NBL	150	15	45	16	48	17	48
	PM			36	84	39	86	44	95
Riverside Avenue at I-10 Eastbound Ramps	AM	SBL	200	54	120	59	131	68	150
	PM			123	115	134	132	93	189



NOT TO SCALE

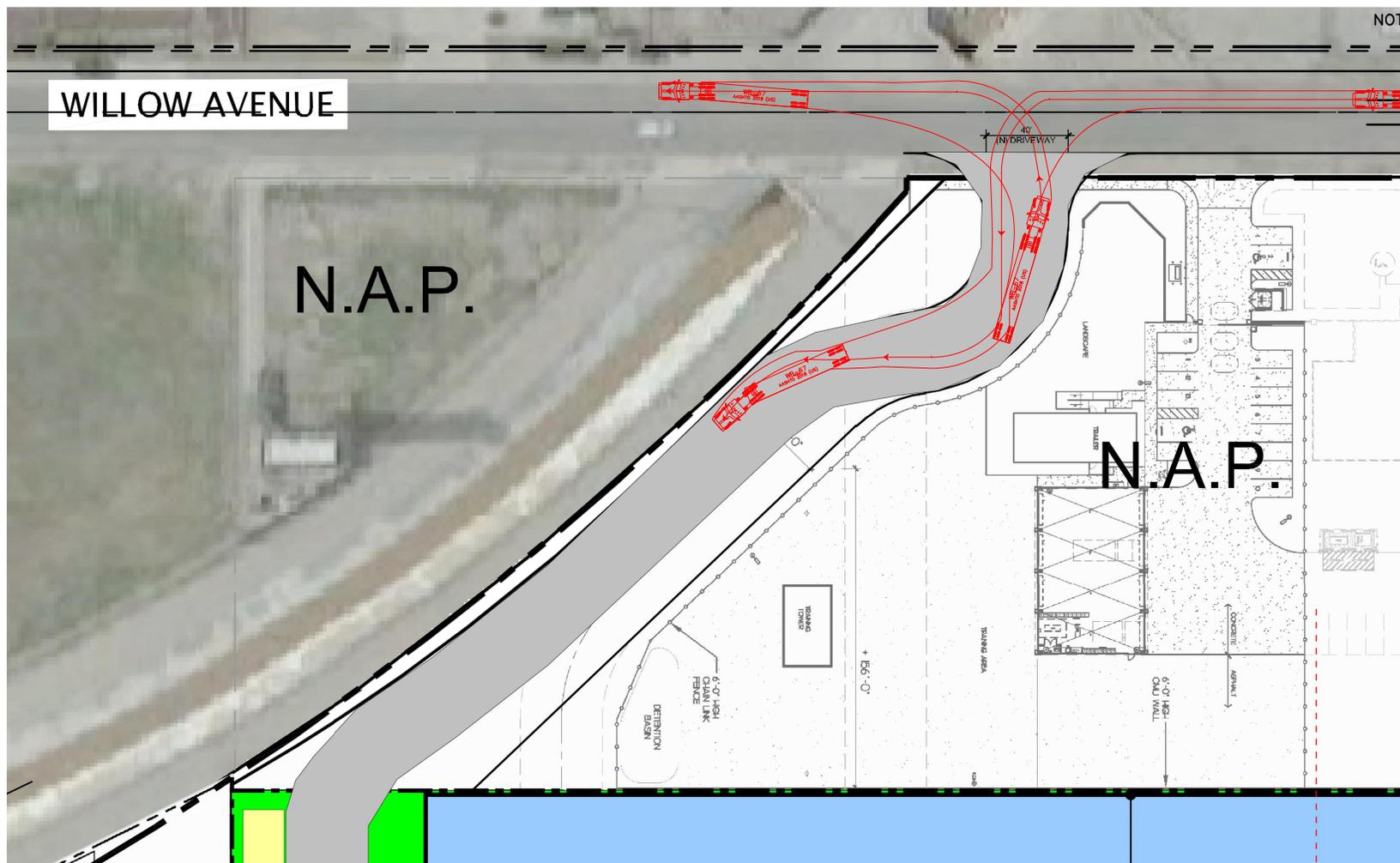
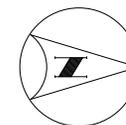


FIGURE 13A
DELIVERY TRUCK DRIVEWAY ACCESS —
WILLOW AVENUE AND PROJECT DRIVEWAY



NOT TO SCALE

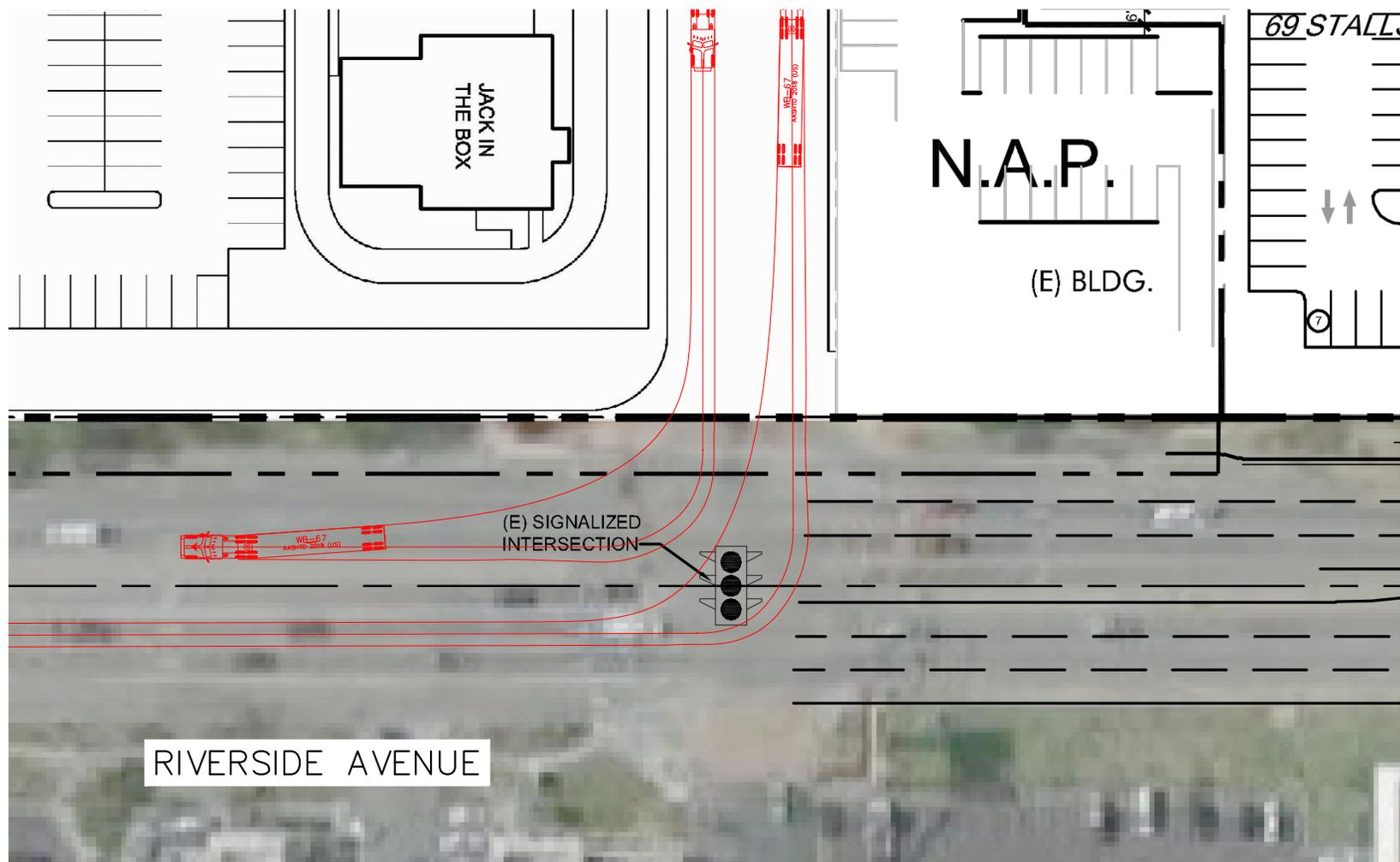


FIGURE 13B
DELIVERY TRUCK DRIVEWAY ACCESS –
RIVERSIDE AVENUE AND GATEWAY PLAZA/VALUE CENTER

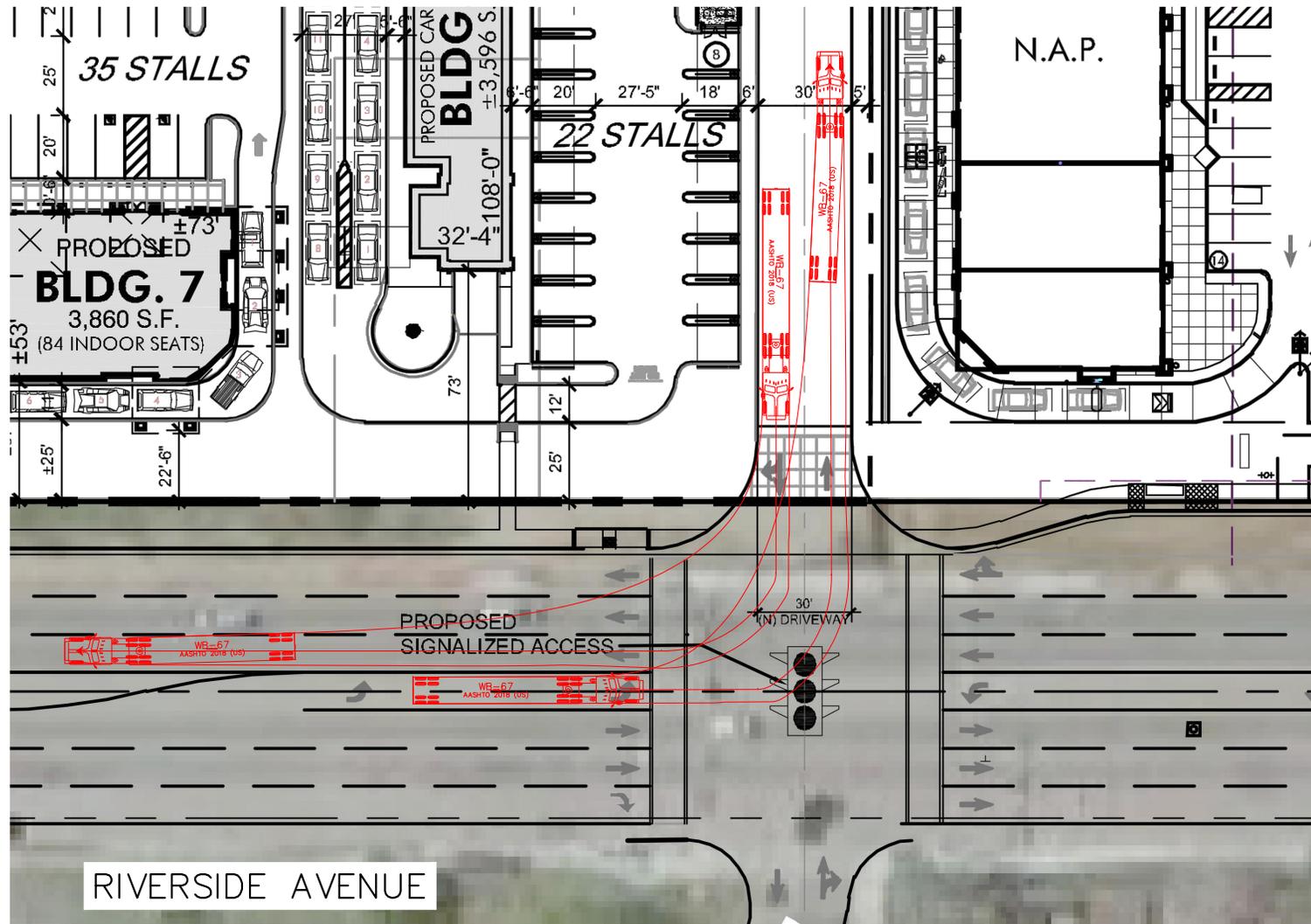


FIGURE 13D
DELIVERY TRUCK DRIVEWAY ACCESS –
RIVERSIDE AVENUE AND SENIOR WAY

VII. FINDINGS AND CONCLUSIONS

This Traffic Impact Study has been prepared to address the traffic-related effects of the proposed retail and industrial development in the City of Rialto. The project will involve the construction of a shopping center with 79,676 square feet of retail use, 9,660 square feet of fast-food restaurant with drive-through use, 3,596 square feet of automated car wash use, and 83,272 square feet of general light industrial use on the currently vacant site.

Existing morning peak period (7:00 to 9:00 AM) and evening peak period (4:00 to 6:00 PM) turning movement counts, as well as 24-hour roadway segment counts, were collected for the study intersections and study roadway segments.

Under Existing Conditions, all study intersections and study roadway segments currently operate at an acceptable Level of Service.

An ambient growth rate of 2.0% per year to Opening Year 2022 was applied to existing peak hour traffic volumes to develop the base Opening Year 2022 forecasts. In addition to ambient growth, traffic volumes for Cumulative Projects (approved and pending projects) were added to the base Opening Year 2022 traffic volumes. In the Opening Year 2022 Without Project scenario, all study intersections and roadway segments continue to operate at an acceptable Level of Service.

Proposed project trips were added to the Opening Year 2022 Without Project traffic volumes to determine the Opening Year 2022 With Project conditions. In the Opening Year 2022 With Project scenario, all study intersections and roadway segments would continue to operate at an acceptable Level of Service.

Queue lengths at the left-turn pockets were assessed at the project driveways and the I-10 ramps for all study scenarios. All left-turn pocket queues would be within the available storage capacity in all study scenarios.

APPENDIX A

APPROVED SCOPING AGREEMENT



December 6, 2021

Justin Schlaefli
TKE Engineering, Inc.
73710 Fred Waring Drive, #104
Palm Desert, CA 92260

RE: *Traffic Impact Study Scoping Agreement for the Proposed Retail and Industrial Development at the Southwest Corner of Senior Way and Riverside Avenue*

Dear Mr. Schlaefli:

Kimley-Horn and Associates, Inc. is pleased to submit this Scoping Agreement for the proposed Retail and Industrial Development at the Southwest Corner of Senior Way and Riverside Avenue in the City of Rialto. The scope of the traffic impact study is summarized below.

This scope of work is based on the requirements indicated by the City of Rialto Traffic Impact Analysis Report Guidelines and Requirements (December 2014) and in the San Bernardino County Transportation Authority Congestion Management Plan (CMP).

Project Description

The applicant proposes a shopping center development consisting of 79,767 square feet of retail use, 9,660 square feet of fast-food restaurant with drive-through use, 3,596 square feet of automated car wash use, and 83,272 square feet of general light industrial use. The existing site is vacant. The project site plan is shown on Attachment 1.

Study Scenarios

The following study scenarios will be included for analysis:

- Existing Conditions
- Opening Year 2022 Without Project (Existing Plus Ambient Growth Plus Cumulative Projects)
- Opening Year 2022 With Project (Existing Plus Ambient Growth Plus Cumulative Projects Plus Project)

Study Methodology

Intersection Level of Service calculations will be based on the Highway Capacity Manual (HCM) Methodology for unsignalized and signalized intersections to be consistent with City, CMP, and Caltrans guidelines.

Roadway segment analysis will be conducted based on volume-to-capacity ratios established by the City of Rialto.

Project Trip Generation

Daily and peak hour trips for the proposed project were calculated using the trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). Trip rates are based on the following ITE Land Use Categories:

- LU 110 – General Light Industrial
- LU 821 – Shopping Plaza (40K – 150K)

It is recognized that not all inbound and outbound trips to the proposed project will be “new” trips on the roadway system in the vicinity of the project site. Some trips are expected to remain internal to the project site, as patrons move from different land uses within the shopping center. For instance, a patron could utilize the car wash land use and the fast-food land use within the same visit. Furthermore, some trips to the project site will consist of “pass-by” trips -- motorists who are already traveling on the surrounding roadways from one place to another. Common pass-by trips for a shopping plaza would be individuals who stop at the project site on the way to work, home, or school.

Internal capture rates and pass-by rates are provided within the City of Rialto traffic study guidelines. An internal capture rate of 10%, and a pass-by rate of 25%, were applied to the land uses within the project site as applicable.

Passenger vehicle and truck mix assumptions were applied to the general light industrial use component of the project, based on the City of Rialto traffic study guidelines. Passenger car equivalent (PCE) factors were then applied to the truck types, based on the number of axles (1.5 PCE for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks) to determine the total PCE trips to be generated by the project.

The resulting trip rates and the project trip generation estimates are shown in Attachment 2. The project is estimated to generate approximately 290 trips in the morning peak hour (199 inbound, 91 outbound) and 628 trips in the evening peak hour (280 inbound, 348 outbound), with 6,396 vehicle trips on a daily basis.

Project Trip Distribution

Project trip distribution assumptions are shown on Attachment 3.

Background Traffic

The project is anticipated to be open in 2022. Existing traffic volumes will be grown at a rate of 2% per year to account for ambient growth between Existing and Future scenarios. Additionally, traffic from cumulative projects will be included in the opening year scenario.

Study Intersections

The following study intersections are proposed:

1. San Bernardino Avenue and Lilac Avenue
2. San Bernardino Avenue and Willow Avenue
3. San Bernardino Avenue and Riverside Avenue
4. Riverside Avenue and Senior Way
5. Riverside Avenue and Gateway Plaza/Value Center
6. Valley Boulevard and Willow Avenue
7. Valley Boulevard and Gateway Plaza/Value Center
8. Valley Boulevard and Riverside Avenue
9. Riverside Avenue and I-10 WB Ramps
10. Riverside Avenue and I-10 EB Ramps
11. Riverside Avenue and Center Project Driveway
12. Willow Avenue and Project Driveway

Intersection Traffic Counts

Peak hour traffic counts at intersections will be conducted on a Tuesday, Wednesday, or Thursday during the morning and evening peak periods (7:00AM – 9:00AM, 4:00PM-6:00PM).

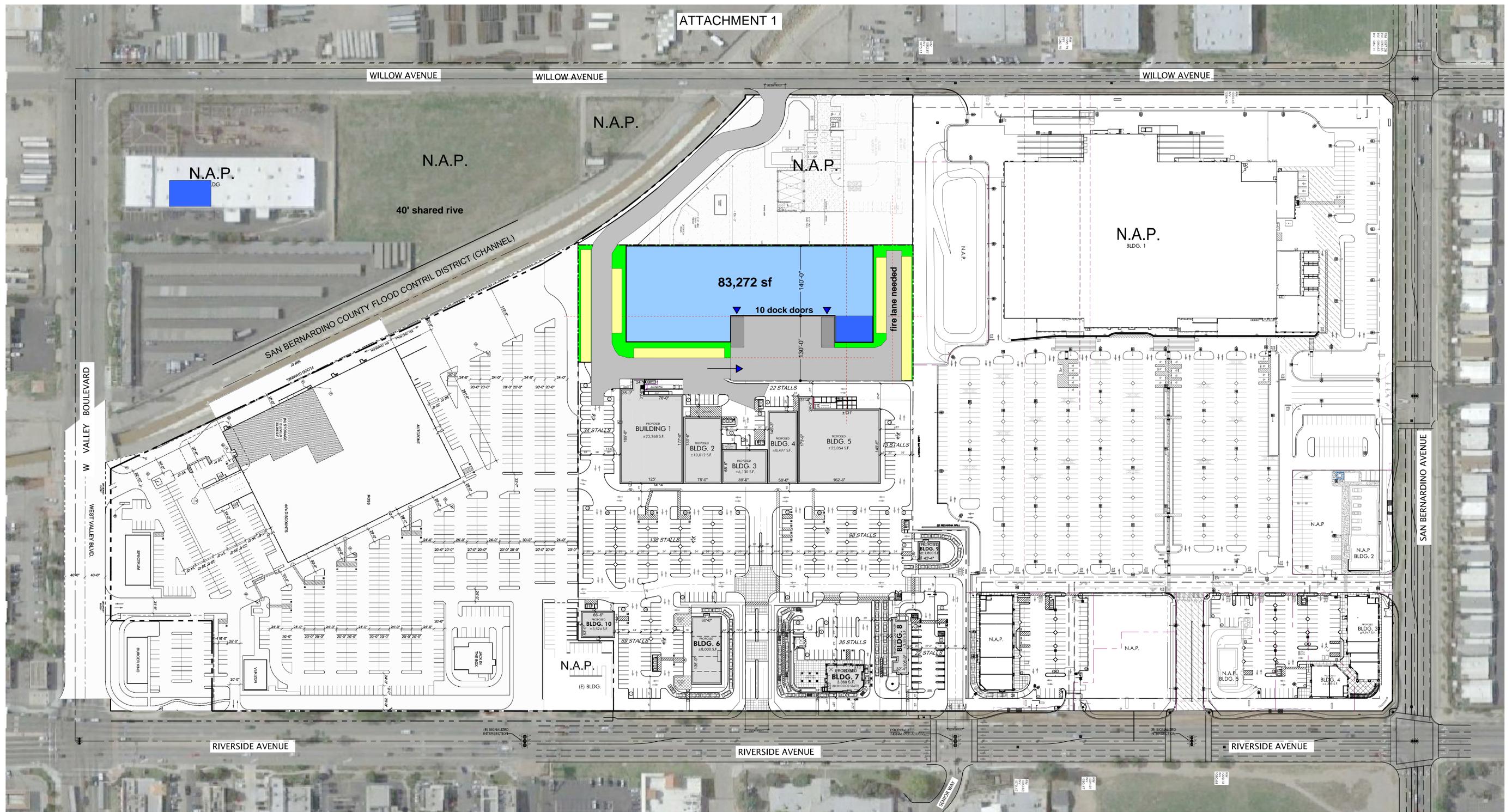
Study Roadway Segments

The following study roadway segments are proposed:

1. Riverside Avenue from Senior Way to Rialto Marketplace
2. Riverside Avenue from Gateway Plaza/Value Center to Valley Boulevard
3. Willow Avenue from Valley Boulevard to San Bernardino Avenue
4. Valley Boulevard from Willow Avenue to Riverside Avenue

Additional Elements

- Circulation discussion
- Truck turn templates for delivery vehicles at each driveway
- Queueing at Riverside Avenue project driveways and at Riverside Avenue at the I-10 Ramps
- Signal Warrants at unsignalized study intersections
- Fair Share Analysis – Direct and Cumulative Impacts
- Identify need for acceleration and deceleration lanes on Riverside Avenue



CITY OF RIALTO

REQUIRED PARKING SHALL BE PROVIDED PURSUANT TO SECTION 18.58.050B OF THE CITY OF RIALTO MUNICIPAL CODES WHICH READS:
 "COMMUNITY SHOPPING CENTER (TWO TO TWENTY NET ACRES IN SIZE) ONE SPACE PER EACH TWO HUNDRED FIFTY SQUARE FEET OF GROSS FLOOR AREA ON THE GROUND FLOOR, PLUS ONE SPACE FOR EACH FOUR HUNDRED SQUARE FEET ON ALL FLOORS OTHER THAN THE GROUND FLOOR."

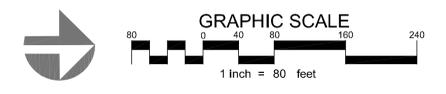
SITE AREA: 10.8 ACRES ± 472,210 S.F.
 F.A.R. (± 472,210 S.F.) ± 93,741 S.F. 5.0 RATIO
 BUILDING COVERAGE 19 %
 BUILDING AREA: ± 93,741 S.F.

REQUIRED PARKING PER CITY

BUILDING 1: 23,268 SF RETAIL @ 1/250	= 93.07 STALLS
BUILDING 2: 10,012 SF RETAIL @ 1/250	= 40.04 STALLS
BUILDING 3: 6,130 SF SHOPS @ 1/250	= 24.52 STALLS
BUILDING 4: 8,497 SF RETAIL @ 1/250	= 33.98 STALLS
BUILDING 5: 25,054 SF RETAIL @ 1/250	= 100.21 STALLS
BUILDING 6: 8,000 SF	
4,000 SF RETAIL @ 1/250	= 16.00 STALLS
4,000 SF RESTAURANT @ 1/250	= 16.00 STALLS
BUILDING 7: 3,860 SF REST. @ 1/250 SF	= 15.44 STALLS
BUILDING 8: 3,596 SF	
EMPLOYEE PARKING	= 6 STALLS
5 SPACES PER CAR LENGTH	= 0 STALL
BUILDING 9: 1,800 SF RESTAURANT @ 1/250	= 7.20 STALLS
BUILDING 10: 3,524 SF RETAIL @ 1/250	= 14.09 STALLS

TOTAL PARKING REQUIRED = 366.55 STALLS
 TOTAL PARKING PROVIDED (SURPLUS 64.45 STALLS) = 431 STALLS

NOTE:
 TOTAL PARKING PROVIDED DO NOT INCLUDE FUTURE EV CHARGING STATION & CLEAN AIR STALLS.



OVERALL PLAN

SCALE: 1" = 80'-0"

PRELIMINARY SITE PLAN SUBJECT TO CHANGE

RIALTO - PHASE II
 SWC SAN BERNARDINO AVENUE AND RIVERSIDE AVENUE
 RIALTO, CALIFORNIA
Newmark Merrill Companies
 5850 CANOGA AVENUE, SUITE 650, WOODLAND HILLS, CA 91367
 (TEL.) 818.710.6100 (FAX) 818.710.6116


NewMark Merrill Companies
 5850 Canoga Avenue, Suite 650
 Woodland Hills, CA 91367
 Phone (818) 710.6100 Fax (818) 710-6116
 www.newmarkmerrill.com

McKently Malak ARCHITECTS
 35 Hugus Alley, Suite 200
 Pasadena, California 91103-3648
 TEL 626.583.8348 FAX 626.583.8387

SITE PLAN
 09.13.2021 16177MMA
OV-26

**ATTACHMENT 2
SUMMARY OF PROJECT TRIP GENERATION**

Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Plaza (40K - 150K)	821	KSF	94.490	2.189	1.341	3.53	4.334	4.696	9.03
General Light Industrial	110	KSF	4.870	0.651	0.089	0.74	0.091	0.559	0.65

Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Plaza (40K - 150K)	93.023	KSF	8,790	204	125	329	403	437	840
<i>Internal Capture 10%²</i>			-879	-20	-13	-33	-40	-44	-84
<i>Pass-by 25%²</i>			-1,978	-46	-28	-74	-91	-98	-189
General Light Industrial	83.272	KSF	406	54	7	61	8	47	55
Passenger Vehicles	92.00%		374	50	6	56	7	43	50
Trucks	8.00%		32	4	1	5	1	4	5

GENERAL LIGHT INDUSTRIAL PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)

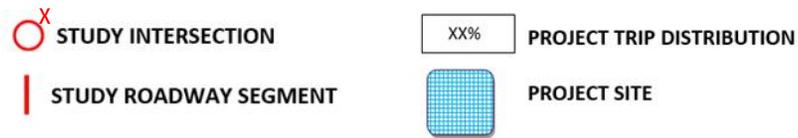
Vehicle Type	Vehicle Mix ²	Daily Vehicles	PCE Factor ²	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	92.00%	374	1.0	374	50	6	56	7	43	50
2-Axle Trucks	0.16%	1	1.5	2	0	0	0	0	0	0
3-Axle Trucks	2.24%	9	2.0	18	2	0	2	0	2	2
4+ Axle Trucks	5.60%	23	3.0	69	9	1	10	1	8	9
Total Truck PCE Trips				89	11	1	12	1	10	11
Total Proposed Project PCE Trips				463	61	7	68	8	53	61
Total Project Trips				6,396	199	91	290	280	348	628

¹ Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

² Source: City of Rialto Traffic Impact Analysis Report Guidelines and Requirements

ATTACHMENT 3

RIALTO PHASE II – TRIP DISTRIBUTION AND SUGGESTED STUDY AREA





NOT TO SCALE

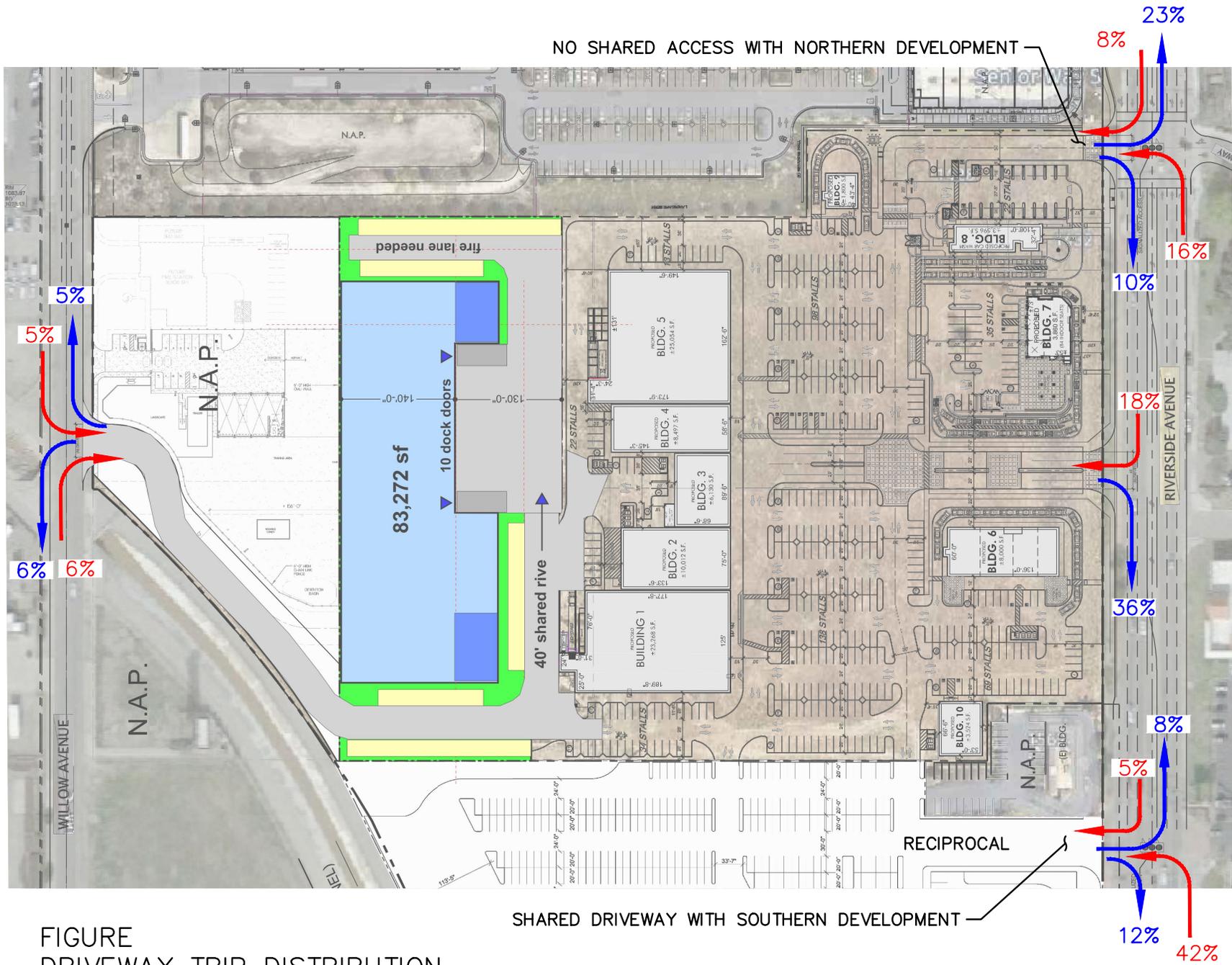


FIGURE
DRIVEWAY TRIP DISTRIBUTION



Exhibit A

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

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

City of Rialto

Traffic Impact Analysis

Scoping Agreement

Case No. _____

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: Rialto Phase II - See Attachment 1 - Site Plan

Project Address: Southwest Corner of San Bernardino Avenue and Riverside Avenue

Project Description: Shopping Center with 79,767 SF of retail use, 9,660 sf of fast-food restaurant with drive-through, and a 3,596 SF automated car wash, and 83,272 SF of general light industrial use.

Consultant

Developer

Name: Kimley-Horn and Associates, Inc. Newmark Merrill Companies

Address: 110 W Town and Country Rd, Ste 700 5850 Canogo Avenue, Ste 650
Orange, CA 92868 Woodland Hills, CA 91367

Telephone: (714)475-2672 (818)710-6100

Fax: N/A N/A



1. Trip Generation Source: ITE Trip Generation Manual, 11th Edition (2021)

Existing GP Land Use Vacant Proposed Land Use Shopping Plaza (ITE 821), General Light Industrial (ITE 110)

Current Zoning: Gateway Specific Plan Proposed Zoning: N/A

Total Daily Project Trips: 6,396 - See Attachment 2 - Trip Generation Table

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>199</u>	<u>91</u>	<u>290</u>
PM Trips	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>280</u>	<u>348</u>	<u>628</u>
Internal Trip Allowance	<u>Yes</u>		No (<u>10</u> % Trip Discount)			
Pass-By Trip Allowance	<u>Yes</u>		No (<u>25</u> % Trip Discount)			

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

2. Trip Geographic Distribution: N 20 % S 8 % E 36 % W 36%

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

3. Background Growth Traffic

Project Completion Year: 2022 Annual Background Growth Rate: 2 %

Other Phase Years N/A

Other area projects to be considered: We will request the current Cumulative Projects list from the Planning Department.

(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 Project 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. <u>San Bernardino Ave and Lilac Ave</u> | 6. <u>Valley Blvd and Willow Ave</u> |
| 2. <u>San Bernardino Ave and Willow Ave</u> | 7. <u>Valley Blvd and Gateway Plz</u> |
| 3. <u>San Bernardino Ave and Riverside Ave</u> | 8. <u>Valley Blvd and Riverside Ave</u> |
| 4. <u>Riverside Ave and Senior Wy</u> | 9. <u>Riverside Ave and I-10 WB Ramps</u> |
| 5. <u>Riverside Ave and Gateway Plz/Value Ctr</u> | 10. <u>Riverside Ave and I-10 EB Ramps</u> |
| 11. <u>Riverside Ave and Center Project Dwy</u> | 12. <u>Willow Ave and Project Dwy</u> |



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

- | | |
|--|-----------|
| 1. <u>Riverside Ave - Senior Wy to Rialto Marketplace</u> | 6. _____ |
| 2. <u>Riverside Ave - Gateway Plz/Value Ctr to Valley Blvd</u> | 7. _____ |
| 3. <u>Willow Ave - Valley Blvd to San Bernardino Ave</u> | 8. _____ |
| 4. <u>Valley Blvd - Willow Ave to Riverside Ave</u> | 9. _____ |
| 5. _____ | 10. _____ |

6. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or within one-mile of another jurisdictional boundary?

_____ **YES**
 _____ **NO**

If so, name of Jurisdiction: City of Colton

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.)

Identify need for acceleration and deceleration lanes on Riverside Ave, Circulation Discussion, Truck turn
templates for delivery vehicles at each driveway, Signal Warrants at unsignalized study intersections,
Queuing at Riverside Ave project driveways and at Riverside Ave at the I-10 Ramps, Fair Share Analysis,

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: Due to reduced traffic amid COVID-19, a growth rate will be applied, if necessary, to newly collected counts based on direction from the City.

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 6/7/2021

Scoping Agreement Resubmittal date 12/6/2021

Kimley-Horn and Associates, Inc. December 6, 2021

Applicant/Engineer Date

Land Use Concurrence:

Development Services Department Date

Approved by:

Public Works Department Date

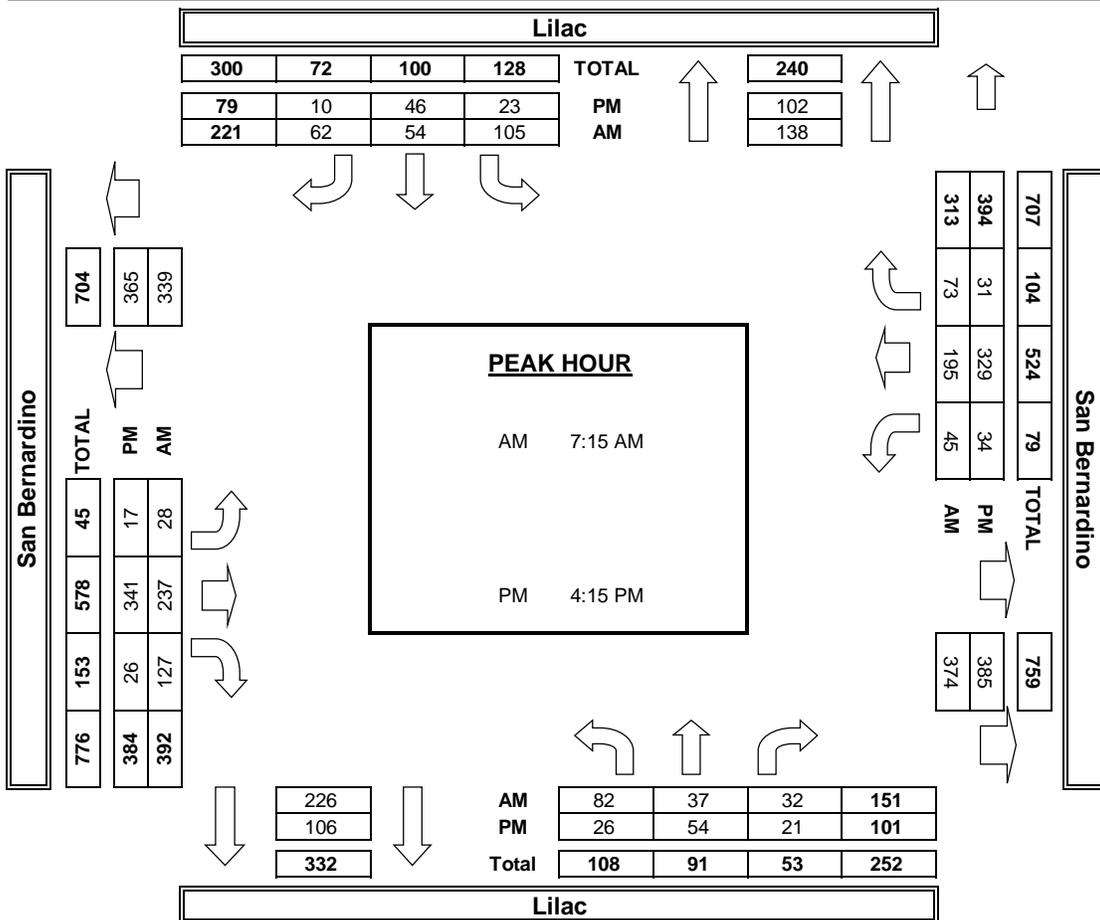
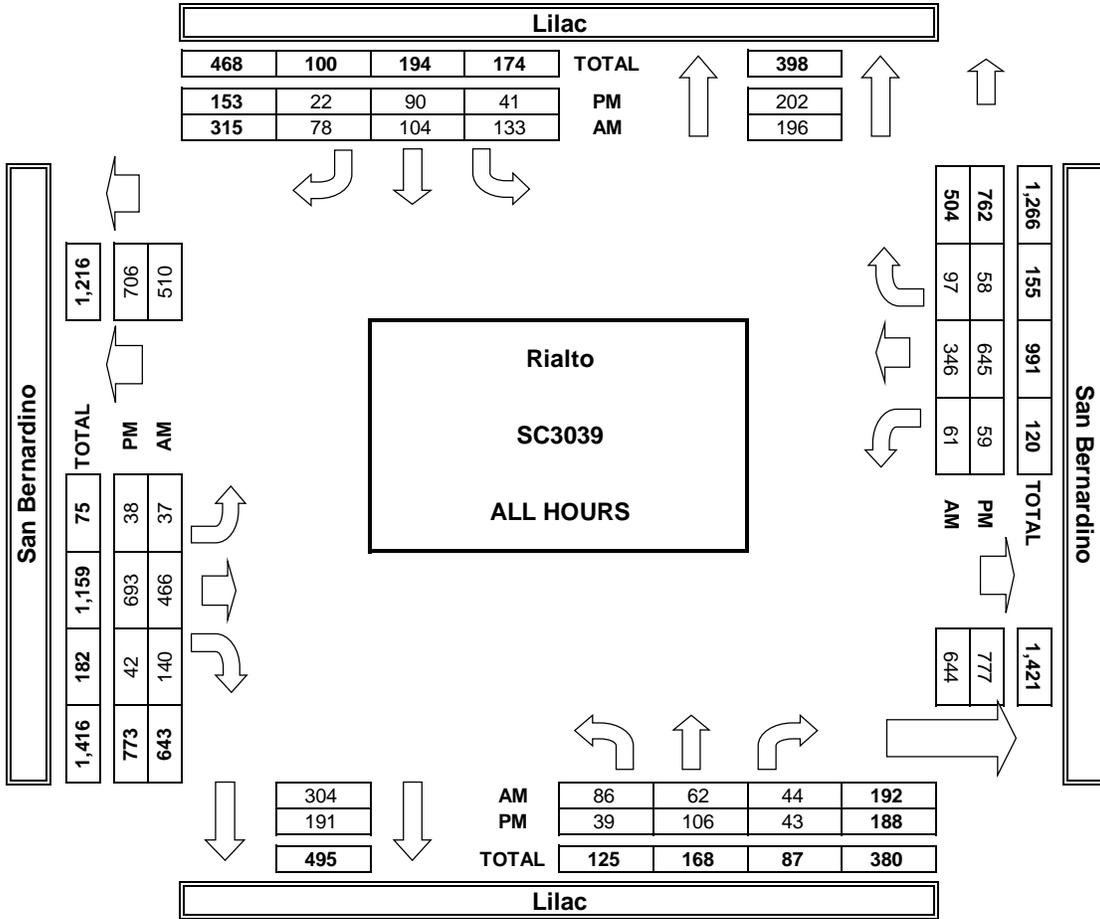
NOTE:

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.

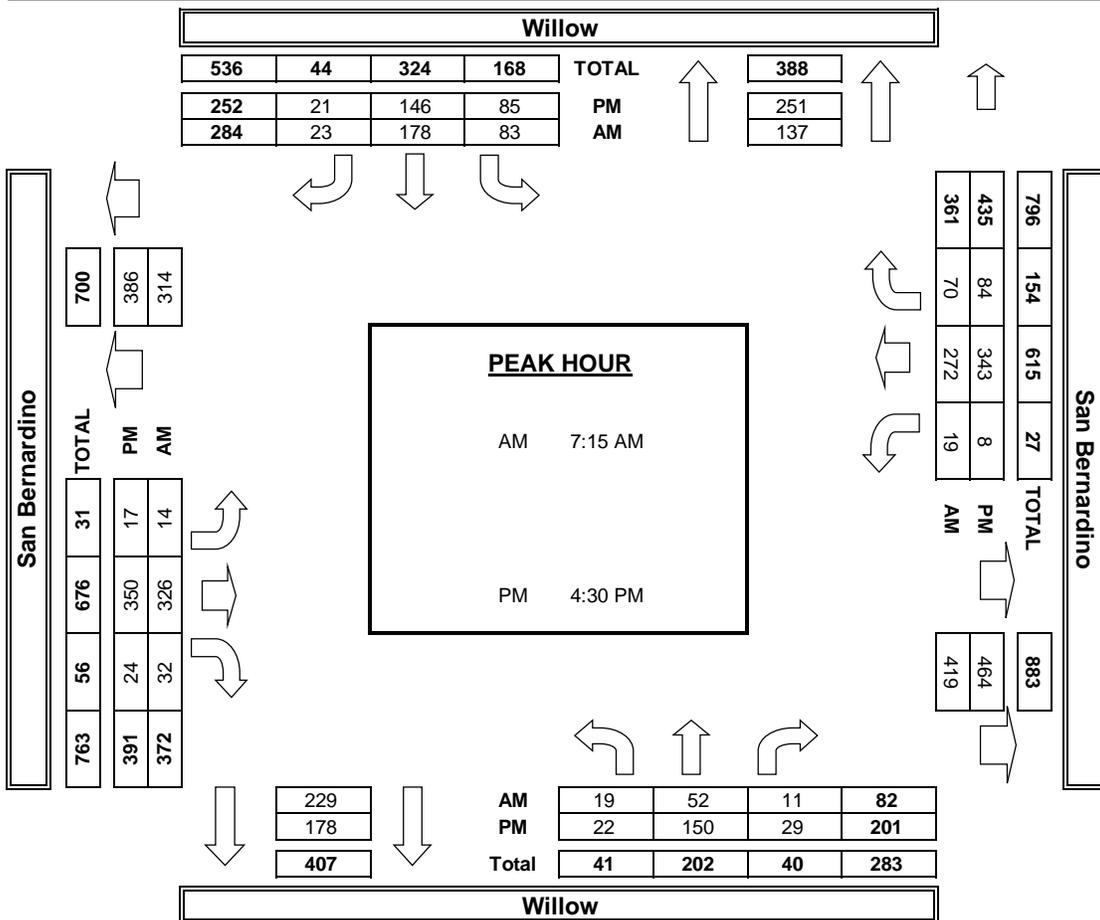
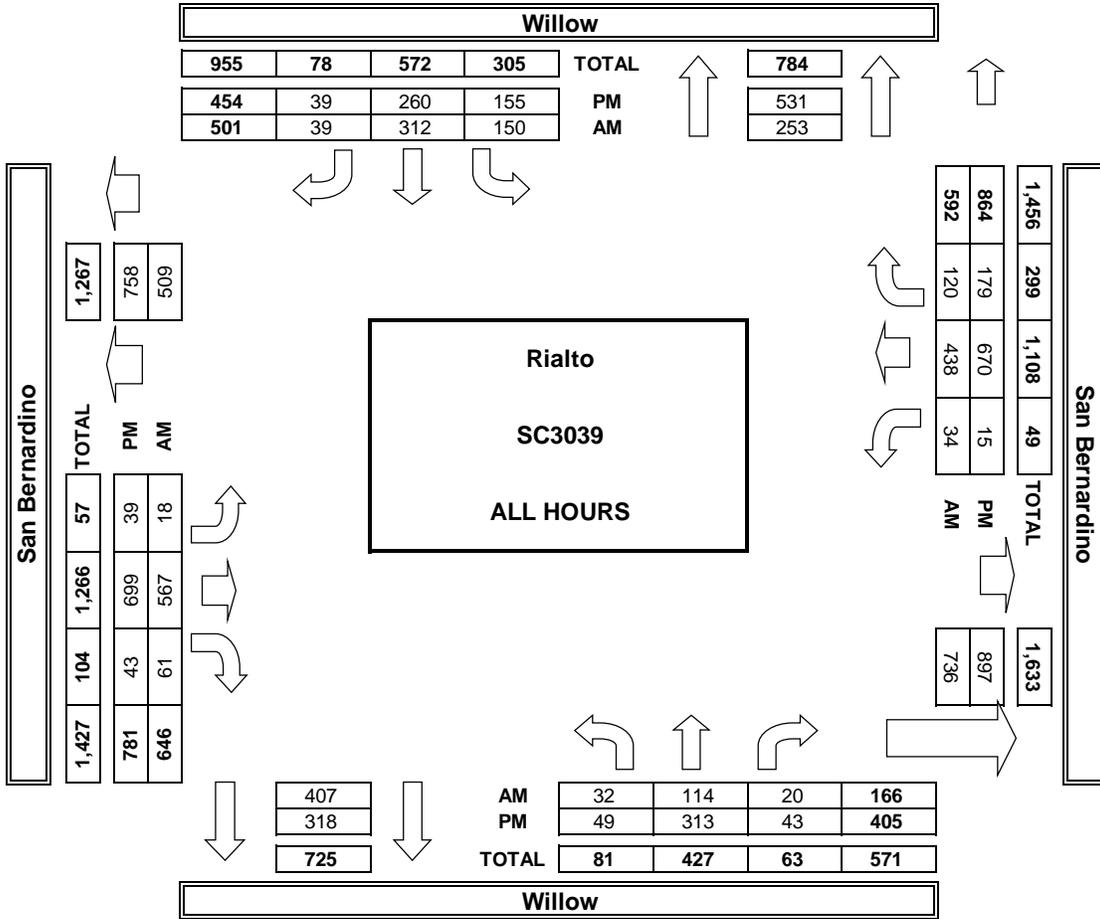
APPENDIX B

TRAFFIC COUNT
DATA SHEETS

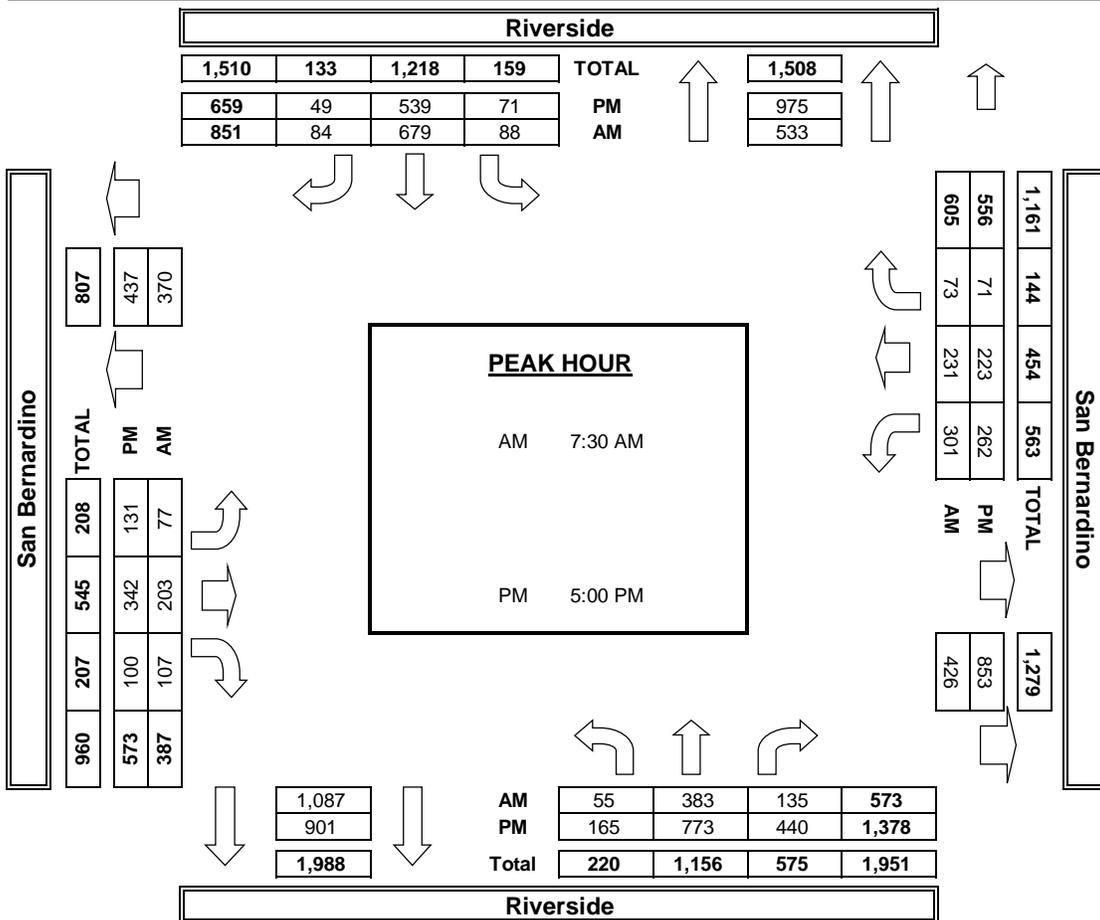
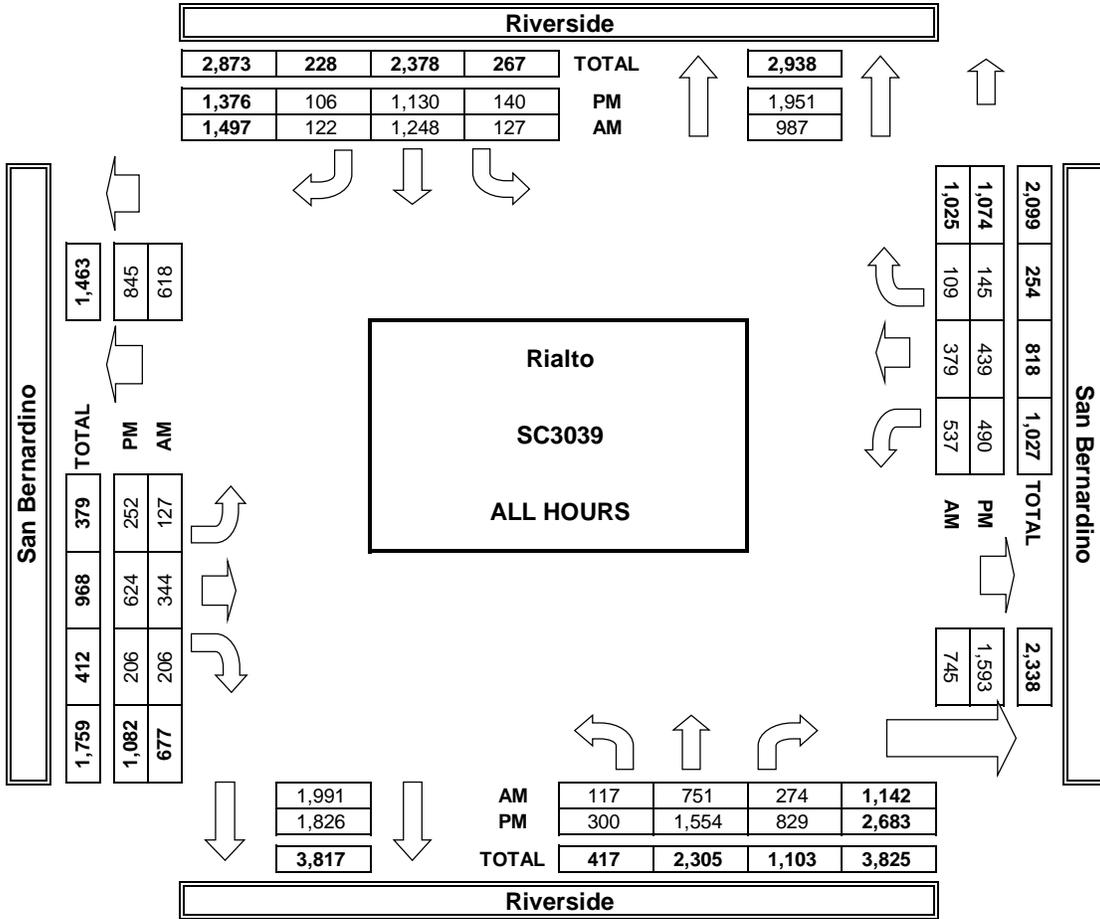
AimTD LLC
TURNING MOVEMENT COUNTS



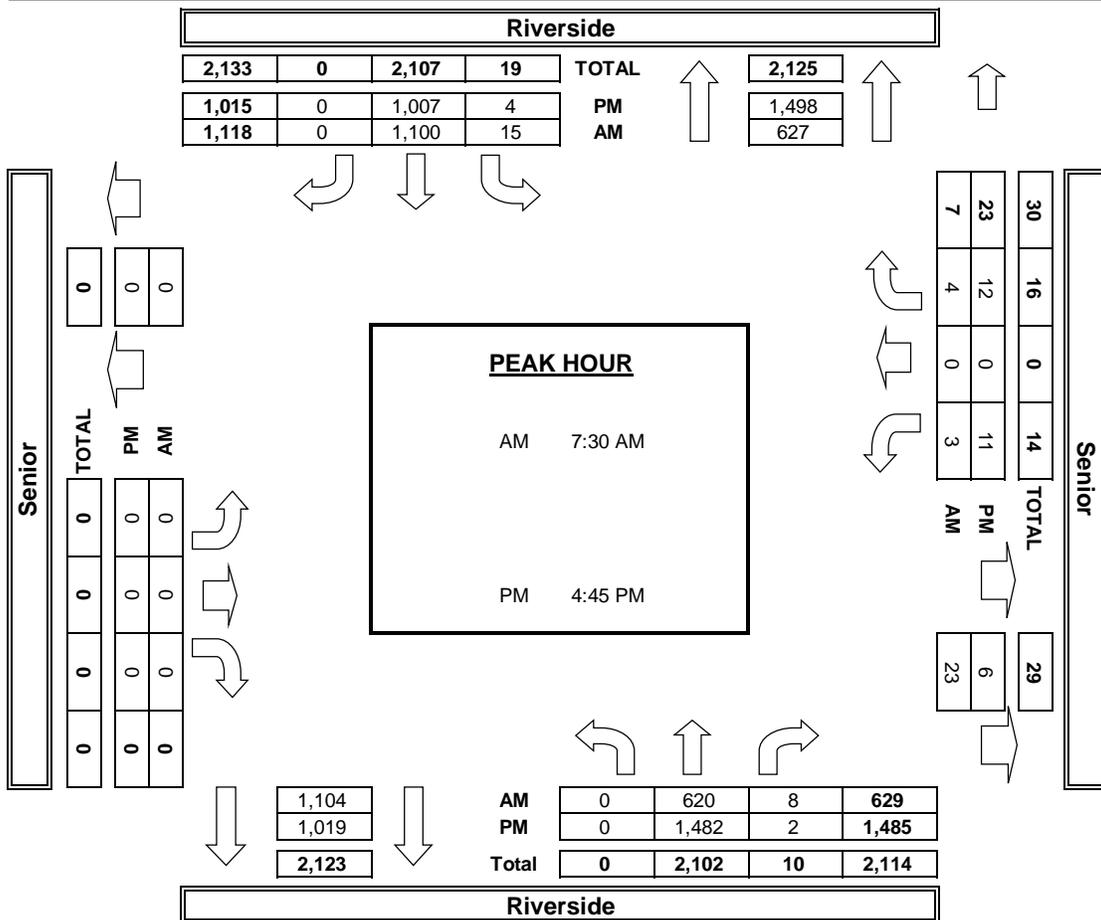
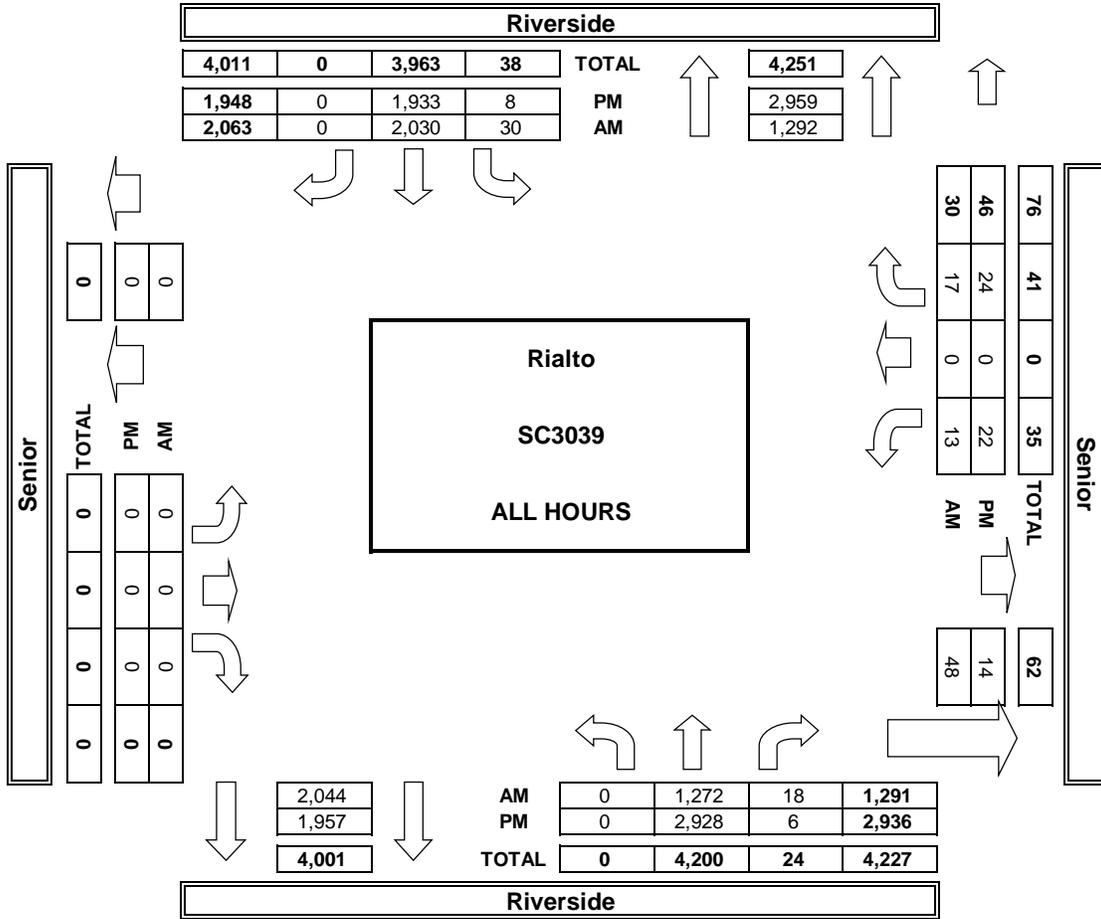
AimTD LLC
TURNING MOVEMENT COUNTS



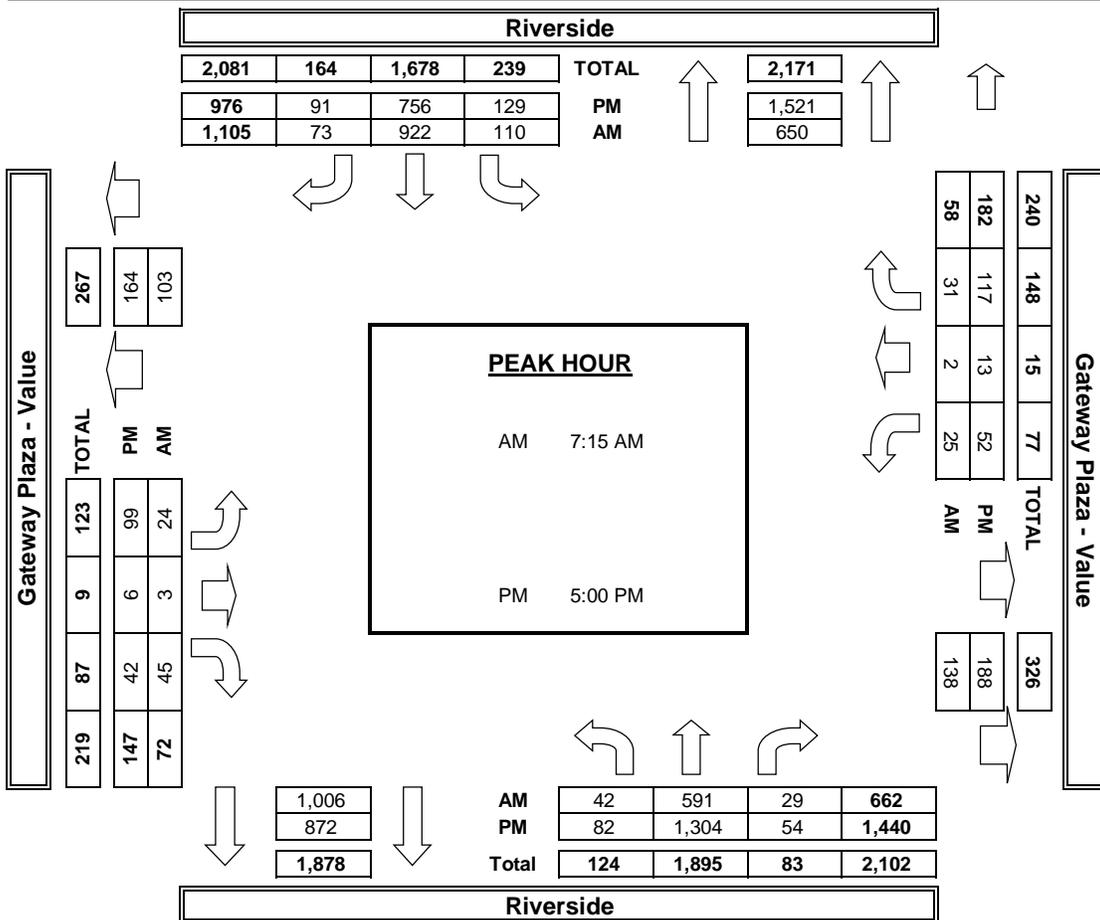
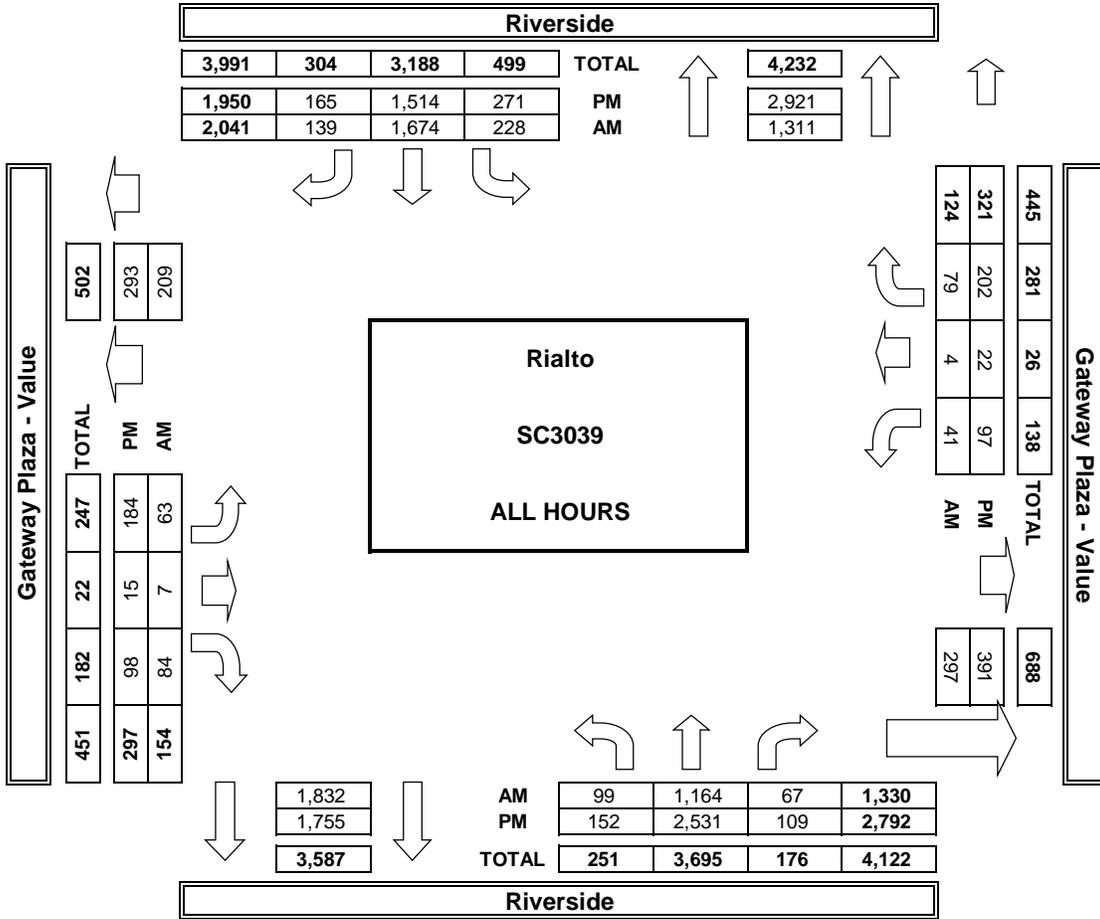
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TURNING MOVEMENT COUNTS



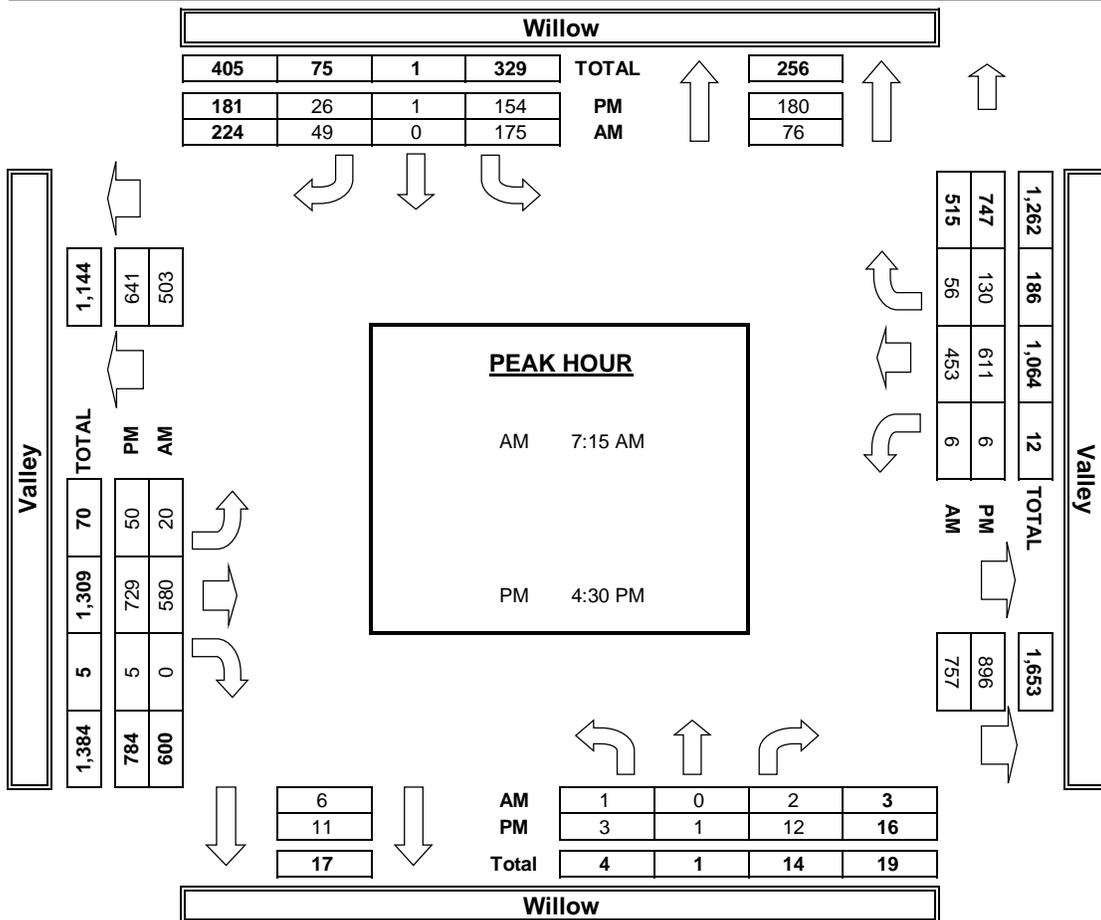
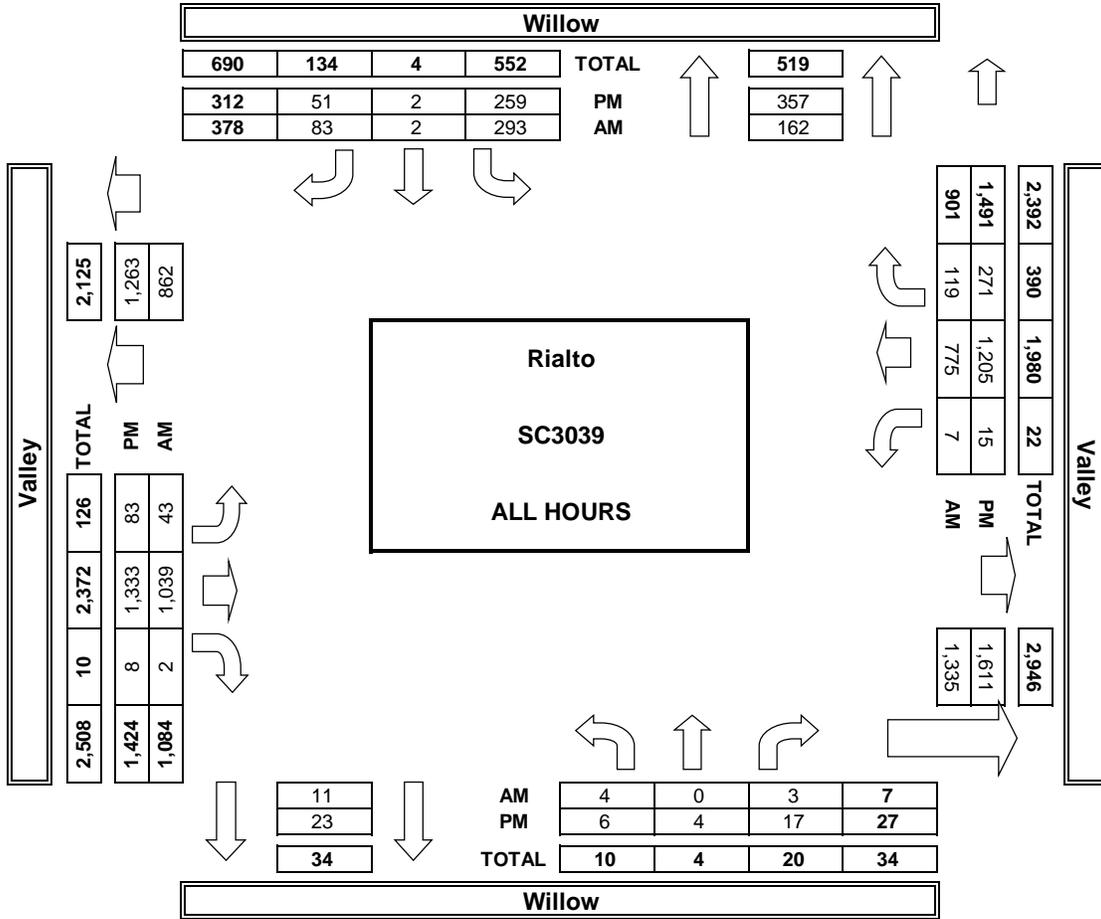
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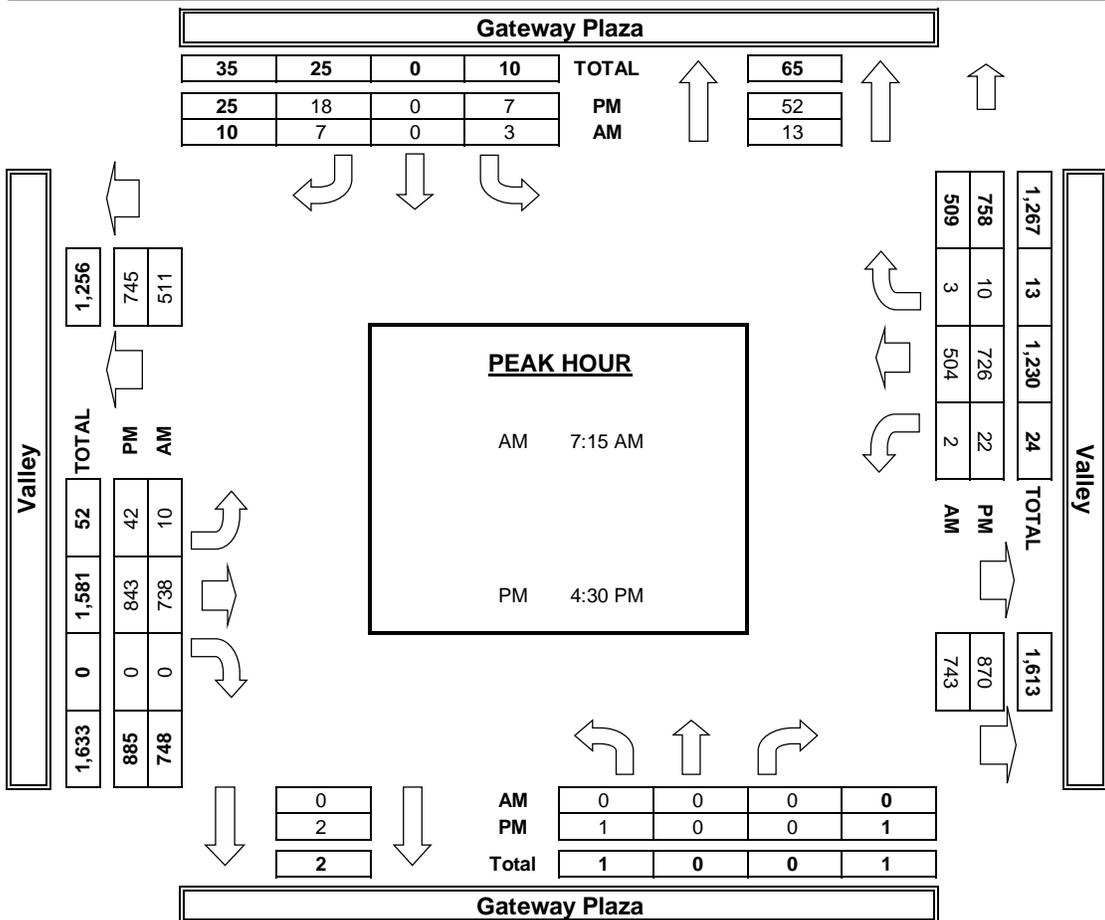
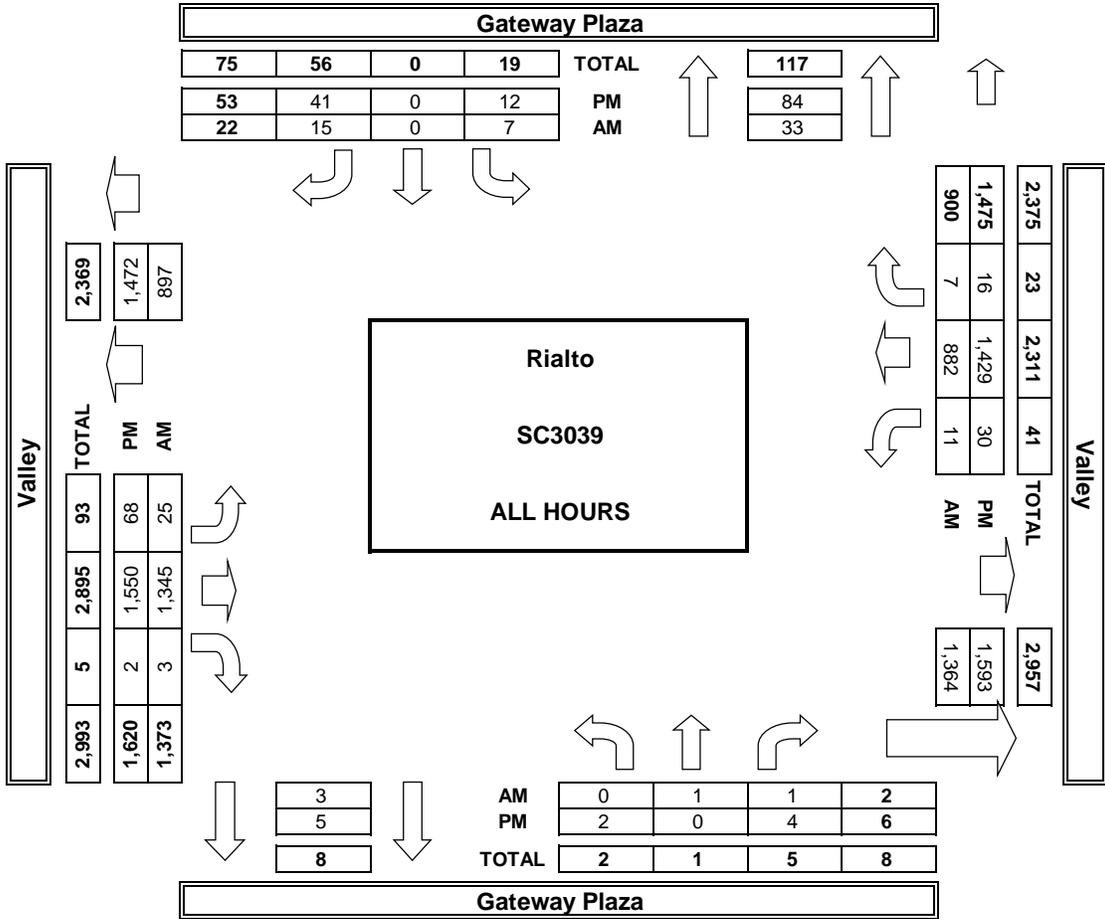
AimTD LLC
TURNING MOVEMENT COUNTS



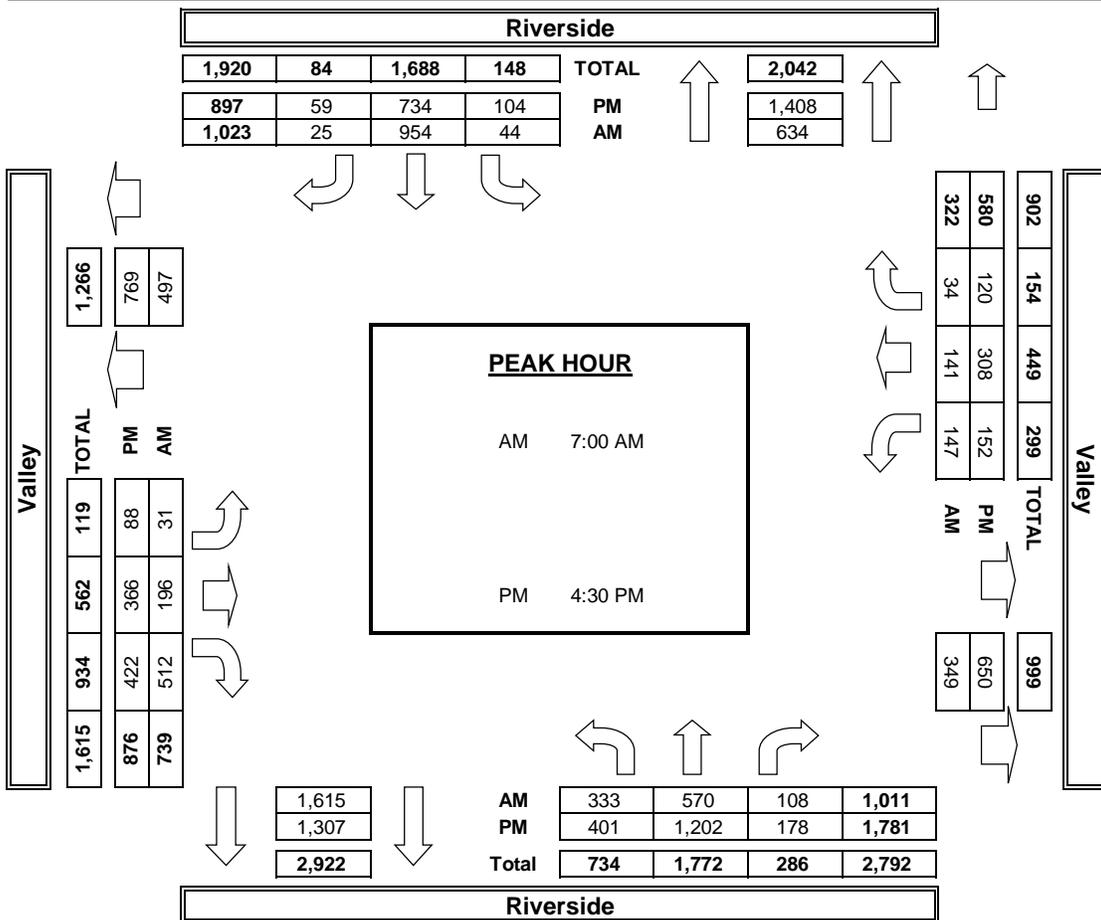
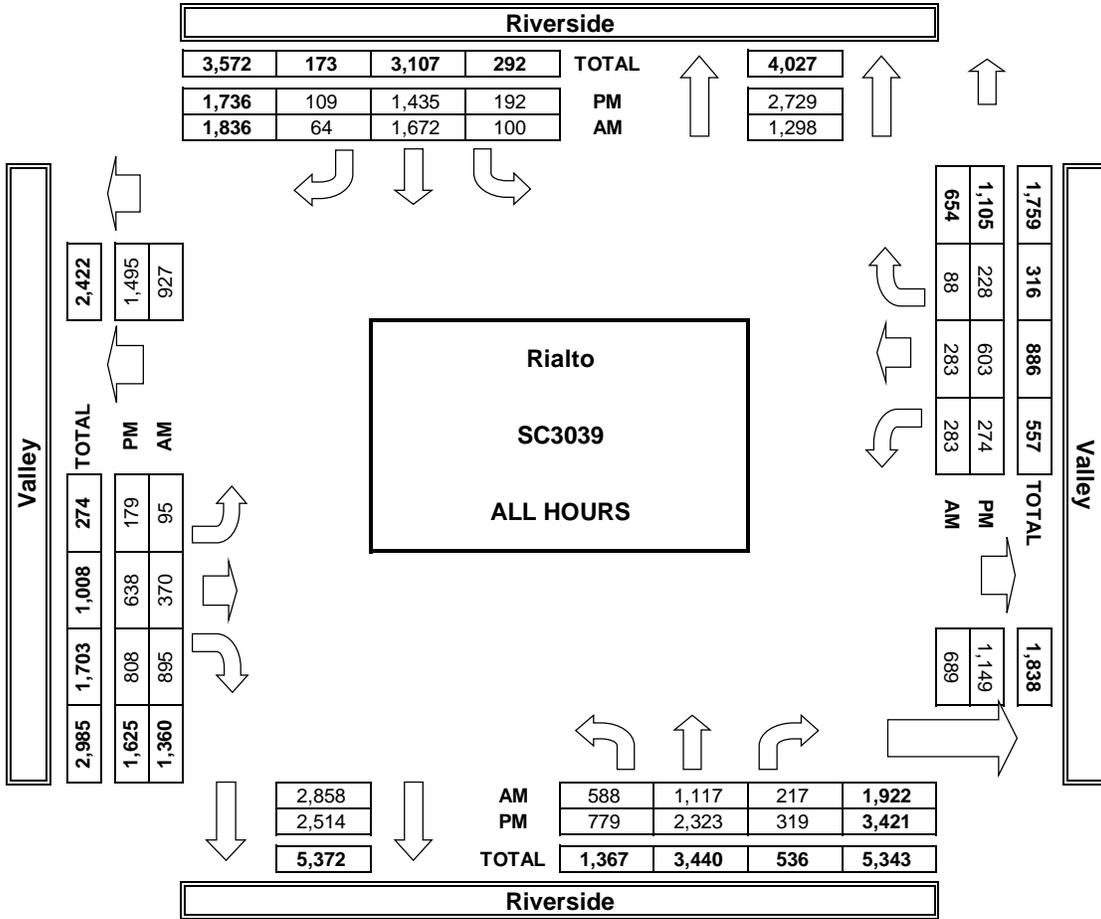
AimTD LLC
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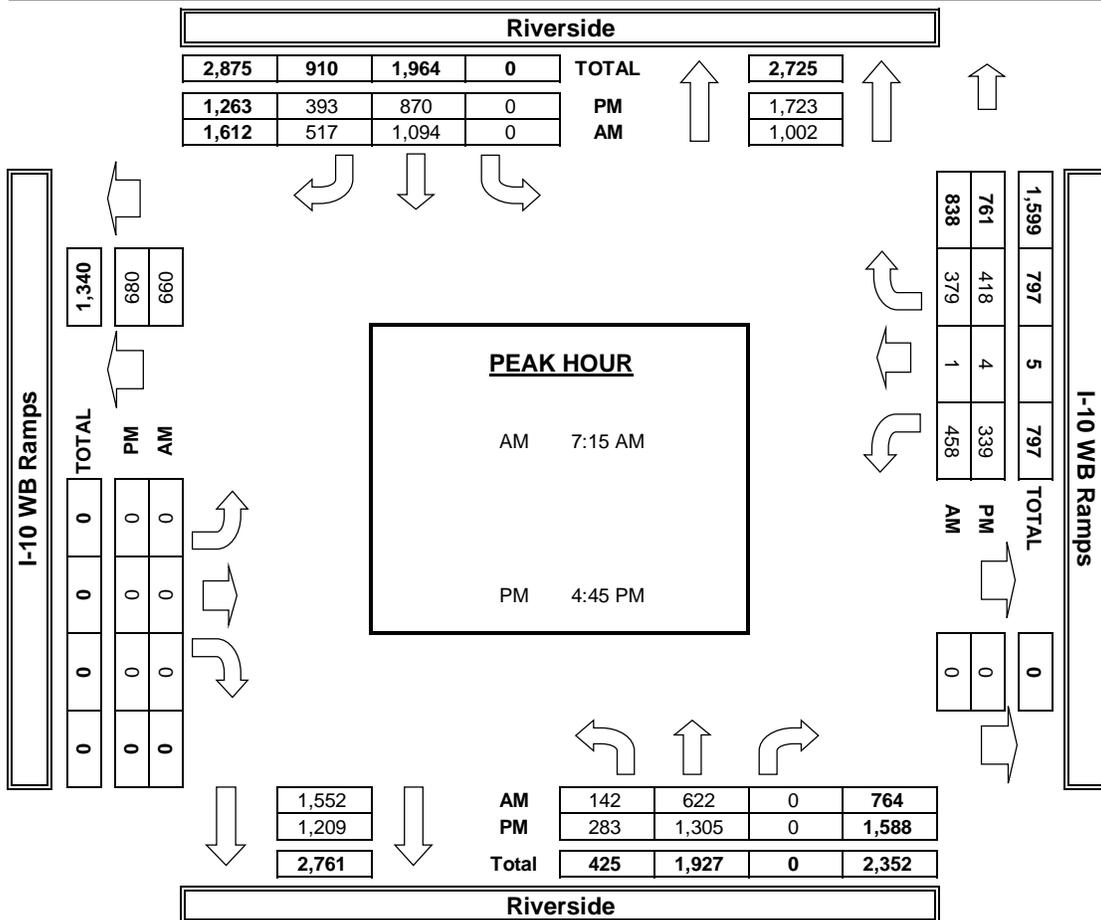
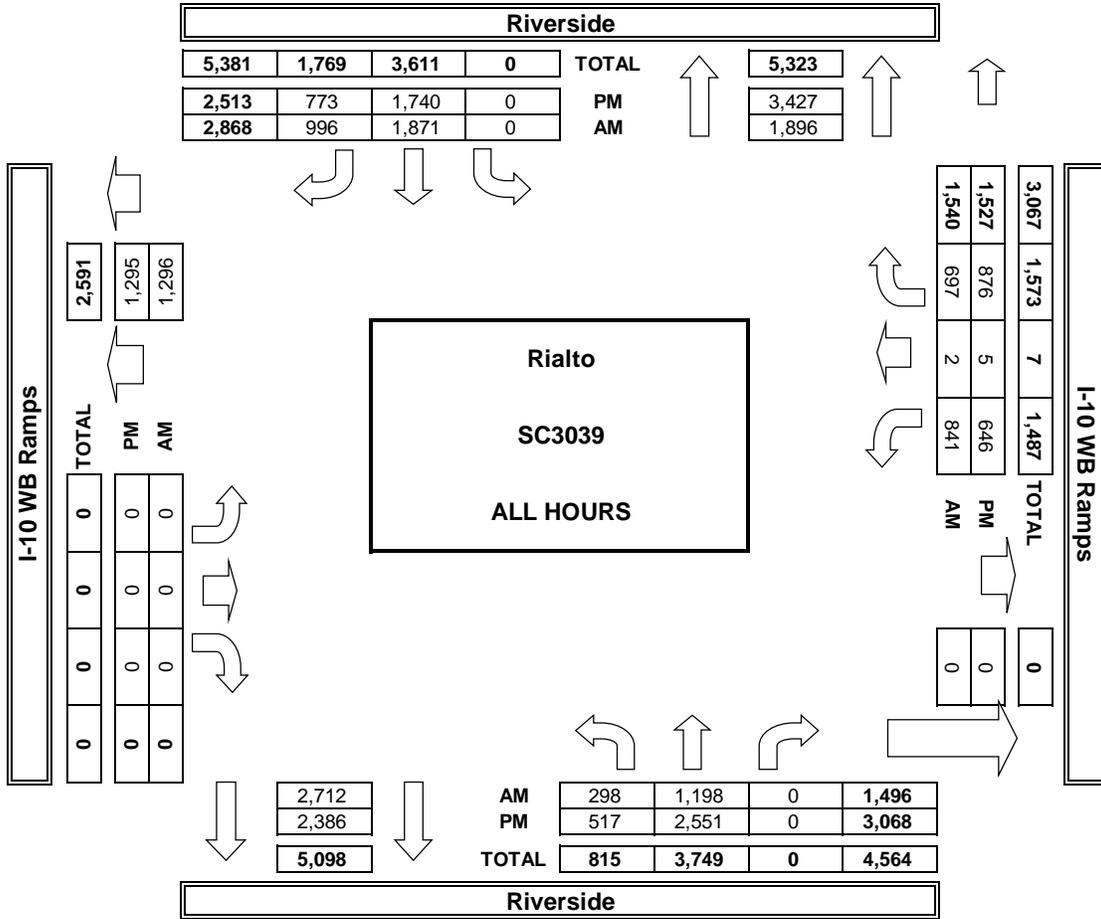
AimTD LLC
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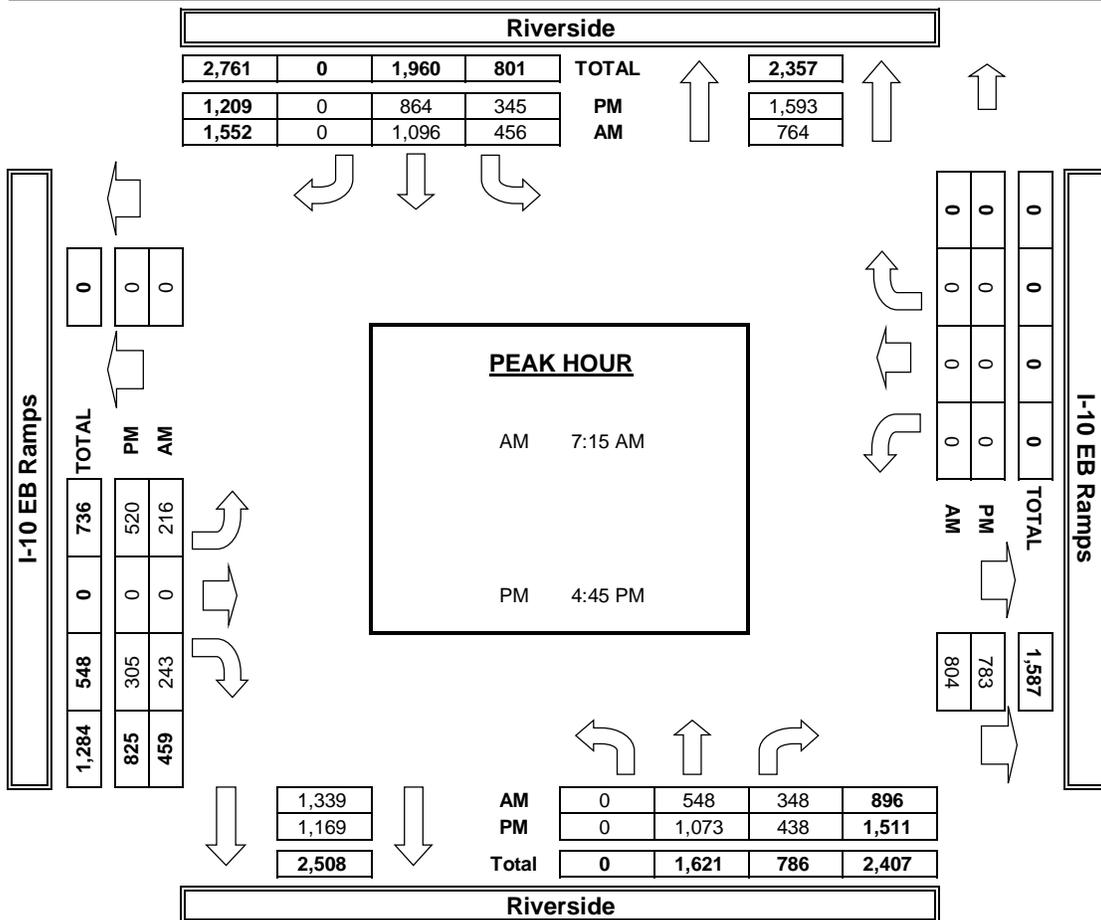
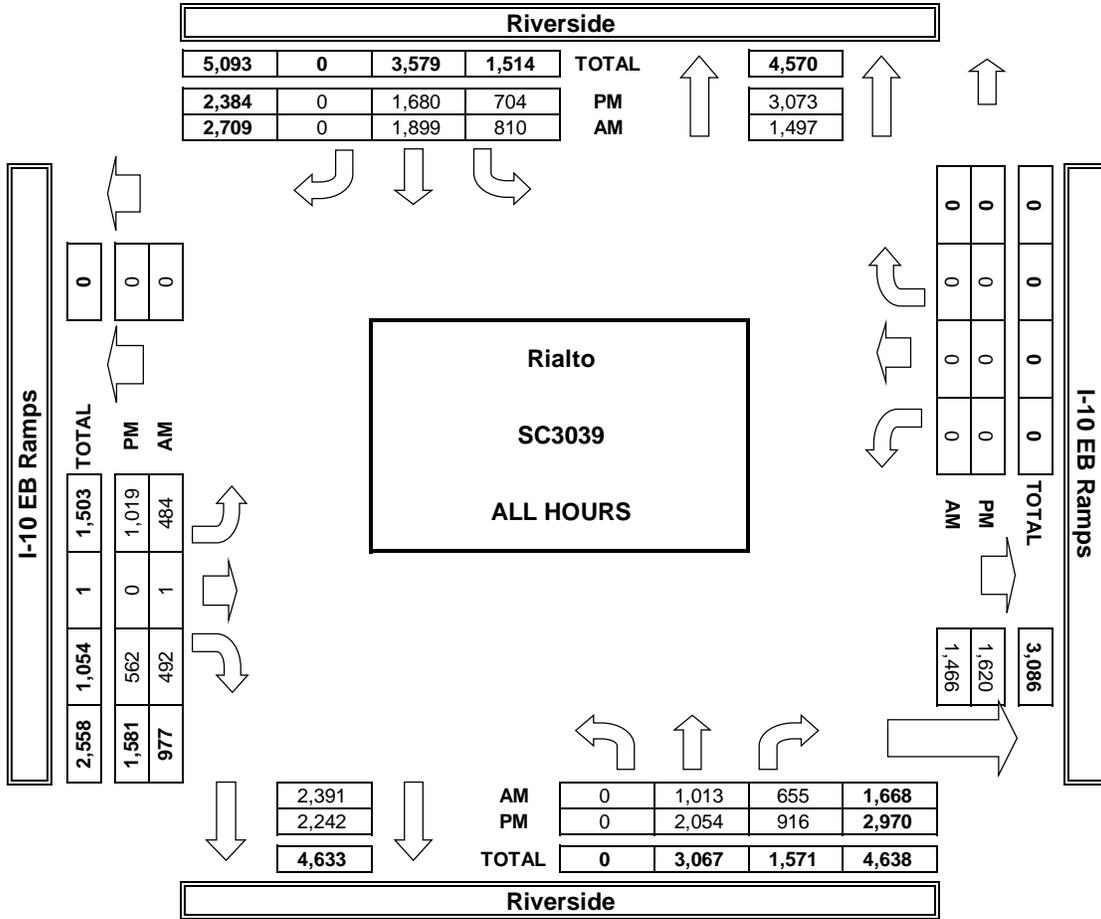
AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



ADT2 Riverside Ave between Gateway Plaza-Value Center to Valley Boulevard.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		PM Period	NB		SB			
0:00	49		43		12:00	244		203			
0:15	48		43		12:15	260		211			
0:30	58		34		12:30	263		255			
0:45	56	211	26	146	357	12:45	224	991	227	896	1887
1:00	44		29		13:00	235		216			
1:15	36		25		13:15	230		252			
1:30	38		18		13:30	234		214			
1:45	36	154	32	104	258	13:45	324	1023	206	888	1911
2:00	33		39		14:00	283		203			
2:15	27		44		14:15	304		233			
2:30	28		43		14:30	307		241			
2:45	30	118	42	168	286	14:45	324	1218	245	922	2140
3:00	19		52		15:00	347		223			
3:15	21		65		15:15	351		237			
3:30	22		101		15:30	315		265			
3:45	25	87	89	307	394	15:45	408	1421	215	940	2361
4:00	40		77		16:00	322		202			
4:15	30		139		16:15	314		241			
4:30	54		223		16:30	358		217			
4:45	49	173	202	641	814	16:45	358	1352	223	883	2235
5:00	58		181		17:00	328		219			
5:15	59		240		17:15	390		234			
5:30	65		282		17:30	345		232			
5:45	70	252	202	905	1157	17:45	377	1440	187	872	2312
6:00	69		170		18:00	317		213			
6:15	87		189		18:15	339		229			
6:30	116		233		18:30	332		172			
6:45	119	391	250	842	1233	18:45	295	1283	199	813	2096
7:00	177		245		19:00	298		207			
7:15	163		248		19:15	265		180			
7:30	160		300		19:30	285		212			
7:45	149	649	217	1010	1659	19:45	257	1105	178	777	1882
8:00	190		241		20:00	223		178			
8:15	158		217		20:15	249		183			
8:30	150		194		20:30	214		150			
8:45	183	681	170	822	1503	20:45	201	887	151	662	1549
9:00	179		179		21:00	176		150			
9:15	160		177		21:15	172		155			
9:30	198		186		21:30	163		122			
9:45	240	777	180	722	1499	21:45	148	659	109	536	1195
10:00	228		180		22:00	152		90			
10:15	240		190		22:15	136		118			
10:30	183		196		22:30	108		78			
10:45	193	844	196	762	1606	22:45	107	503	79	365	868
11:00	204		170		23:00	91		80			
11:15	231		211		23:15	92		64			
11:30	224		232		23:30	98		64			
11:45	238	897	178	791	1688	23:45	92	373	54	262	635
Total Vol.		5234		7220	12454		12255		8816		21071
										Daily Totals	
							NB		SB		Combined
							17489		16036		33525
										AM	PM
Split %	42.0%	58.0%			37.1%		58.2%		41.8%		62.9%
Peak Hour	11:45	6:45			11:45		17:00		14:45		15:00
Volume	1005	1043			1852		1440		970		2361
P.H.F.	0.96	0.87			0.89		0.90		0.92		0.95

ADT3 Willow Avenue between Valley Boulevard to San Bernardino Avenue.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB	SB	PM Period	NB	SB	
0:00	2	4	12:00	29	30	
0:15	4	8	12:15	27	23	
0:30	6	5	12:30	25	37	
0:45	3 15	1 18	33 12:45	26 107	24 114	221
1:00	7	3	13:00	31	24	
1:15	5	4	13:15	30	41	
1:30	6	4	13:30	41	47	
1:45	3 21	5 16	37 13:45	39 141	38 150	291
2:00	0	4	14:00	37	45	
2:15	3	9	14:15	26	32	
2:30	1	6	14:30	29	49	
2:45	2 6	4 23	29 14:45	37 129	37 163	292
3:00	2	5	15:00	43	46	
3:15	3	11	15:15	32	39	
3:30	1	13	15:30	55	43	
3:45	2 8	19 48	56 15:45	48 178	44 172	350
4:00	7	15	16:00	55	33	
4:15	3	35	16:15	39	35	
4:30	9	40	16:30	44	62	
4:45	6 25	39 129	154 16:45	49 187	44 174	361
5:00	6	28	17:00	52	35	
5:15	10	44	17:15	35	40	
5:30	7	55	17:30	38	32	
5:45	14 37	41 168	205 17:45	45 170	31 138	308
6:00	10	35	18:00	39	43	
6:15	15	33	18:15	43	30	
6:30	17	49	18:30	39	33	
6:45	16 58	45 162	220 18:45	43 164	42 148	312
7:00	25	38	19:00	37	36	
7:15	24	52	19:15	36	30	
7:30	19	58	19:30	24	37	
7:45	14 82	66 214	296 19:45	29 126	18 121	247
8:00	19	48	20:00	28	25	
8:15	19	34	20:15	29	16	
8:30	20	45	20:30	23	23	
8:45	22 80	37 164	244 20:45	24 104	20 84	188
9:00	19	27	21:00	20	12	
9:15	24	32	21:15	20	17	
9:30	26	45	21:30	20	14	
9:45	30 99	45 149	248 21:45	9 69	10 53	122
10:00	21	36	22:00	18	19	
10:15	25	31	22:15	21	16	
10:30	28	29	22:30	6	11	
10:45	20 94	32 128	222 22:45	10 55	11 57	112
11:00	30	41	23:00	9	7	
11:15	23	30	23:15	9	11	
11:30	28	38	23:30	6	5	
11:45	24 105	31 140	245 23:45	13 37	11 34	71
Total Vol.	630	1359	1989	1467	1408	2875

Daily Totals		Combined
NB	SB	
2097	2767	4864

	AM			PM		
Split %	31.7%	68.3%	40.9%	51.0%	49.0%	59.1%
Peak Hour	11:30	7:15	7:15	15:30	16:30	16:00
Volume	108	224	300	197	181	361
P.H.F.	0.93	0.85	0.94	0.97	0.73	0.85

ADT4 Valley Boulevard between Willow Avenue to Riverside Avenue.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB		PM Period	EB		WB		
0:00	21		18		12:00	127		120		
0:15	34		26		12:15	116		134		
0:30	30		20		12:30	125		121		
0:45	22	107	15	79	12:45	132	500	133	508	
1:00	35		23		13:00	146		114		
1:15	29		9		13:15	163		116		
1:30	15		17		13:30	165		139		
1:45	12	91	9	58	13:45	177	651	155	524	
2:00	16		6		14:00	182		138		
2:15	24		14		14:15	183		154		
2:30	23		21		14:30	233		176		
2:45	19	82	17	58	14:45	163	761	193	661	
3:00	19		15		15:00	195		175		
3:15	32		17		15:15	185		173		
3:30	37		26		15:30	241		170		
3:45	51	139	19	77	15:45	198	819	191	709	
4:00	39		19		16:00	187		167		
4:15	80		12		16:15	189		196		
4:30	104		36		16:30	251		164		
4:45	156	379	59	126	16:45	217	844	194	721	
5:00	112		43		17:00	220		204		
5:15	134		37		17:15	208		185		
5:30	155		42		17:30	172		179		
5:45	150	551	67	189	17:45	167	767	202	770	
6:00	123		42		18:00	185		159		
6:15	122		52		18:15	141		142		
6:30	153		61		18:30	141		144		
6:45	186	584	77	232	18:45	150	617	123	568	
7:00	158		87		19:00	131		121		
7:15	163		127		19:15	117		111		
7:30	189		151		19:30	115		86		
7:45	223	733	124	489	19:45	101	464	104	422	
8:00	182		113		20:00	88		87		
8:15	133		83		20:15	95		74		
8:30	139		106		20:30	82		68		
8:45	148	602	110	412	20:45	67	332	64	293	
9:00	135		121		21:00	46		64		
9:15	122		121		21:15	77		85		
9:30	137		100		21:30	65		94		
9:45	134	528	105	447	21:45	43	231	63	306	
10:00	115		100		22:00	53		104		
10:15	130		93		22:15	51		89		
10:30	132		101		22:30	36		75		
10:45	108	485	95	389	22:45	37	177	71	339	
11:00	132		120		23:00	37		54		
11:15	121		122		23:15	41		68		
11:30	170		107		23:30	30		66		
11:45	147	570	121	470	23:45	32	140	75	263	
Total Vol.		4851		3026			6303		6084	12387
							Daily Totals			
							EB	WB	Combined	
							11154	9110	20264	
							AM	PM		
Split %		61.6%	38.4%	38.9%			50.9%	49.1%	61.1%	
Peak Hour		7:15	7:15	7:15			16:30	17:00	16:30	
Volume		757	515	1272			896	770	1643	
P.H.F.		0.85	0.85	0.92			0.89	0.94	0.97	

APPENDIX C

INTERSECTION ANALYSIS
WORKSHEETS

HCM 6th AWSC
1: San Bernardino Ave & Lilac Ave

10/11/2021

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↔		↔↔	↔		↔	↔		↔	↔
Traffic Vol, veh/h	28	237	127	45	195	73	82	37	32	105	54	62
Future Vol, veh/h	28	237	127	45	195	73	82	37	32	105	54	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	258	138	49	212	79	89	40	35	114	59	67
Number of Lanes	0	2	1	0	2	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	12.4	12.3	13.2	13.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	69%	0%	26%	0%	0%	41%	0%	0%	66%	0%
Vol Thru, %	31%	0%	74%	100%	0%	59%	100%	0%	34%	0%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	100%
Sign Control	Stop									
Traffic Vol by Lane	119	32	107	158	127	110	130	73	159	62
LT Vol	82	0	28	0	0	45	0	0	105	0
Through Vol	37	0	79	158	0	65	130	0	54	0
RT Vol	0	32	0	0	127	0	0	73	0	62
Lane Flow Rate	129	35	116	172	138	120	141	79	173	67
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.289	0.068	0.235	0.34	0.246	0.249	0.286	0.145	0.375	0.127
Departure Headway (Hd)	8.04	6.987	7.262	7.128	6.414	7.506	7.298	6.583	7.807	6.77
Convergence, Y/N	Yes									
Cap	446	512	494	505	559	478	492	544	461	529
Service Time	5.792	4.738	5.006	4.873	4.159	5.254	5.045	4.33	5.555	4.518
HCM Lane V/C Ratio	0.289	0.068	0.235	0.341	0.247	0.251	0.287	0.145	0.375	0.127
HCM Control Delay	14	10.3	12.2	13.5	11.3	12.7	13	10.5	15.2	10.5
HCM Lane LOS	B	B	B	B	B	B	B	B	C	B
HCM 95th-tile Q	1.2	0.2	0.9	1.5	1	1	1.2	0.5	1.7	0.4

HCM 6th AWSC
 2: Willow Ave & San Bernardino Ave

10/11/2021

Intersection												
Intersection Delay, s/veh	16.8											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Traffic Vol, veh/h	14	326	32	19	272	70	19	52	11	83	178	23
Future Vol, veh/h	14	326	32	19	272	70	19	52	11	83	178	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	354	35	21	296	76	21	57	12	90	193	25
Number of Lanes	1	2	0	1	2	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left		NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	15.3	14.3	12.8	23.1
HCM LOS	C	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	27%	0%	100%	0%	0%	100%	0%	0%	29%
Vol Thru, %	73%	0%	0%	100%	77%	0%	100%	56%	63%
Vol Right, %	0%	100%	0%	0%	23%	0%	0%	44%	8%
Sign Control	Stop								
Traffic Vol by Lane	71	11	14	217	141	19	181	161	284
LT Vol	19	0	14	0	0	19	0	0	83
Through Vol	52	0	0	217	109	0	181	91	178
RT Vol	0	11	0	0	32	0	0	70	23
Lane Flow Rate	77	12	15	236	153	21	197	175	309
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.181	0.025	0.033	0.486	0.308	0.046	0.408	0.346	0.646
Departure Headway (Hd)	8.434	7.583	7.919	7.406	7.242	7.961	7.448	7.135	7.534
Convergence, Y/N	Yes								
Cap	424	470	452	487	495	449	483	503	478
Service Time	6.208	5.357	5.675	5.161	4.998	5.718	5.204	4.89	5.287
HCM Lane V/C Ratio	0.182	0.026	0.033	0.485	0.309	0.047	0.408	0.348	0.646
HCM Control Delay	13.1	10.6	10.9	17	13.2	11.1	15.3	13.6	23.1
HCM Lane LOS	B	B	B	C	B	B	C	B	C
HCM 95th-tile Q	0.7	0.1	0.1	2.6	1.3	0.1	2	1.5	4.5

HCM 6th Signalized Intersection Summary
 3: Riverside Ave & San Bernardino Ave

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	77	203	107	301	231	73	55	383	135	88	679	84
Future Volume (veh/h)	77	203	107	301	231	73	55	383	135	88	679	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	214	113	317	243	77	58	403	142	93	715	88
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	339	172	376	777	240	108	1269	566	136	1188	146
Arrive On Green	0.07	0.15	0.15	0.21	0.29	0.29	0.06	0.36	0.36	0.08	0.37	0.37
Sat Flow, veh/h	1781	2281	1158	1781	2672	826	1781	3554	1585	1781	3185	392
Grp Volume(v), veh/h	81	165	162	317	160	160	58	403	142	93	399	404
Grp Sat Flow(s),veh/h/ln	1781	1777	1662	1781	1777	1722	1781	1777	1585	1781	1777	1800
Q Serve(g_s), s	3.9	7.6	8.0	14.9	6.1	6.3	2.8	7.2	5.5	4.4	15.8	15.8
Cycle Q Clear(g_c), s	3.9	7.6	8.0	14.9	6.1	6.3	2.8	7.2	5.5	4.4	15.8	15.8
Prop In Lane	1.00		0.70	1.00		0.48	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	123	264	247	376	517	501	108	1269	566	136	663	671
V/C Ratio(X)	0.66	0.62	0.66	0.84	0.31	0.32	0.54	0.32	0.25	0.68	0.60	0.60
Avail Cap(c_a), veh/h	247	775	725	501	1028	996	143	1269	566	174	663	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	34.8	35.0	33.0	24.1	24.2	39.7	20.3	19.8	39.2	22.1	22.1
Incr Delay (d2), s/veh	5.9	2.4	3.0	9.6	0.3	0.4	4.1	0.7	1.1	7.3	4.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.4	3.3	7.2	2.5	2.5	1.3	2.9	2.1	2.1	6.8	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	37.2	38.0	42.5	24.4	24.5	43.8	21.0	20.8	46.5	26.1	26.1
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		408			637			603			896	
Approach Delay, s/veh		39.1			33.5			23.1			28.2	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	35.6	22.9	17.4	9.8	37.0	10.5	29.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	31.0	24.5	38.0	7.0	32.5	12.1	50.4					
Max Q Clear Time (g_c+I1), s	10.2	17.9	11.0	5.8	18.8	6.9	9.3					
Green Ext Time (p_c), s	0.0	2.9	0.5	1.9	0.0	4.0	0.1	2.0				
Intersection Summary												
HCM 6th Ctrl Delay											30.1	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Summary

4: Senior Wy & Riverside Ave

10/11/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑
Traffic Volume (veh/h)	3	4	620	8	15	1100
Future Volume (veh/h)	3	4	620	8	15	1100
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	4	674	9	16	1196
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	9	12	3763	50	49	4237
Arrive On Green	0.01	0.01	0.72	0.72	0.03	0.83
Sat Flow, veh/h	633	843	5361	69	1781	5274
Grp Volume(v), veh/h	8	0	442	241	16	1196
Grp Sat Flow(s),veh/h/ln	687	0	1702	1858	1781	1702
Q Serve(g_s), s	0.3	0.0	2.4	2.4	0.5	3.0
Cycle Q Clear(g_c), s	0.3	0.0	2.4	2.4	0.5	3.0
Prop In Lane	0.37	0.50		0.04	1.00	
Lane Grp Cap(c), veh/h	25	0	2467	1346	49	4237
V/C Ratio(X)	0.32	0.00	0.18	0.18	0.33	0.28
Avail Cap(c_a), veh/h	962	0	2467	1346	323	4237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	2.5	2.5	27.6	1.1
Incr Delay (d2), s/veh	7.4	0.0	0.2	0.3	3.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.4	0.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.6	0.0	2.7	2.8	31.4	1.3
LnGrp LOS	D	A	A	A	C	A
Approach Vol, veh/h	8		683			1212
Approach Delay, s/veh	35.6		2.7			1.7
Approach LOS	D		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	61	46.4			52.5	5.3
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	33.0	33.0			48.0	33.0
Max Q Clear Time (g_c+I), s	5.4	5.4			6.0	3.3
Green Ext Time (p_c), s	0.0	4.3			10.4	0.0

Intersection Summary

HCM 6th Ctrl Delay		2.2	
HCM 6th LOS		A	

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

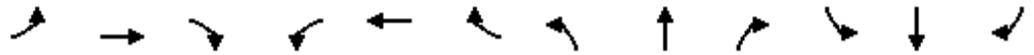
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	917	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	917	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

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

HCM 6th Signalized Intersection Summary
 6: Gateway Plz/Value Ctr & Riverside Dr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	24	3	45	25	2	31	42	591	29	110	922	73
Future Volume (veh/h)	24	3	45	25	2	31	42	591	29	110	922	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	3	49	27	2	34	46	642	32	120	1002	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	13	213	340	13	214	462	3110	154	622	3013	237
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1372	92	1507	1352	89	1510	522	4983	247	764	4826	380
Grp Volume(v), veh/h	26	0	52	27	0	36	46	438	236	120	706	375
Grp Sat Flow(s),veh/h/ln	1372	0	1599	1352	0	1599	522	1702	1826	764	1702	1802
Q Serve(g_s), s	0.7	0.0	1.1	0.7	0.0	0.8	1.8	2.1	2.1	3.1	3.8	3.8
Cycle Q Clear(g_c), s	1.4	0.0	1.1	1.8	0.0	0.8	5.6	2.1	2.1	5.2	3.8	3.8
Prop In Lane	1.00		0.94	1.00		0.94	1.00		0.14	1.00		0.21
Lane Grp Cap(c), veh/h	355	0	227	340	0	226	462	2125	1140	622	2125	1125
V/C Ratio(X)	0.07	0.00	0.23	0.08	0.00	0.16	0.10	0.21	0.21	0.19	0.33	0.33
Avail Cap(c_a), veh/h	3265	0	3619	3209	0	3617	462	2125	1140	622	2125	1125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	14.6	15.4	0.0	14.5	4.7	3.1	3.1	4.2	3.4	3.4
Incr Delay (d2), s/veh	0.1	0.0	0.5	0.1	0.0	0.3	0.4	0.2	0.4	0.7	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.4	0.2	0.0	0.3	0.1	0.2	0.3	0.3	0.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	0.0	15.1	15.5	0.0	14.8	5.2	3.3	3.5	4.9	3.8	4.2
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		78			63			720			1201	
Approach Delay, s/veh		15.2			15.1			3.5			4.1	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.5		9.9		28.5		9.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.0		87.0		24.0		87.0				
Max Q Clear Time (g_c+l1), s		8.6		4.4		8.2		4.8				
Green Ext Time (p_c), s		4.1		0.4		6.9		0.3				

Intersection Summary

HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

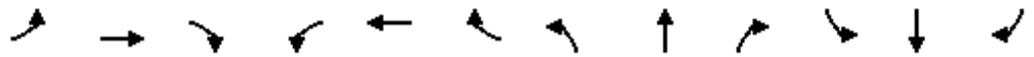
Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th Signalized Intersection Summary

8: Valley Blvd & Willow Ave

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷	↷	↶	↷	↷		↷	↷
Traffic Volume (veh/h)	20	580	0	6	453	56	1	0	2	175	0	49
Future Volume (veh/h)	20	580	0	6	453	56	1	0	2	175	0	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	630	0	7	492	61	1	0	2	190	0	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	906	404	172	906	404	861	0	990	979	0	990
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.25	0.62	0.00	0.62	0.62	0.00	0.62
Sat Flow, veh/h	855	3554	1585	796	3554	1585	1351	0	1585	1414	0	1585
Grp Volume(v), veh/h	22	630	0	7	492	61	1	0	2	190	0	53
Grp Sat Flow(s),veh/h/ln	855	1777	1585	796	1777	1585	1351	0	1585	1414	0	1585
Q Serve(g_s), s	1.7	12.0	0.0	0.6	8.9	2.2	0.0	0.0	0.0	4.3	0.0	1.0
Cycle Q Clear(g_c), s	10.6	12.0	0.0	12.6	8.9	2.2	4.4	0.0	0.0	4.4	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	906	404	172	906	404	861	0	990	979	0	990
V/C Ratio(X)	0.10	0.70	0.00	0.04	0.54	0.15	0.00	0.00	0.00	0.19	0.00	0.05
Avail Cap(c_a), veh/h	390	1646	734	338	1646	734	861	0	990	979	0	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	25.1	0.0	30.8	24.0	21.5	7.0	0.0	5.3	6.1	0.0	5.4
Incr Delay (d2), s/veh	0.2	1.0	0.0	0.1	0.5	0.2	0.0	0.0	0.0	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.7	0.0	0.1	3.5	0.8	0.0	0.0	0.0	1.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	26.1	0.0	30.9	24.5	21.7	7.0	0.0	5.3	6.5	0.0	5.5
LnGrp LOS	C	C	A	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		652			560			3			243	
Approach Delay, s/veh		26.2			24.3			5.9			6.3	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.0		23.5		51.0		23.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		46.5		34.5		46.5		34.5				
Max Q Clear Time (g_c+I1), s		7.4		15.0		7.4		15.6				
Green Ext Time (p_c), s		0.0		4.0		1.2		3.1				
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Valley Blvd & Gateway Plz/Value Ctr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑↑ ↗			↖ ↑↑ ↗		↖ ↗	↖ ↗	↖ ↗			↖ ↗	
Traffic Volume (veh/h)	10	738	0	2	504	3	0	0	0	3	0	7
Future Volume (veh/h)	10	738	0	2	504	3	0	0	0	3	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	802	0	2	548	3	0	0	0	3	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1420	0	207	988	441	109	1094	0	281	36	660
Arrive On Green	0.28	0.28	0.00	0.28	0.28	0.28	0.00	0.00	0.00	0.59	0.00	0.59
Sat Flow, veh/h	857	5274	0	678	3554	1585	1407	1870	0	361	62	1129
Grp Volume(v), veh/h	11	802	0	2	548	3	0	0	0	11	0	0
Grp Sat Flow(s),veh/h/ln	857	1702	0	678	1777	1585	1407	1870	0	1552	0	0
Q Serve(g_s), s	0.7	8.9	0.0	0.2	8.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.4	8.9	0.0	9.0	8.7	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	0.27		0.73
Lane Grp Cap(c), veh/h	235	1420	0	207	988	441	109	1094	0	978	0	0
V/C Ratio(X)	0.05	0.56	0.00	0.01	0.55	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Avail Cap(c_a), veh/h	550	3298	0	456	2296	1024	109	1094	0	978	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.3	20.3	0.0	24.2	20.3	17.2	0.0	0.0	0.0	5.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.2	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	20.7	0.0	24.2	20.8	17.2	0.0	0.0	0.0	5.7	0.0	0.0
LnGrp LOS	C	C	A	C	C	B	A	A	A	A	A	A
Approach Vol, veh/h		813			553			0			11	
Approach Delay, s/veh		20.7			20.8			0.0			5.7	
Approach LOS		C			C						A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		22.8		43.0		22.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		38.5		42.5		38.5		42.5				
Max Q Clear Time (g_c+l1), s		0.0		12.4		3.2		12.0				
Green Ext Time (p_c), s		0.0		5.9		0.0		3.7				
Intersection Summary												
HCM 6th Ctrl Delay				20.6								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
 10: Riverside Dr & Valley Blvd

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	196	512	147	141	34	333	570	108	44	954	25
Future Volume (veh/h)	31	196	512	147	141	34	333	570	108	44	954	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	204	533	153	147	35	347	594	112	46	994	26
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1381	616	347	1381	616	586	2139	397	400	2529	66
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1202	3554	1585	721	3554	1585	1072	4327	803	742	5117	134
Grp Volume(v), veh/h	32	204	533	153	147	35	347	465	241	46	661	359
Grp Sat Flow(s),veh/h/ln	1202	1777	1585	721	1777	1585	536	1702	1726	742	1702	1846
Q Serve(g_s), s	1.3	2.9	23.8	13.4	2.0	1.1	23.1	6.2	6.3	3.0	9.4	9.4
Cycle Q Clear(g_c), s	3.4	2.9	23.8	16.3	2.0	1.1	32.5	6.2	6.3	9.3	9.4	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.07
Lane Grp Cap(c), veh/h	529	1381	616	347	1381	616	586	1682	853	400	1682	913
V/C Ratio(X)	0.06	0.15	0.87	0.44	0.11	0.06	0.59	0.28	0.28	0.12	0.39	0.39
Avail Cap(c_a), veh/h	734	1987	886	470	1987	886	586	1682	853	400	1682	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	15.2	21.6	20.5	15.0	14.7	22.4	11.4	11.4	14.2	12.2	12.2
Incr Delay (d2), s/veh	0.0	0.0	6.4	0.9	0.0	0.0	4.3	0.4	0.8	0.6	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	8.9	2.1	0.8	0.4	2.9	2.1	2.3	0.5	3.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	15.3	28.0	21.4	15.0	14.7	26.7	11.8	12.3	14.7	12.9	13.5
LnGrp LOS	B	B	C	C	B	B	C	B	B	B	B	B
Approach Vol, veh/h	769			335			1053			1066		
Approach Delay, s/veh	24.1			17.9			16.8			13.2		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.5		34.4		42.5		34.4					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	38.0		43.0		38.0		43.0					
Max Q Clear Time (g_c+l1), s	35.5		26.8		12.4		19.3					
Green Ext Time (p_c), s	1.7		3.1		7.3		2.1					
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

11: I-10 WB Ramps & Riverside Dr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↵	↵	↵	↵↵	↵↵↵			↵↵↵	↵
Traffic Volume (veh/h)	0	0	0	458	1	379	142	622	0	0	1094	517
Future Volume (veh/h)	0	0	0	458	1	379	142	622	0	0	1094	517
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				588	0	258	145	635	0	0	1116	528
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				834	0	371	532	3288	0	0	4144	1021
Arrive On Green				0.23	0.00	0.23	0.64	0.64	0.00	0.00	0.64	0.64
Sat Flow, veh/h				3563	0	1585	591	5274	0	0	6696	1585
Grp Volume(v), veh/h				588	0	258	145	635	0	0	1116	528
Grp Sat Flow(s),veh/h/ln				1781	0	1585	295	1702	0	0	1609	1585
Q Serve(g_s), s				11.2	0.0	11.0	10.3	3.7	0.0	0.0	5.5	13.1
Cycle Q Clear(g_c), s				11.2	0.0	11.0	15.8	3.7	0.0	0.0	5.5	13.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				834	0	371	532	3288	0	0	4144	1021
V/C Ratio(X)				0.71	0.00	0.70	0.27	0.19	0.00	0.00	0.27	0.52
Avail Cap(c_a), veh/h				1618	0	720	532	3288	0	0	4144	1021
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.9	0.0	25.8	9.1	5.3	0.0	0.0	5.7	7.0
Incr Delay (d2), s/veh				1.1	0.0	2.4	1.3	0.1	0.0	0.0	0.2	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.6	0.0	4.2	0.6	1.0	0.0	0.0	1.4	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.0	0.0	28.2	10.3	5.5	0.0	0.0	5.8	8.9
LnGrp LOS				C	A	C	B	A	A	A	A	A
Approach Vol, veh/h					846			780			1644	
Approach Delay, s/veh					27.4			6.4			6.8	
Approach LOS					C			A			A	
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		52.0			52.0			21.8				
Change Period (Y+Rc), s		4.5			4.5			4.5				
Max Green Setting (Gmax), s		47.5			47.5			33.5				
Max Q Clear Time (g_c+l1), s		18.8			16.1			14.2				
Green Ext Time (p_c), s		8.9			11.9			3.1				

Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Riverside Dr & I-10 EB Ramps

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	0	243	0	0	0	0	548	348	456	1096	0
Future Volume (veh/h)	216	0	243	0	0	0	0	548	348	456	1096	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	308	0	164				0	571	362	475	1142	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	521	0	232				0	2543	1184	953	2655	0
Arrive On Green	0.15	0.00	0.15				0.00	0.75	0.75	0.75	0.75	0.00
Sat Flow, veh/h	3563	0	1585				0	3572	1585	1164	3647	0
Grp Volume(v), veh/h	308	0	164				0	571	362	475	1142	0
Grp Sat Flow(s),veh/h/ln	781	0	1585				0	1702	1585	582	1777	0
Q Serve(g_s), s	6.8	0.0	8.3				0.0	4.3	6.3	19.0	10.1	0.0
Cycle Q Clear(g_c), s	6.8	0.0	8.3				0.0	4.3	6.3	25.3	10.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	521	0	232				0	2543	1184	953	2655	0
V/C Ratio(X)	0.59	0.00	0.71				0.00	0.22	0.31	0.50	0.43	0.00
Avail Cap(c_a), veh/h	766	0	341				0	2543	1184	953	2655	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.6	0.0	34.2				0.0	3.2	3.5	7.6	4.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	4.0				0.0	0.2	0.7	1.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/l	0.0	0.0	3.4				0.0	1.0	1.4	2.0	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	38.2				0.0	3.4	4.2	9.5	4.5	0.0
LnGrp LOS	C	A	D				A	A	A	A	A	A
Approach Vol, veh/h	472						933			1617		
Approach Delay, s/veh	35.9						3.7			6.0		
Approach LOS	D						A			A		
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	67.4		16.8		67.4							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	62.9		18.1		62.9							
Max Q Clear Time (g_c+l1), s	9.3		11.3		28.3							
Green Ext Time (p_c), s	7.3		1.0		18.1							

Intersection Summary

HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th AWSC
1: San Bernardino Ave & Lilac Ave

10/11/2021

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↑	↔		↔↑	↔		↔	↔		↔	↔
Traffic Vol, veh/h	17	341	26	34	329	31	26	54	21	23	46	10
Future Vol, veh/h	17	341	26	34	329	31	26	54	21	23	46	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	371	28	37	358	34	28	59	23	25	50	11
Number of Lanes	0	2	1	0	2	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	12.6	12.4	11.2	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	33%	0%	13%	0%	0%	24%	0%	0%	33%	0%
Vol Thru, %	68%	0%	87%	100%	0%	76%	100%	0%	67%	0%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	100%
Sign Control	Stop									
Traffic Vol by Lane	80	21	131	227	26	144	219	31	69	10
LT Vol	26	0	17	0	0	34	0	0	23	0
Through Vol	54	0	114	227	0	110	219	0	46	0
RT Vol	0	21	0	0	26	0	0	31	0	10
Lane Flow Rate	87	23	142	247	28	156	238	34	75	11
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.177	0.041	0.252	0.433	0.044	0.278	0.417	0.052	0.154	0.02
Departure Headway (Hd)	7.325	6.46	6.375	6.309	5.603	6.412	6.292	5.585	7.398	6.527
Convergence, Y/N	Yes									
Cap	488	551	561	568	636	559	570	639	482	545
Service Time	5.103	4.237	4.135	4.069	3.362	4.17	4.05	3.343	5.179	4.308
HCM Lane V/C Ratio	0.178	0.042	0.253	0.435	0.044	0.279	0.418	0.053	0.156	0.02
HCM Control Delay	11.7	9.5	11.3	13.8	8.6	11.6	13.5	8.7	11.5	9.4
HCM Lane LOS	B	A	B	B	A	B	B	A	B	A
HCM 95th-tile Q	0.6	0.1	1	2.2	0.1	1.1	2	0.2	0.5	0.1

HCM 6th AWSC
2: Willow Ave & San Bernardino Ave

10/11/2021

Intersection

Intersection Delay, s/veh21.2

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↔	
Traffic Vol, veh/h	17	350	24	8	343	84	22	150	29	85	146	21
Future Vol, veh/h	17	350	24	8	343	84	22	150	29	85	146	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	380	26	9	373	91	24	163	32	92	159	23
Number of Lanes	1	2	0	1	2	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	20	20.1	18.5	27.3
HCM LOS	C	C	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	13%	0%	100%	0%	0%	100%	0%	0%	34%
Vol Thru, %	87%	0%	0%	100%	83%	0%	100%	58%	58%
Vol Right, %	0%	100%	0%	0%	17%	0%	0%	42%	8%
Sign Control	Stop								
Traffic Vol by Lane	172	29	17	233	141	8	229	198	252
LT Vol	22	0	17	0	0	8	0	0	85
Through Vol	150	0	0	233	117	0	229	114	146
RT Vol	0	29	0	0	24	0	0	84	21
Lane Flow Rate	187	32	18	254	153	9	249	216	274
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.471	0.073	0.046	0.597	0.355	0.021	0.578	0.483	0.665
Departure Headway (Hd)	9.079	8.294	8.995	8.476	8.351	8.895	8.376	8.068	8.738
Convergence, Y/N	Yes								
Cap	396	431	398	426	430	402	430	446	414
Service Time	6.842	6.056	6.753	6.233	6.109	6.653	6.134	5.826	6.492
HCM Lane V/C Ratio	0.472	0.074	0.045	0.596	0.356	0.022	0.579	0.484	0.662
HCM Control Delay	19.7	11.7	12.2	23.1	15.7	11.8	22.1	18.2	27.3
HCM Lane LOS	C	B	B	C	C	B	C	C	D
HCM 95th-tile Q	2.4	0.2	0.1	3.8	1.6	0.1	3.5	2.6	4.7

HCM 6th Signalized Intersection Summary

3: Riverside Ave & San Bernardino Ave

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	131	342	100	262	223	71	165	773	440	71	539	49
Future Volume (veh/h)	131	342	100	262	223	71	165	773	440	71	539	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	353	103	270	230	73	170	797	454	73	556	51
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	498	143	322	694	215	219	1368	610	112	1069	98
Arrive On Green	0.10	0.18	0.18	0.18	0.26	0.26	0.12	0.39	0.39	0.06	0.32	0.32
Sat Flow, veh/h	1781	2723	783	1781	2672	827	1781	3554	1585	1781	3292	301
Grp Volume(v), veh/h	135	229	227	270	151	152	170	797	454	73	300	307
Grp Sat Flow(s),veh/h/ln	1781	1777	1729	1781	1777	1722	1781	1777	1585	1781	1777	1816
Q Serve(g_s), s	7.0	11.5	11.8	14.0	6.6	6.8	8.8	17.0	23.6	3.8	13.1	13.1
Cycle Q Clear(g_c), s	7.0	11.5	11.8	14.0	6.6	6.8	8.8	17.0	23.6	3.8	13.1	13.1
Prop In Lane	1.00		0.45	1.00		0.48	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	185	325	317	322	462	447	219	1368	610	112	577	590
V/C Ratio(X)	0.73	0.70	0.72	0.84	0.33	0.34	0.78	0.58	0.74	0.65	0.52	0.52
Avail Cap(c_a), veh/h	323	708	689	383	767	743	233	1368	610	142	577	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	36.5	36.7	37.8	28.6	28.7	40.6	23.3	25.3	43.7	26.2	26.2
Incr Delay (d2), s/veh	5.5	2.8	3.1	13.3	0.4	0.4	14.4	1.8	8.0	6.9	3.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	5.1	5.1	7.1	2.8	2.8	4.6	7.0	9.7	1.9	5.8	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	39.3	39.7	51.1	29.0	29.1	54.9	25.1	33.3	50.6	29.5	29.4
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		591			573			1421			680	
Approach Delay, s/veh		41.2			39.4			31.3			31.7	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	41.2	21.7	22.0	16.2	35.5	14.4	29.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	35.9	20.5	38.0	12.5	31.0	17.3	41.2					
Max Q Clear Time (g_c+I), s	26.6	17.0	14.8	11.8	16.1	10.0	9.8					
Green Ext Time (p_c), s	0.0	4.6	0.3	2.7	0.0	3.0	0.2	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				34.6								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

4: Senior Wy & Riverside Ave

10/11/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑↑		Y	↑↑↑
Traffic Volume (veh/h)	11	12	1482	2	4	1007
Future Volume (veh/h)	11	12	1482	2	4	1007
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	13	1560	2	4	1060
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	32	35	3814	5	13	4123
Arrive On Green	0.04	0.04	0.72	0.72	0.01	0.81
Sat Flow, veh/h	776	840	5435	7	1781	5274
Grp Volume(v), veh/h	26	0	1008	554	4	1060
Grp Sat Flow(s),veh/h/ln	680	0	1702	1869	1781	1702
Q Serve(g_s), s	0.9	0.0	6.9	6.9	0.1	3.0
Cycle Q Clear(g_c), s	0.9	0.0	6.9	6.9	0.1	3.0
Prop In Lane	0.46	0.50		0.00	1.00	
Lane Grp Cap(c), veh/h	69	0	2465	1354	13	4123
V/C Ratio(X)	0.38	0.00	0.41	0.41	0.30	0.26
Avail Cap(c_a), veh/h	933	0	2465	1354	210	4123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	3.2	3.2	29.3	1.4
Incr Delay (d2), s/veh	3.4	0.0	0.5	0.9	11.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	1.3	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.1	0.0	3.7	4.1	41.2	1.5
LnGrp LOS	C	A	A	A	D	A
Approach Vol, veh/h	26		1562			1064
Approach Delay, s/veh	31.1		3.9			1.7
Approach LOS	C		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	4.9	47.6			52.5	6.9
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	36.5				48.0	33.0
Max Q Clear Time (g_c+l),s	9.9				6.0	3.9
Green Ext Time (p_c), s	0.0	12.1			8.8	0.0

Intersection Summary

HCM 6th Ctrl Delay	3.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

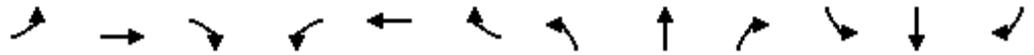
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	917	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	917	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

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

HCM 6th Signalized Intersection Summary
 6: Gateway Plz/Value Ctr & Riverside Dr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	99	6	42	52	13	117	82	1304	54	129	756	91
Future Volume (veh/h)	99	6	42	52	13	117	82	1304	54	129	756	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	6	44	54	14	122	85	1358	56	134	788	95
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	44	325	445	38	330	464	2821	116	320	2592	311
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1253	194	1421	1355	166	1445	629	5030	207	380	4621	554
Grp Volume(v), veh/h	103	0	50	54	0	136	85	919	495	134	579	304
Grp Sat Flow(s),veh/h/ln	1253	0	1615	1355	0	1610	629	1702	1833	380	1702	1771
Q Serve(g_s), s	3.2	0.0	1.1	1.4	0.0	3.0	3.5	6.9	6.9	14.0	3.9	3.9
Cycle Q Clear(g_c), s	6.3	0.0	1.1	2.5	0.0	3.0	7.4	6.9	6.9	21.0	3.9	3.9
Prop In Lane	1.00		0.88	1.00		0.90	1.00		0.11	1.00		0.31
Lane Grp Cap(c), veh/h	366	0	369	445	0	368	464	1910	1028	320	1910	993
V/C Ratio(X)	0.28	0.00	0.14	0.12	0.00	0.37	0.18	0.48	0.48	0.42	0.30	0.31
Avail Cap(c_a), veh/h	2628	0	3283	2890	0	3275	464	1910	1028	320	1910	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	13.1	14.1	0.0	13.9	6.9	5.6	5.6	12.0	5.0	5.0
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.1	0.0	0.6	0.9	0.9	1.6	4.0	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.3	0.4	0.0	1.0	0.4	1.4	1.7	1.1	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.0	0.0	13.3	14.2	0.0	14.5	7.8	6.5	7.3	16.0	5.4	5.8
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		153			190			1499			1017	
Approach Delay, s/veh		15.8			14.4			6.8			6.9	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.5		14.3		28.5		14.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.0		87.0		24.0		87.0				
Max Q Clear Time (g_c+I1), s		10.4		9.3		24.0		6.0				
Green Ext Time (p_c), s		8.0		0.7		0.0		1.1				
Intersection Summary												
HCM 6th Ctrl Delay				7.8								
HCM 6th LOS				A								
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

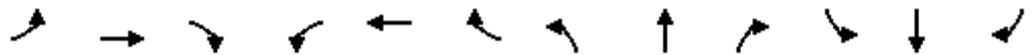
Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th Signalized Intersection Summary

8: Valley Blvd & Willow Ave

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	729	5	6	611	130	3	1	12	154	1	26
Future Volume (veh/h)	50	729	5	6	611	130	3	1	12	154	1	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	752	5	6	630	134	3	1	12	159	1	27
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	1130	504	189	1130	504	792	70	837	876	5	896
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	703	3554	1585	708	3554	1585	1382	123	1480	1386	9	1585
Grp Volume(v), veh/h	52	752	5	6	630	134	3	0	13	160	0	27
Grp Sat Flow(s),veh/h/ln	703	1777	1585	708	1777	1585	1382	0	1604	1395	0	1585
Q Serve(g_s), s	5.1	14.1	0.2	0.6	11.3	4.8	0.1	0.0	0.3	4.3	0.0	0.6
Cycle Q Clear(g_c), s	16.4	14.1	0.2	14.7	11.3	4.8	4.7	0.0	0.3	4.6	0.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.92	0.99		1.00
Lane Grp Cap(c), veh/h	214	1130	504	189	1130	504	792	0	906	882	0	896
V/C Ratio(X)	0.24	0.67	0.01	0.03	0.56	0.27	0.00	0.00	0.01	0.18	0.00	0.03
Avail Cap(c_a), veh/h	333	1731	772	309	1731	772	792	0	906	882	0	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	22.7	18.0	29.1	21.8	19.6	9.4	0.0	7.3	8.3	0.0	7.4
Incr Delay (d2), s/veh	0.6	0.7	0.0	0.1	0.4	0.3	0.0	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.5	0.1	0.1	4.4	1.7	0.0	0.0	0.1	1.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	23.4	18.0	29.1	22.2	19.8	9.4	0.0	7.4	8.8	0.0	7.5
LnGrp LOS	C	C	B	C	C	B	A	A	A	A	A	A
Approach Vol, veh/h		809			770			16				187
Approach Delay, s/veh		23.7			21.8			7.8				8.6
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		29.0		48.0		29.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		37.5		43.5		37.5				
Max Q Clear Time (g_c+I1), s		7.7		19.4		7.6		17.7				
Green Ext Time (p_c), s		0.0		5.1		0.9		4.4				
Intersection Summary												
HCM 6th Ctrl Delay				21.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Valley Blvd & Gateway Plz/Value Ctr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑↑ ↗			↖ ↑↑ ↗		↖ ↗	↖ ↗	↖ ↗			↖ ↗	
Traffic Volume (veh/h)	42	843	0	22	726	10	1	0	0	7	0	18
Future Volume (veh/h)	42	843	0	22	726	10	1	0	0	7	0	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	878	0	23	756	10	1	0	0	7	0	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	1818	0	238	1266	564	828	976	0	247	33	592
Arrive On Green	0.36	0.36	0.00	0.36	0.36	0.36	0.52	0.00	0.00	0.52	0.00	0.52
Sat Flow, veh/h	702	5274	0	632	3554	1585	1393	1870	0	355	63	1135
Grp Volume(v), veh/h	44	878	0	23	756	10	1	0	0	26	0	0
Grp Sat Flow(s),veh/h/ln	702	1702	0	632	1777	1585	1393	1870	0	1553	0	0
Q Serve(g_s), s	4.0	9.9	0.0	2.2	12.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.9	9.9	0.0	12.0	12.8	0.3	0.0	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	0.27		0.73
Lane Grp Cap(c), veh/h	225	1818	0	238	1266	564	828	976	0	872	0	0
V/C Ratio(X)	0.20	0.48	0.00	0.10	0.60	0.02	0.00	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	380	2942	0	377	2047	913	828	976	0	872	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.3	18.5	0.0	23.1	19.4	15.4	8.4	0.0	0.0	8.6	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	0.0	0.3	4.8	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	18.7	0.0	23.3	19.9	15.4	8.4	0.0	0.0	8.6	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h		922			789			1			26	
Approach Delay, s/veh		19.1			19.9			8.4			8.6	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		43.0			30.8			43.0			30.8	
Change Period (Y+Rc), s		4.5			4.5			4.5			4.5	
Max Green Setting (Gmax), s		38.5			42.5			38.5			42.5	
Max Q Clear Time (g_c+I1), s		3.0			19.9			3.6			15.8	
Green Ext Time (p_c), s		0.0			6.4			0.1			5.6	

Intersection Summary

HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

10: Riverside Dr & Valley Blvd

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	366	422	152	308	120	401	1202	178	104	734	59
Future Volume (veh/h)	88	366	422	152	308	120	401	1202	178	104	734	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	381	440	158	321	125	418	1252	185	108	765	61
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	1342	598	297	1342	598	717	2260	334	211	2427	193
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	944	3554	1585	666	3554	1585	1287	4491	664	372	4823	383
Grp Volume(v), veh/h	92	381	440	158	321	125	418	949	488	108	539	287
Grp Sat Flow(s),veh/h/ln	944	1777	1585	666	1777	1585	643	1702	1751	372	1702	1801
Q Serve(g_s), s	5.6	5.6	18.1	16.4	4.7	4.0	21.5	14.5	14.5	21.3	7.1	7.1
Cycle Q Clear(g_c), s	10.2	5.6	18.1	22.0	4.7	4.0	28.6	14.5	14.5	35.8	7.1	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.21
Lane Grp Cap(c), veh/h	393	1342	598	297	1342	598	717	1713	881	211	1713	907
V/C Ratio(X)	0.23	0.28	0.74	0.53	0.24	0.21	0.58	0.55	0.55	0.51	0.31	0.32
Avail Cap(c_a), veh/h	575	2024	903	425	2024	903	717	1713	881	211	1713	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	16.4	20.2	24.1	16.1	15.9	19.5	12.9	12.9	25.2	11.1	11.1
Incr Delay (d2), s/veh	0.3	0.1	1.8	1.5	0.1	0.2	3.4	1.3	2.5	8.6	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.1	6.2	2.5	1.7	1.3	3.1	5.0	5.4	2.2	2.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	16.5	22.0	25.5	16.2	16.1	23.0	14.2	15.4	33.8	11.5	12.0
LnGrp LOS	B	B	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h	913			604			1855			934		
Approach Delay, s/veh	19.5			18.6			16.5			14.3		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.5		33.0		42.5		33.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	38.0		43.0		38.0		43.0					
Max Q Clear Time (g_c+l1), s	31.6		21.1		38.8		25.0					
Green Ext Time (p_c), s	5.3		4.5		0.0		3.5					
Intersection Summary												
HCM 6th Ctrl Delay	16.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

11: I-10 WB Ramps & Riverside Dr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↵	↵	↵	↵↵	↵↵↵			↵↵↵	↵
Traffic Volume (veh/h)	0	0	0	339	4	418	283	1305	0	0	870	393
Future Volume (veh/h)	0	0	0	339	4	418	283	1305	0	0	870	393
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				508	0	281	298	1374	0	0	916	414
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				831	0	370	657	3342	0	0	4211	1037
Arrive On Green				0.23	0.00	0.23	0.65	0.65	0.00	0.00	0.65	0.65
Sat Flow, veh/h				3563	0	1585	799	5274	0	0	6696	1585
Grp Volume(v), veh/h				508	0	281	298	1374	0	0	916	414
Grp Sat Flow(s),veh/h/ln				1781	0	1585	400	1702	0	0	1609	1585
Q Serve(g_s), s				10.2	0.0	13.3	19.2	10.2	0.0	0.0	4.6	9.8
Cycle Q Clear(g_c), s				10.2	0.0	13.3	23.8	10.2	0.0	0.0	4.6	9.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				831	0	370	657	3342	0	0	4211	1037
V/C Ratio(X)				0.61	0.00	0.76	0.45	0.41	0.00	0.00	0.22	0.40
Avail Cap(c_a), veh/h				1266	0	563	657	3342	0	0	4211	1037
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.5	0.0	28.7	10.4	6.6	0.0	0.0	5.6	6.5
Incr Delay (d2), s/veh				0.7	0.0	3.2	2.3	0.4	0.0	0.0	0.1	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.3	0.0	5.2	1.5	2.9	0.0	0.0	1.2	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.2	0.0	31.9	12.6	6.9	0.0	0.0	5.7	7.6
LnGrp LOS				C	A	C	B	A	A	A	A	A
Approach Vol, veh/h					789			1672			1330	
Approach Delay, s/veh					29.5			7.9			6.3	
Approach LOS					C			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		57.0				57.0		23.2				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		52.5				52.5		28.5				
Max Q Clear Time (g_c+l1), s		26.8				12.8		16.3				
Green Ext Time (p_c), s		16.5				9.4		2.5				

Intersection Summary

HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Riverside Dr & I-10 EB Ramps

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	0	305	0	0	0	0	1073	438	345	864	0
Future Volume (veh/h)	520	0	305	0	0	0	0	1073	438	345	864	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	647	0	214				0	1129	461	363	909	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	713	0	317				0	2492	1017	509	2488	0
Arrive On Green	0.20	0.00	0.20				0.00	0.70	0.70	0.70	0.70	0.00
Sat Flow, veh/h	3563	0	1585				0	3729	1452	622	3647	0
Grp Volume(v), veh/h	647	0	214				0	1079	511	363	909	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1609	311	1777	0
Q Serve(g_s), s	16.0	0.0	11.2				0.0	12.5	12.6	50.4	9.3	0.0
Cycle Q Clear(g_c), s	16.0	0.0	11.2				0.0	12.5	12.6	63.0	9.3	0.0
Prop In Lane	1.00		1.00				0.00		0.90	1.00		0.00
Lane Grp Cap(c), veh/h	713	0	317				0	2383	1126	509	2488	0
V/C Ratio(X)	0.91	0.00	0.68				0.00	0.45	0.45	0.71	0.37	0.00
Avail Cap(c_a), veh/h	713	0	317				0	2383	1126	509	2488	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.2	0.0	33.3				0.0	5.9	5.9	20.8	5.4	0.0
Incr Delay (d2), s/veh	15.5	0.0	5.6				0.0	0.6	1.3	8.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.3	0.0	4.7				0.0	3.5	3.5	3.9	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	0.0	38.9				0.0	6.6	7.3	29.0	5.9	0.0
LnGrp LOS	D	A	D				A	A	A	C	A	A
Approach Vol, veh/h	861						1590			1272		
Approach Delay, s/veh	47.8						6.8			12.5		
Approach LOS	D						A			B		
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	67.5		22.5		67.5							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	63.0		18.0		63.0							
Max Q Clear Time (g_c+l1), s	15.6		19.0		66.0							
Green Ext Time (p_c), s	16.0		0.0		0.0							

Intersection Summary

HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th AWSC
 1: San Bernardino Ave & Lilac Ave

10/11/2021

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↑	↔		↔↑	↔		↔↑	↔		↔↑	↔
Traffic Vol, veh/h	29	246	130	46	201	74	84	38	33	107	55	63
Future Vol, veh/h	29	246	130	46	201	74	84	38	33	107	55	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	267	141	50	218	80	91	41	36	116	60	68
Number of Lanes	0	2	1	0	2	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	12.7	12.6	13.5	14.2
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	69%	0%	26%	0%	0%	41%	0%	0%	66%	0%
Vol Thru, %	31%	0%	74%	100%	0%	59%	100%	0%	34%	0%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	100%
Sign Control	Stop									
Traffic Vol by Lane	122	33	111	164	130	113	134	74	162	63
LT Vol	84	0	29	0	0	46	0	0	107	0
Through Vol	38	0	82	164	0	67	134	0	55	0
RT Vol	0	33	0	0	130	0	0	74	0	63
Lane Flow Rate	133	36	121	178	141	123	146	80	176	68
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.3	0.071	0.246	0.357	0.255	0.259	0.299	0.149	0.387	0.131
Departure Headway (Hd)	8.152	7.098	7.35	7.217	6.502	7.605	7.397	6.682	7.917	6.879
Convergence, Y/N	Yes									
Cap	440	504	489	499	553	472	485	536	454	521
Service Time	5.905	4.85	5.096	4.963	4.248	5.354	5.146	4.431	5.665	4.626
HCM Lane V/C Ratio	0.302	0.071	0.247	0.357	0.255	0.261	0.301	0.149	0.388	0.131
HCM Control Delay	14.4	10.4	12.5	13.9	11.5	13	13.3	10.6	15.6	10.7
HCM Lane LOS	B	B	B	B	B	B	B	B	C	B
HCM 95th-tile Q	1.2	0.2	1	1.6	1	1	1.2	0.5	1.8	0.4

HCM 6th AWSC
 2: Willow Ave & San Bernardino Ave

10/11/2021

Intersection

Intersection Delay, s/veh 17.6

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↔	
Traffic Vol, veh/h	14	337	33	19	279	71	19	53	11	85	182	23
Future Vol, veh/h	14	337	33	19	279	71	19	53	11	85	182	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	366	36	21	303	77	21	58	12	92	198	25
Number of Lanes	1	2	0	1	2	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	16	14.8	13	24.5
HCM LOS	C	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	26%	0%	100%	0%	0%	100%	0%	0%	29%
Vol Thru, %	74%	0%	0%	100%	77%	0%	100%	57%	63%
Vol Right, %	0%	100%	0%	0%	23%	0%	0%	43%	8%
Sign Control	Stop								
Traffic Vol by Lane	72	11	14	225	145	19	186	164	290
LT Vol	19	0	14	0	0	19	0	0	85
Through Vol	53	0	0	225	112	0	186	93	182
RT Vol	0	11	0	0	33	0	0	71	23
Lane Flow Rate	78	12	15	244	158	21	202	178	315
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.186	0.026	0.034	0.508	0.322	0.046	0.424	0.358	0.668
Departure Headway (Hd)	8.566	7.716	8.01	7.496	7.333	8.062	7.548	7.236	7.628
Convergence, Y/N	Yes								
Cap	418	462	446	481	490	443	475	496	473
Service Time	6.346	5.495	5.771	5.257	5.093	5.825	5.31	4.998	5.385
HCM Lane V/C Ratio	0.187	0.026	0.034	0.507	0.322	0.047	0.425	0.359	0.666
HCM Control Delay	13.3	10.7	11.1	17.8	13.6	11.2	15.8	14	24.5
HCM Lane LOS		B	B	B	C	B	B	C	B
HCM 95th-tile Q		0.7	0.1	0.1	2.8	1.4	0.1	2.1	1.6

HCM 6th Signalized Intersection Summary

3: Riverside Ave & San Bernardino Ave

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	79	211	109	307	238	74	56	393	138	90	699	86
Future Volume (veh/h)	79	211	109	307	238	74	56	393	138	90	699	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	222	115	323	251	78	59	414	145	95	736	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	347	173	381	794	241	108	1252	558	139	1176	145
Arrive On Green	0.07	0.15	0.15	0.21	0.30	0.30	0.06	0.35	0.35	0.08	0.37	0.37
Sat Flow, veh/h	1781	2295	1146	1781	2685	815	1781	3554	1585	1781	3183	393
Grp Volume(v), veh/h	83	170	167	323	164	165	59	414	145	95	411	416
Grp Sat Flow(s),veh/h/ln	1781	1777	1664	1781	1777	1724	1781	1777	1585	1781	1777	1800
Q Serve(g_s), s	4.0	7.9	8.3	15.3	6.3	6.6	2.8	7.5	5.7	4.6	16.7	16.7
Cycle Q Clear(g_c), s	4.0	7.9	8.3	15.3	6.3	6.6	2.8	7.5	5.7	4.6	16.7	16.7
Prop In Lane	1.00		0.69	1.00		0.47	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	124	269	252	381	525	510	108	1252	558	139	656	665
V/C Ratio(X)	0.67	0.63	0.66	0.85	0.31	0.32	0.55	0.33	0.26	0.69	0.63	0.63
Avail Cap(c_a), veh/h	247	767	719	496	1016	985	142	1252	558	172	656	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	35.0	35.2	33.2	24.1	24.1	40.1	20.9	20.3	39.5	22.8	22.8
Incr Delay (d2), s/veh	6.1	2.5	3.0	10.3	0.3	0.4	4.2	0.7	1.1	8.0	4.5	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	3.5	3.5	7.4	2.6	2.6	1.3	3.0	2.2	2.2	7.3	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	37.5	38.2	43.5	24.4	24.5	44.4	21.6	21.4	47.5	27.2	27.2
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		420			652			618			922	
Approach Delay, s/veh		39.5			33.9			23.7			29.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.3	35.5	23.3	17.8	9.8	37.0	10.6	30.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	31.0	24.5	38.0	7.0	32.5	12.2	50.3					
Max Q Clear Time (g_c+I1), s	10.5	18.3	11.3	5.8	19.7	7.0	9.6					
Green Ext Time (p_c), s	0.0	2.9	0.5	2.0	0.0	4.0	0.1	2.0				
Intersection Summary												
HCM 6th Ctrl Delay											30.8	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Summary

4: Senior Wy & Riverside Ave

10/11/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑↑		Y	↑↑↑
Traffic Volume (veh/h)	3	4	634	8	15	1128
Future Volume (veh/h)	3	4	634	8	15	1128
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	4	689	9	16	1226
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	9	12	3764	49	49	4237
Arrive On Green	0.01	0.01	0.72	0.72	0.03	0.83
Sat Flow, veh/h	633	843	5363	68	1781	5274
Grp Volume(v), veh/h	8	0	451	247	16	1226
Grp Sat Flow(s),veh/h/ln	687	0	1702	1858	1781	1702
Q Serve(g_s), s	0.3	0.0	2.4	2.4	0.5	3.1
Cycle Q Clear(g_c), s	0.3	0.0	2.4	2.4	0.5	3.1
Prop In Lane	0.37	0.50		0.04	1.00	
Lane Grp Cap(c), veh/h	25	0	2467	1346	49	4237
V/C Ratio(X)	0.32	0.00	0.18	0.18	0.33	0.29
Avail Cap(c_a), veh/h	962	0	2467	1346	293	4237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	2.5	2.5	27.6	1.1
Incr Delay (d2), s/veh	7.4	0.0	0.2	0.3	3.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.4	0.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.6	0.0	2.7	2.8	31.4	1.3
LnGrp LOS	D	A	A	A	C	A
Approach Vol, veh/h	8		698			1242
Approach Delay, s/veh	35.6		2.7			1.7
Approach LOS	D		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.1	46.4			52.5	5.3
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	34.0	34.0			48.0	33.0
Max Q Clear Time (g_c+I), s	5.4	5.4			6.1	3.3
Green Ext Time (p_c), s	0.0	4.5			10.8	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	2	6	0
Future Vol, veh/h	0	0	0	2	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	2	7	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	4	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	913	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	913	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

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

HCM 6th Signalized Intersection Summary
6: Gateway Plz/Value Ctr & Riverside Dr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	24	3	46	26	2	32	43	605	30	112	946	74
Future Volume (veh/h)	24	3	46	26	2	32	43	605	30	112	946	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	3	50	28	2	35	47	658	33	122	1028	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	12	207	321	12	208	454	3208	160	619	3111	242
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1371	91	1508	1351	86	1512	509	4981	249	752	4831	375
Grp Volume(v), veh/h	26	0	53	28	0	37	47	449	242	122	724	384
Grp Sat Flow(s),veh/h/ln	1371	0	1599	1351	0	1598	509	1702	1826	752	1702	1803
Q Serve(g_s), s	0.7	0.0	1.2	0.8	0.0	0.8	1.9	2.2	2.2	3.3	4.0	4.0
Cycle Q Clear(g_c), s	1.5	0.0	1.2	2.0	0.0	0.8	5.9	2.2	2.2	5.5	4.0	4.0
Prop In Lane	1.00		0.94	1.00		0.95	1.00		0.14	1.00		0.21
Lane Grp Cap(c), veh/h	335	0	220	321	0	219	454	2192	1176	619	2192	1161
V/C Ratio(X)	0.08	0.00	0.24	0.09	0.00	0.17	0.10	0.20	0.21	0.20	0.33	0.33
Avail Cap(c_a), veh/h	3295	0	3672	3238	0	3670	454	2192	1176	619	2192	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	15.8	16.7	0.0	15.7	4.6	3.0	3.0	4.1	3.3	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.1	0.0	0.4	0.5	0.2	0.4	0.7	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.4	0.2	0.0	0.3	0.2	0.3	0.3	0.3	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	0.0	16.4	16.8	0.0	16.0	5.1	3.2	3.4	4.9	3.7	4.1
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		79			65			738			1230	
Approach Delay, s/veh		16.4			16.4			3.4			3.9	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.0		10.2		31.0		10.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.5		94.5		26.5		94.5				
Max Q Clear Time (g_c+I1), s		8.9		4.5		8.5		5.0				
Green Ext Time (p_c), s		4.4		0.4		7.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

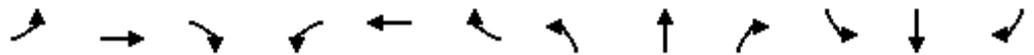
Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th Signalized Intersection Summary

8: Valley Blvd & Willow Ave

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷	↷	↶	↷			↷	↷
Traffic Volume (veh/h)	20	592	0	6	463	57	1	0	2	179	0	50
Future Volume (veh/h)	20	592	0	6	463	57	1	0	2	179	0	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	643	0	7	503	62	1	0	2	195	0	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	919	410	171	919	410	852	0	985	974	0	985
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.26	0.62	0.00	0.62	0.62	0.00	0.62
Sat Flow, veh/h	846	3554	1585	787	3554	1585	1350	0	1585	1414	0	1585
Grp Volume(v), veh/h	22	643	0	7	503	62	1	0	2	195	0	54
Grp Sat Flow(s),veh/h/ln	846	1777	1585	787	1777	1585	1350	0	1585	1414	0	1585
Q Serve(g_s), s	1.7	12.3	0.0	0.6	9.2	2.3	0.0	0.0	0.0	4.5	0.0	1.0
Cycle Q Clear(g_c), s	10.9	12.3	0.0	12.9	9.2	2.3	4.6	0.0	0.0	4.6	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	919	410	171	919	410	852	0	985	974	0	985
V/C Ratio(X)	0.10	0.70	0.00	0.04	0.55	0.15	0.00	0.00	0.00	0.20	0.00	0.05
Avail Cap(c_a), veh/h	383	1638	731	330	1638	731	852	0	985	974	0	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	25.1	0.0	30.9	24.0	21.4	7.2	0.0	5.4	6.2	0.0	5.6
Incr Delay (d2), s/veh	0.2	1.0	0.0	0.1	0.5	0.2	0.0	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.9	0.0	0.1	3.6	0.8	0.0	0.0	0.0	1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	26.1	0.0	31.0	24.5	21.6	7.3	0.0	5.4	6.7	0.0	5.7
LnGrp LOS	C	C	A	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		665			572			3			249	
Approach Delay, s/veh		26.2			24.2			6.0			6.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.0		23.9		51.0		23.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		46.5		34.5		46.5		34.5				
Max Q Clear Time (g_c+I1), s		7.6		15.3		7.6		15.9				
Green Ext Time (p_c), s		0.0		4.1		1.2		3.2				
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Valley Blvd & Gateway Plz/Value Ctr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘			↖ ↗ ↘		↖ ↗	↖ ↗	↖ ↗			↖ ↗	
Traffic Volume (veh/h)	10	753	0	2	515	3	0	0	0	3	0	7
Future Volume (veh/h)	10	753	0	2	515	3	0	0	0	3	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	818	0	2	560	3	0	0	0	3	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	1440	0	206	1002	447	109	1088	0	279	36	657
Arrive On Green	0.28	0.28	0.00	0.28	0.28	0.28	0.00	0.00	0.00	0.58	0.00	0.58
Sat Flow, veh/h	847	5274	0	668	3554	1585	1407	1870	0	361	62	1129
Grp Volume(v), veh/h	11	818	0	2	560	3	0	0	0	11	0	0
Grp Sat Flow(s),veh/h/ln	847	1702	0	668	1777	1585	1407	1870	0	1552	0	0
Q Serve(g_s), s	0.7	9.1	0.0	0.2	8.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.6	9.1	0.0	9.2	8.9	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	0.27		0.73
Lane Grp Cap(c), veh/h	234	1440	0	206	1002	447	109	1088	0	972	0	0
V/C Ratio(X)	0.05	0.57	0.00	0.01	0.56	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Avail Cap(c_a), veh/h	539	3280	0	447	2283	1018	109	1088	0	972	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.3	20.3	0.0	24.2	20.2	17.1	0.0	0.0	0.0	5.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.2	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	20.7	0.0	24.3	20.7	17.1	0.0	0.0	0.0	5.8	0.0	0.0
LnGrp LOS	C	C	A	C	C	B	A	A	A	A	A	A
Approach Vol, veh/h	829			565			0			11		
Approach Delay, s/veh	20.7			20.7			0.0			5.8		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		23.2		43.0		23.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	38.5		42.5		38.5		42.5					
Max Q Clear Time (g_c+I1), s	0.0		12.6		3.2		12.2					
Green Ext Time (p_c), s	0.0		6.0		0.0		3.8					
Intersection Summary												
HCM 6th Ctrl Delay	20.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

10: Riverside Dr & Valley Blvd

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	200	522	150	145	35	340	583	110	45	979	26
Future Volume (veh/h)	32	200	522	150	145	35	340	583	110	45	979	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	208	544	156	151	36	354	607	115	47	1020	27
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	533	1403	626	347	1403	626	564	2115	395	388	2503	66
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1196	3554	1585	711	3554	1585	1045	4323	806	731	5115	135
Grp Volume(v), veh/h	33	208	544	156	151	36	354	476	246	47	679	368
Grp Sat Flow(s),veh/h/ln	1196	1777	1585	711	1777	1585	523	1702	1725	731	1702	1846
Q Serve(g_s), s	1.4	2.9	24.6	14.0	2.1	1.1	25.4	6.4	6.6	3.2	9.9	9.9
Cycle Q Clear(g_c), s	3.5	2.9	24.6	17.0	2.1	1.1	35.3	6.4	6.6	9.8	9.9	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.07
Lane Grp Cap(c), veh/h	533	1403	626	347	1403	626	564	1666	844	388	1666	903
V/C Ratio(X)	0.06	0.15	0.87	0.45	0.11	0.06	0.63	0.29	0.29	0.12	0.41	0.41
Avail Cap(c_a), veh/h	723	1968	878	460	1968	878	564	1666	844	388	1666	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	15.1	21.7	20.6	14.9	14.6	23.9	11.8	11.8	14.7	12.6	12.7
Incr Delay (d2), s/veh	0.0	0.0	6.9	0.9	0.0	0.0	5.2	0.4	0.9	0.6	0.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	9.3	2.2	0.8	0.4	3.2	2.2	2.4	0.5	3.4	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	15.2	28.6	21.5	14.9	14.6	29.1	12.2	12.7	15.4	13.4	14.0
LnGrp LOS	B	B	C	C	B	B	C	B	B	B	B	B
Approach Vol, veh/h	785			343			1076			1094		
Approach Delay, s/veh	24.5			17.9			17.9			13.7		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.5		35.2		42.5		35.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	38.0		43.0		38.0		43.0					
Max Q Clear Time (g_c+l1), s	38.3		27.6		12.9		20.0					
Green Ext Time (p_c), s	0.0		3.1		7.6		2.2					
Intersection Summary												
HCM 6th Ctrl Delay	18.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

11: I-10 WB Ramps & Riverside Dr

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶ ↷	↶ ↷	↶ ↷	↶ ↷	↶ ↷	↶ ↷		↶ ↷	↶ ↷
Traffic Volume (veh/h)	0	0	0	469	1	388	145	635	0	0	1119	530
Future Volume (veh/h)	0	0	0	469	1	388	145	635	0	0	1119	530
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No				No
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				603	0	264	148	648	0	0	1142	541
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				849	0	378	514	3270	0	0	4120	1015
Arrive On Green				0.24	0.00	0.24	0.64	0.64	0.00	0.00	0.64	0.64
Sat Flow, veh/h				3563	0	1585	569	5274	0	0	6696	1585
Grp Volume(v), veh/h				603	0	264	148	648	0	0	1142	541
Grp Sat Flow(s),veh/h/ln				1781	0	1585	284	1702	0	0	1609	1585
Q Serve(g_s), s				11.5	0.0	11.3	11.4	3.9	0.0	0.0	5.8	13.8
Cycle Q Clear(g_c), s				11.5	0.0	11.3	17.2	3.9	0.0	0.0	5.8	13.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				849	0	378	514	3270	0	0	4120	1015
V/C Ratio(X)				0.71	0.00	0.70	0.29	0.20	0.00	0.00	0.28	0.53
Avail Cap(c_a), veh/h				1609	0	716	514	3270	0	0	4120	1015
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.9	0.0	25.8	9.6	5.5	0.0	0.0	5.8	7.3
Incr Delay (d2), s/veh				1.1	0.0	2.3	1.4	0.1	0.0	0.0	0.2	2.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.8	0.0	4.3	0.7	1.0	0.0	0.0	1.5	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.0	0.0	28.2	11.0	5.6	0.0	0.0	6.0	9.3
LnGrp LOS				C	A	C	B	A	A	A	A	A
Approach Vol, veh/h						867		796			1683	
Approach Delay, s/veh						27.4		6.6			7.1	
Approach LOS						C		A			A	
Timer - Assigned Phs				2		6		8				
Phs Duration (G+Y+Rc), s				52.0		52.0		22.2				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				47.5		47.5		33.5				
Max Q Clear Time (g_c+I1), s				20.2		16.8		14.5				
Green Ext Time (p_c), s				9.2		12.2		3.2				

Intersection Summary

HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Riverside Dr & I-10 EB Ramps

10/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	0	250	0	0	0	0	559	355	468	1120	0
Future Volume (veh/h)	221	0	250	0	0	0	0	559	355	468	1120	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	316	0	168				0	582	370	488	1167	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	529	0	235				0	2536	1181	933	2647	0
Arrive On Green	0.15	0.00	0.15				0.00	0.74	0.74	0.74	0.74	0.00
Sat Flow, veh/h	3563	0	1585				0	3572	1585	1143	3647	0
Grp Volume(v), veh/h	316	0	168				0	582	370	488	1167	0
Grp Sat Flow(s),veh/h/ln	781	0	1585				0	1702	1585	572	1777	0
Q Serve(g_s), s	7.0	0.0	8.5				0.0	4.4	6.6	20.9	10.5	0.0
Cycle Q Clear(g_c), s	7.0	0.0	8.5				0.0	4.4	6.6	27.5	10.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	529	0	235				0	2536	1181	933	2647	0
V/C Ratio(X)	0.60	0.00	0.71				0.00	0.23	0.31	0.52	0.44	0.00
Avail Cap(c_a), veh/h	764	0	340				0	2536	1181	933	2647	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.6	0.0	34.2				0.0	3.3	3.6	8.2	4.1	0.0
Incr Delay (d2), s/veh	1.1	0.0	4.0				0.0	0.2	0.7	2.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/l	0.0	0.0	3.5				0.0	1.0	1.5	2.2	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	38.2				0.0	3.5	4.3	10.2	4.6	0.0
LnGrp LOS	C	A	D				A	A	A	B	A	A
Approach Vol, veh/h	484						952			1655		
Approach Delay, s/veh	35.9						3.8			6.3		
Approach LOS	D						A			A		
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	67.4		17.0		67.4							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	62.9		18.1		62.9							
Max Q Clear Time (g_c+l1), s	9.6		11.5		30.5							
Green Ext Time (p_c), s	7.5		1.0		18.1							

Intersection Summary

HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th AWSC
 1: San Bernardino Ave & Lilac Ave

12/15/2021

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↑	↔		↔↑	↔		↔↑	↔		↔↑	↔
Traffic Vol, veh/h	17	351	27	35	341	32	27	55	21	23	47	10
Future Vol, veh/h	17	351	27	35	341	32	27	55	21	23	47	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	382	29	38	371	35	29	60	23	25	51	11
Number of Lanes	0	2	1	0	2	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	13	12.8	11.4	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	33%	0%	13%	0%	0%	24%	0%	0%	33%	0%
Vol Thru, %	67%	0%	87%	100%	0%	76%	100%	0%	67%	0%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	100%
Sign Control	Stop									
Traffic Vol by Lane	82	21	134	234	27	149	227	32	70	10
LT Vol	27	0	17	0	0	35	0	0	23	0
Through Vol	55	0	117	234	0	114	227	0	47	0
RT Vol	0	21	0	0	27	0	0	32	0	10
Lane Flow Rate	89	23	146	254	29	162	247	35	76	11
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.184	0.041	0.26	0.45	0.046	0.29	0.436	0.054	0.158	0.02
Departure Headway (Hd)	7.413	6.544	6.434	6.369	5.662	6.464	6.345	5.638	7.487	6.619
Convergence, Y/N	Yes									
Cap	481	544	556	565	629	554	566	632	476	537
Service Time	5.194	4.325	4.196	4.132	3.425	4.226	4.107	3.399	5.271	4.402
HCM Lane V/C Ratio	0.185	0.042	0.263	0.45	0.046	0.292	0.436	0.055	0.16	0.02
HCM Control Delay	11.9	9.6	11.5	14.3	8.7	11.9	14	8.7	11.7	9.5
HCM Lane LOS	B	A	B	B	A	B	B	A	B	A
HCM 95th-tile Q	0.7	0.1	1	2.3	0.1	1.2	2.2	0.2	0.6	0.1

HCM 6th AWSC
 2: Willow Ave & San Bernardino Ave

12/15/2021

Intersection

Intersection Delay, s/veh22.6

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↖		↕	
Traffic Vol, veh/h	17	360	24	8	355	86	22	153	30	87	149	21
Future Vol, veh/h	17	360	24	8	355	86	22	153	30	87	149	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	391	26	9	386	93	24	166	33	95	162	23
Number of Lanes	1	2	0	1	2	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	21.2	21.5	19.3	29.4
HCM LOS	C	C	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	13%	0%	100%	0%	0%	100%	0%	0%	34%
Vol Thru, %	87%	0%	0%	100%	83%	0%	100%	58%	58%
Vol Right, %	0%	100%	0%	0%	17%	0%	0%	42%	8%
Sign Control	Stop								
Traffic Vol by Lane	175	30	17	240	144	8	237	204	257
LT Vol	22	0	17	0	0	8	0	0	87
Through Vol	153	0	0	240	120	0	237	118	149
RT Vol	0	30	0	0	24	0	0	86	21
Lane Flow Rate	190	33	18	261	157	9	257	222	279
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.489	0.077	0.047	0.626	0.37	0.022	0.609	0.507	0.691
Departure Headway (Hd)	9.263	8.478	9.156	8.636	8.514	9.046	8.526	8.219	8.9
Convergence, Y/N	Yes								
Cap	388	422	391	417	423	395	422	438	405
Service Time	7.034	6.248	6.922	6.401	6.279	6.811	6.29	5.984	6.662
HCM Lane V/C Ratio	0.49	0.078	0.046	0.626	0.371	0.023	0.609	0.507	0.689
HCM Control Delay	20.6	12	12.4	24.9	16.2	12	23.8	19.2	29.4
HCM Lane LOS	C	B	B	C	C	B	C	C	D
HCM 95th-tile Q	2.6	0.2	0.1	4.1	1.7	0.1	3.9	2.8	5.1

HCM 6th Signalized Intersection Summary

3: Riverside Ave & San Bernardino Ave

12/15/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	134	352	102	267	232	72	168	795	449	72	554	50
Future Volume (veh/h)	134	352	102	267	232	72	168	795	449	72	554	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No										
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	363	105	275	239	74	173	820	463	74	571	52
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	503	144	322	701	212	188	1395	622	110	1148	104
Arrive On Green	0.10	0.18	0.18	0.18	0.26	0.26	0.11	0.39	0.39	0.06	0.35	0.35
Sat Flow, veh/h	1781	2728	779	1781	2688	813	1781	3554	1585	1781	3294	299
Grp Volume(v), veh/h	138	235	233	275	156	157	173	820	463	74	307	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1730	1781	1777	1724	1781	1777	1585	1781	1777	1816
Q Serve(g_s), s	7.5	12.4	12.6	14.9	7.1	7.4	9.6	18.1	25.0	4.0	13.6	13.6
Cycle Q Clear(g_c), s	7.5	12.4	12.6	14.9	7.1	7.4	9.6	18.1	25.0	4.0	13.6	13.6
Prop In Lane	1.00		0.45	1.00		0.47	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	186	328	319	322	463	449	188	1395	622	110	619	633
V/C Ratio(X)	0.74	0.72	0.73	0.86	0.34	0.35	0.92	0.59	0.74	0.67	0.50	0.50
Avail Cap(c_a), veh/h	283	678	661	336	732	710	188	1395	622	134	619	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	38.1	38.3	39.5	29.8	29.9	44.1	23.9	26.0	45.7	25.5	25.6
Incr Delay (d2), s/veh	5.7	2.9	3.2	18.4	0.4	0.5	43.7	1.8	7.9	9.4	2.8	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	5.5	5.5	8.0	3.0	3.0	6.4	7.5	10.3	2.0	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	41.1	41.5	57.9	30.3	30.4	87.8	25.7	33.8	55.1	28.4	28.3
LnGrp LOS	D	D	D	E	C	C	F	C	C	E	C	C
Approach Vol, veh/h		606			588			1456			697	
Approach Delay, s/veh		43.0			43.2			35.7			31.2	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	43.6	22.5	22.9	15.0	39.2	14.9	30.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	37.7	18.8	38.0	10.5	34.7	15.8	41.0					
Max Q Clear Time (g_c+I1), s	28.0	17.9	15.6	12.6	16.6	10.5	10.4					
Green Ext Time (p_c), s	0.0	4.9	0.1	2.7	0.0	3.3	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay											37.4	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Summary

4: Senior Wy & Riverside Ave

12/15/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑↑		Y	↑↑↑
Traffic Volume (veh/h)	11	12	1519	2	4	1031
Future Volume (veh/h)	11	12	1519	2	4	1031
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	13	1599	2	4	1085
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	32	35	3814	5	13	4123
Arrive On Green	0.04	0.04	0.72	0.72	0.01	0.81
Sat Flow, veh/h	776	840	5435	7	1781	5274
Grp Volume(v), veh/h	26	0	1033	568	4	1085
Grp Sat Flow(s),veh/h/ln	680	0	1702	1869	1781	1702
Q Serve(g_s), s	0.9	0.0	7.1	7.1	0.1	3.1
Cycle Q Clear(g_c), s	0.9	0.0	7.1	7.1	0.1	3.1
Prop In Lane	0.46	0.50		0.00	1.00	
Lane Grp Cap(c), veh/h	69	0	2465	1354	13	4123
V/C Ratio(X)	0.38	0.00	0.42	0.42	0.30	0.26
Avail Cap(c_a), veh/h	933	0	2465	1354	210	4123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	3.2	3.2	29.3	1.4
Incr Delay (d2), s/veh	3.4	0.0	0.5	1.0	11.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.1	1.3	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.1	0.0	3.8	4.2	41.2	1.6
LnGrp LOS	C	A	A	A	D	A
Approach Vol, veh/h	26		1601			1089
Approach Delay, s/veh	31.1		3.9			1.7
Approach LOS	C		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	4.9	47.6			52.5	6.9
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	36.5				48.0	33.0
Max Q Clear Time (g_c+I),s	10.1				6.1	3.9
Green Ext Time (p_c), s	0.0	12.4			9.1	0.0

Intersection Summary

HCM 6th Ctrl Delay	3.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
5: Riverside Dr & Proj Dwy

12/15/2021

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	7	4	0
Future Vol, veh/h	0	0	0	7	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	8	4	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	2	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	916	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	916	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

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

HCM 6th Signalized Intersection Summary

6: Gateway Plz/Value Ctr & Riverside Dr

12/15/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	101	6	43	53	13	119	84	1337	55	132	775	93
Future Volume (veh/h)	101	6	43	53	13	119	84	1337	55	132	775	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	6	45	55	14	124	88	1393	57	138	807	97
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	44	330	447	38	335	454	2812	115	311	2584	309
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1251	190	1424	1354	163	1447	617	5031	206	367	4623	552
Grp Volume(v), veh/h	105	0	51	55	0	138	88	942	508	138	593	311
Grp Sat Flow(s),veh/h/ln	1251	0	1614	1354	0	1610	617	1702	1833	367	1702	1771
Q Serve(g_s), s	3.3	0.0	1.1	1.4	0.0	3.1	3.8	7.3	7.3	15.8	4.0	4.0
Cycle Q Clear(g_c), s	6.4	0.0	1.1	2.5	0.0	3.1	7.9	7.3	7.3	23.0	4.0	4.0
Prop In Lane	1.00		0.88	1.00		0.90	1.00		0.11	1.00		0.31
Lane Grp Cap(c), veh/h	367	0	374	447	0	373	454	1903	1025	311	1903	990
V/C Ratio(X)	0.29	0.00	0.14	0.12	0.00	0.37	0.19	0.50	0.50	0.44	0.31	0.31
Avail Cap(c_a), veh/h	2612	0	3270	2876	0	3262	454	1903	1025	311	1903	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	13.1	14.1	0.0	13.9	7.2	5.8	5.8	12.8	5.1	5.1
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.1	0.0	0.6	0.9	0.9	1.7	4.5	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.3	0.4	0.0	1.0	0.4	1.5	1.8	1.3	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.0	0.0	13.3	14.2	0.0	14.5	8.1	6.7	7.5	17.3	5.5	5.9
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		156			193			1538			1042	
Approach Delay, s/veh		15.8			14.4			7.0			7.2	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.5		14.4		28.5		14.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.0		87.0		24.0		87.0				
Max Q Clear Time (g_c+I1), s		10.9		9.4		26.0		6.1				
Green Ext Time (p_c), s		8.0		0.7		0.0		1.1				
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

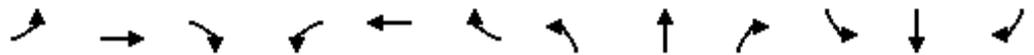
Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th Signalized Intersection Summary

8: Valley Blvd & Willow Ave

12/15/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	51	745	5	6	624	133	3	1	12	157	1	27
Future Volume (veh/h)	51	745	5	6	624	133	3	1	12	157	1	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	768	5	6	643	137	3	1	12	162	1	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	1158	516	192	1158	516	777	69	824	865	5	882
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	693	3554	1585	697	3554	1585	1381	123	1480	1385	9	1585
Grp Volume(v), veh/h	53	768	5	6	643	137	3	0	13	163	0	28
Grp Sat Flow(s),veh/h/ln	693	1777	1585	697	1777	1585	1381	0	1604	1395	0	1585
Q Serve(g_s), s	5.2	14.2	0.2	0.6	11.4	4.9	0.1	0.0	0.3	4.5	0.0	0.6
Cycle Q Clear(g_c), s	16.6	14.2	0.2	14.8	11.4	4.9	4.8	0.0	0.3	4.7	0.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.92	0.99		1.00
Lane Grp Cap(c), veh/h	217	1158	516	192	1158	516	777	0	892	870	0	882
V/C Ratio(X)	0.24	0.66	0.01	0.03	0.56	0.27	0.00	0.00	0.01	0.19	0.00	0.03
Avail Cap(c_a), veh/h	340	1791	799	316	1791	799	777	0	892	870	0	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	22.1	17.4	28.5	21.2	19.0	9.8	0.0	7.6	8.6	0.0	7.6
Incr Delay (d2), s/veh	0.6	0.7	0.0	0.1	0.4	0.3	0.0	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.5	0.1	0.1	4.4	1.7	0.0	0.0	0.1	1.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	22.8	17.4	28.6	21.6	19.3	9.8	0.0	7.6	9.1	0.0	7.7
LnGrp LOS	C	C	B	C	C	B	A	A	A	A	A	A
Approach Vol, veh/h		826			786			16				191
Approach Delay, s/veh		23.1			21.3			8.0				8.9
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		29.4		47.0		29.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		42.5		38.5		42.5		38.5				
Max Q Clear Time (g_c+I1), s		7.8		19.6		7.7		17.8				
Green Ext Time (p_c), s		0.0		5.3		0.9		4.6				
Intersection Summary												
HCM 6th Ctrl Delay				20.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Valley Blvd & Gateway Plz/Value Ctr

12/15/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑↑ ↗			↖ ↑↑ ↗		↖ ↗	↖ ↗	↖ ↗			↖ ↗	
Traffic Volume (veh/h)	43	861	0	22	742	10	1	0	0	7	0	18
Future Volume (veh/h)	43	861	0	22	742	10	1	0	0	7	0	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	897	0	23	773	10	1	0	0	7	0	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	1848	0	237	1286	574	820	967	0	245	32	587
Arrive On Green	0.36	0.36	0.00	0.36	0.36	0.36	0.52	0.00	0.00	0.52	0.00	0.52
Sat Flow, veh/h	691	5274	0	621	3554	1585	1393	1870	0	355	63	1135
Grp Volume(v), veh/h	45	897	0	23	773	10	1	0	0	26	0	0
Grp Sat Flow(s),veh/h/ln	691	1702	0	621	1777	1585	1393	1870	0	1553	0	0
Q Serve(g_s), s	4.2	10.1	0.0	2.2	13.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.4	10.1	0.0	12.3	13.2	0.3	0.0	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	0.27		0.73
Lane Grp Cap(c), veh/h	224	1848	0	237	1286	574	820	967	0	864	0	0
V/C Ratio(X)	0.20	0.49	0.00	0.10	0.60	0.02	0.00	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	368	2915	0	367	2029	905	820	967	0	864	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.5	18.4	0.0	23.2	19.4	15.3	8.7	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	0.0	0.3	4.9	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	18.6	0.0	23.3	19.8	15.3	8.7	0.0	0.0	8.9	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h		942			806			1			26	
Approach Delay, s/veh		19.0			19.9			8.7			8.9	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		43.0			31.4			43.0			31.4	
Change Period (Y+Rc), s		4.5			4.5			4.5			4.5	
Max Green Setting (Gmax), s		38.5			42.5			38.5			42.5	
Max Q Clear Time (g_c+l1), s		3.0			20.4			3.6			16.2	
Green Ext Time (p_c), s		0.0			6.5			0.1			5.7	
Intersection Summary												
HCM 6th Ctrl Delay		19.2										
HCM 6th LOS		B										

HCM 6th Signalized Intersection Summary
 10: Riverside Dr & Valley Blvd

12/15/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↗		↘	↑↑↗	
Traffic Volume (veh/h)	90	374	430	155	315	122	409	1233	182	106	753	60
Future Volume (veh/h)	90	374	430	155	315	122	409	1233	182	106	753	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	390	448	161	328	127	426	1284	190	110	784	62
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1370	611	297	1370	611	692	2230	330	200	2397	189
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	936	3554	1585	656	3554	1585	1263	4490	664	359	4826	380
Grp Volume(v), veh/h	94	390	448	161	328	127	426	973	501	110	552	294
Grp Sat Flow(s),veh/h/ln	936	1777	1585	656	1777	1585	632	1702	1751	359	1702	1802
Q Serve(g_s), s	5.8	5.8	18.5	17.2	4.8	4.1	23.4	15.4	15.4	22.6	7.5	7.5
Cycle Q Clear(g_c), s	10.6	5.8	18.5	23.0	4.8	4.1	30.9	15.4	15.4	38.0	7.5	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.21
Lane Grp Cap(c), veh/h	397	1370	611	297	1370	611	692	1691	870	200	1691	895
V/C Ratio(X)	0.24	0.28	0.73	0.54	0.24	0.21	0.62	0.58	0.58	0.55	0.33	0.33
Avail Cap(c_a), veh/h	562	1997	891	413	1997	891	692	1691	870	200	1691	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	16.2	20.1	24.1	15.9	15.7	20.9	13.6	13.6	27.4	11.6	11.6
Incr Delay (d2), s/veh	0.3	0.1	1.8	1.5	0.1	0.2	4.1	1.4	2.8	10.5	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.2	6.4	2.5	1.8	1.4	3.4	5.4	5.8	2.4	2.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	16.3	21.9	25.7	16.0	15.9	25.0	15.0	16.3	37.8	12.1	12.6
LnGrp LOS	B	B	C	C	B	B	C	B	B	D	B	B
Approach Vol, veh/h		932			616			1900			956	
Approach Delay, s/veh		19.3			18.5			17.6			15.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.5		34.0		42.5		34.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		38.0		43.0		38.0		43.0				
Max Q Clear Time (g_c+l1), s		33.9		21.5		41.0		26.0				
Green Ext Time (p_c), s		3.5		4.6		0.0		3.5				
Intersection Summary												
HCM 6th Ctrl Delay											17.6	
HCM 6th LOS											B	

HCM 6th Signalized Intersection Summary

11: I-10 WB Ramps & Riverside Dr

12/15/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↵	↵	↵	↵↵	↵↵↵			↵↵↵	↵
Traffic Volume (veh/h)	0	0	0	347	4	430	291	1335	0	0	889	403
Future Volume (veh/h)	0	0	0	347	4	430	291	1335	0	0	889	403
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				521	0	289	306	1405	0	0	936	424
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				841	0	374	638	3339	0	0	4207	1036
Arrive On Green				0.24	0.00	0.24	0.65	0.65	0.00	0.00	0.65	0.65
Sat Flow, veh/h				3563	0	1585	776	5274	0	0	6696	1585
Grp Volume(v), veh/h				521	0	289	306	1405	0	0	936	424
Grp Sat Flow(s),veh/h/ln				1781	0	1585	388	1702	0	0	1609	1585
Q Serve(g_s), s				10.7	0.0	13.9	21.6	10.7	0.0	0.0	4.8	10.3
Cycle Q Clear(g_c), s				10.7	0.0	13.9	26.4	10.7	0.0	0.0	4.8	10.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				841	0	374	638	3339	0	0	4207	1036
V/C Ratio(X)				0.62	0.00	0.77	0.48	0.42	0.00	0.00	0.22	0.41
Avail Cap(c_a), veh/h				1197	0	533	638	3339	0	0	4207	1036
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.0	0.0	29.2	11.1	6.8	0.0	0.0	5.7	6.7
Incr Delay (d2), s/veh				0.7	0.0	4.4	2.6	0.4	0.0	0.0	0.1	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	5.6	1.7	3.0	0.0	0.0	1.3	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.7	0.0	33.6	13.6	7.2	0.0	0.0	5.9	7.9
LnGrp LOS				C	A	C	B	A	A	A	A	A
Approach Vol, veh/h					810			1711			1360	
Approach Delay, s/veh					30.5			8.3			6.5	
Approach LOS					C			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		58.0				58.0		23.8				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		53.5				53.5		27.5				
Max Q Clear Time (g_c+I1), s		29.4				13.3		16.9				
Green Ext Time (p_c), s		16.3				9.7		2.4				

Intersection Summary

HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Riverside Dr & I-10 EB Ramps

12/15/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	534	0	312	0	0	0	0	1096	449	354	882	0
Future Volume (veh/h)	534	0	312	0	0	0	0	1096	449	354	882	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	664	0	219				0	1154	473	373	928	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	713	0	317				0	2490	1019	494	2488	0
Arrive On Green	0.20	0.00	0.20				0.00	0.70	0.70	0.70	0.70	0.00
Sat Flow, veh/h	3563	0	1585				0	3725	1455	601	3647	0
Grp Volume(v), veh/h	664	0	219				0	1104	523	373	928	0
Grp Sat Flow(s),veh/h/ln	781	0	1585				0	1702	1608	300	1777	0
Q Serve(g_s), s	16.5	0.0	11.5				0.0	13.0	13.0	50.0	9.5	0.0
Cycle Q Clear(g_c), s	16.5	0.0	11.5				0.0	13.0	13.0	63.0	9.5	0.0
Prop In Lane	1.00		1.00				0.00		0.90	1.00		0.00
Lane Grp Cap(c), veh/h	713	0	317				0	2383	1126	494	2488	0
V/C Ratio(X)	0.93	0.00	0.69				0.00	0.46	0.46	0.76	0.37	0.00
Avail Cap(c_a), veh/h	713	0	317				0	2383	1126	494	2488	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.4	0.0	33.4				0.0	6.0	6.0	22.6	5.5	0.0
Incr Delay (d2), s/veh	19.0	0.0	6.3				0.0	0.7	1.4	10.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	4.9				0.0	3.6	3.6	4.5	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	0.0	39.7				0.0	6.6	7.4	32.9	5.9	0.0
LnGrp LOS	D	A	D				A	A	A	C	A	A
Approach Vol, veh/h	883						1627			1301		
Approach Delay, s/veh	50.8						6.9			13.7		
Approach LOS	D						A			B		
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	67.5		22.5		67.5							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	63.0		18.0		63.0							
Max Q Clear Time (g_c+l1), s	16.0		19.5		66.0							
Green Ext Time (p_c), s	16.6		0.0		0.0							

Intersection Summary

HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th AWSC
 1: San Bernardino Ave & Lilac Ave

12/16/2021

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕	↗		↕	↗		↕	↗
Traffic Vol, veh/h	29	263	130	46	208	79	84	38	33	117	55	63
Future Vol, veh/h	29	263	130	46	208	79	84	38	33	117	55	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	286	141	50	226	86	91	41	36	127	60	68
Number of Lanes	0	2	1	0	2	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	13.3	12.9	13.9	15
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	69%	0%	25%	0%	0%	40%	0%	0%	68%	0%
Vol Thru, %	31%	0%	75%	100%	0%	60%	100%	0%	32%	0%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	100%
Sign Control	Stop									
Traffic Vol by Lane	122	33	117	175	130	115	139	79	172	63
LT Vol	84	0	29	0	0	46	0	0	117	0
Through Vol	38	0	88	175	0	69	139	0	55	0
RT Vol	0	33	0	0	130	0	0	79	0	63
Lane Flow Rate	133	36	127	191	141	125	151	86	187	68
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.307	0.072	0.263	0.388	0.26	0.269	0.315	0.163	0.418	0.133
Departure Headway (Hd)	8.323	7.268	7.463	7.336	6.621	7.735	7.531	6.815	8.055	7.007
Convergence, Y/N	Yes									
Cap	431	492	481	490	541	464	476	526	447	511
Service Time	6.085	5.029	5.217	5.09	4.375	5.492	5.288	4.572	5.813	4.764
HCM Lane V/C Ratio	0.309	0.073	0.264	0.39	0.261	0.269	0.317	0.163	0.418	0.133
HCM Control Delay	14.8	10.6	12.9	14.7	11.7	13.3	13.7	10.9	16.5	10.8
HCM Lane LOS	B	B	B	B	B	B	B	B	C	B
HCM 95th-tile Q	1.3	0.2	1	1.8	1	1.1	1.3	0.6	2	0.5

HCM 6th AWSC
 2: Willow Ave & San Bernardino Ave

12/16/2021

Intersection												
Intersection Delay, s/veh	19.2											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↔	
Traffic Vol, veh/h	14	364	33	19	291	71	19	58	11	85	192	23
Future Vol, veh/h	14	364	33	19	291	71	19	58	11	85	192	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	396	36	21	316	77	21	63	12	92	209	25
Number of Lanes	1	2	0	1	2	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left		NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	17.5	15.7	13.5	27.6
HCM LOS	C	C	B	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	25%	0%	100%	0%	0%	100%	0%	0%	28%
Vol Thru, %	75%	0%	0%	100%	79%	0%	100%	58%	64%
Vol Right, %	0%	100%	0%	0%	21%	0%	0%	42%	8%
Sign Control	Stop								
Traffic Vol by Lane	77	11	14	243	154	19	194	168	300
LT Vol	19	0	14	0	0	19	0	0	85
Through Vol	58	0	0	243	121	0	194	97	192
RT Vol	0	11	0	0	33	0	0	71	23
Lane Flow Rate	84	12	15	264	168	21	211	183	326
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.205	0.027	0.035	0.562	0.351	0.048	0.455	0.379	0.709
Departure Headway (Hd)	8.825	7.981	8.191	7.676	7.522	8.283	7.768	7.463	7.826
Convergence, Y/N	Yes								
Cap	405	446	436	470	476	431	462	480	460
Service Time	6.623	5.779	5.969	5.453	5.299	6.061	5.545	5.24	5.598
HCM Lane V/C Ratio	0.207	0.027	0.034	0.562	0.353	0.049	0.457	0.381	0.709
HCM Control Delay	13.9	11	11.3	19.9	14.4	11.5	16.9	14.8	27.6
HCM Lane LOS	B	B	B	C	B	B	C	B	D
HCM 95th-tile Q	0.8	0.1	0.1	3.4	1.6	0.2	2.3	1.7	5.5

HCM 6th Signalized Intersection Summary

3: Riverside Ave & San Bernardino Ave

12/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	79	211	136	324	238	74	68	402	145	90	719	86
Future Volume (veh/h)	79	211	136	324	238	74	68	402	145	90	719	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	222	143	341	251	78	72	423	153	95	757	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	338	209	396	840	255	115	1219	544	138	1138	137
Arrive On Green	0.07	0.16	0.16	0.22	0.31	0.31	0.06	0.34	0.34	0.08	0.36	0.36
Sat Flow, veh/h	1781	2110	1303	1781	2685	815	1781	3554	1585	1781	3194	384
Grp Volume(v), veh/h	83	185	180	341	164	165	72	423	153	95	421	427
Grp Sat Flow(s),veh/h/ln	1781	1777	1636	1781	1777	1724	1781	1777	1585	1781	1777	1801
Q Serve(g_s), s	4.2	8.9	9.4	16.8	6.4	6.6	3.6	8.1	6.4	4.7	18.2	18.3
Cycle Q Clear(g_c), s	4.2	8.9	9.4	16.8	6.4	6.6	3.6	8.1	6.4	4.7	18.2	18.3
Prop In Lane	1.00		0.80	1.00		0.47	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	124	284	262	396	556	539	115	1219	544	138	633	642
V/C Ratio(X)	0.67	0.65	0.69	0.86	0.30	0.31	0.63	0.35	0.28	0.69	0.67	0.67
Avail Cap(c_a), veh/h	238	740	681	478	979	950	137	1219	544	166	633	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	35.9	36.2	34.1	23.7	23.8	41.6	22.3	21.8	41.0	24.8	24.8
Incr Delay (d2), s/veh	6.2	2.5	3.2	12.9	0.3	0.3	6.6	0.8	1.3	9.0	5.5	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.0	3.9	8.4	2.6	2.7	1.7	3.3	2.5	2.4	8.1	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	38.5	39.3	47.1	24.0	24.1	48.2	23.1	23.1	50.0	30.2	30.2
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		448			670			648			943	
Approach Delay, s/veh		40.5			35.8			25.9			32.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.6	35.8	24.8	19.1	10.4	37.0	10.8	33.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	31.0	24.5	38.0	7.0	32.5	12.2	50.3					
Max Q Clear Time (g_c+I1),s	11.1	19.8	12.4	6.6	21.3	7.2	9.6					
Green Ext Time (p_c), s	0.0	3.0	0.5	2.2	0.0	3.8	0.1	2.0				
Intersection Summary												
HCM 6th Ctrl Delay											33.0	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Summary

4: Senior Wy & Riverside Ave

12/16/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑
Traffic Volume (veh/h)	3	4	629	8	15	1165
Future Volume (veh/h)	3	4	629	8	15	1165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	4	684	9	16	1266
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	9	12	3763	49	49	4237
Arrive On Green	0.01	0.01	0.72	0.72	0.03	0.83
Sat Flow, veh/h	633	843	5362	68	1781	5274
Grp Volume(v), veh/h	8	0	448	245	16	1266
Grp Sat Flow(s),veh/h/ln	687	0	1702	1858	1781	1702
Q Serve(g_s), s	0.3	0.0	2.4	2.4	0.5	3.2
Cycle Q Clear(g_c), s	0.3	0.0	2.4	2.4	0.5	3.2
Prop In Lane	0.37	0.50		0.04	1.00	
Lane Grp Cap(c), veh/h	25	0	2467	1346	49	4237
V/C Ratio(X)	0.32	0.00	0.18	0.18	0.33	0.30
Avail Cap(c_a), veh/h	962	0	2467	1346	293	4237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	2.5	2.5	27.6	1.1
Incr Delay (d2), s/veh	7.4	0.0	0.2	0.3	3.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.4	0.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.6	0.0	2.7	2.8	31.4	1.3
LnGrp LOS	D	A	A	A	C	A
Approach Vol, veh/h	8		693			1282
Approach Delay, s/veh	35.6		2.7			1.7
Approach LOS	D		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	61	46.4			52.5	5.3
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	34.0	34.0			48.0	33.0
Max Q Clear Time (g_c+I), s	5.4	5.4			6.2	3.3
Green Ext Time (p_c), s	0.0	4.4			11.3	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	31	0	44	26	36
Future Vol, veh/h	0	31	0	44	26	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	48	28	39

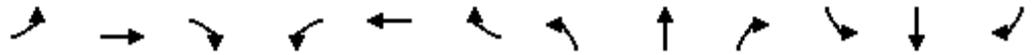
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	34	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	874	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	874	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	874	-	-
HCM Lane V/C Ratio	-	0.039	-	-
HCM Control Delay (s)	-	9.3	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

HCM 6th Signalized Intersection Summary
 6: Gateway Plz/Value Ctr & Riverside Dr

12/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	42	3	62	26	2	32	139	621	30	112	980	92
Future Volume (veh/h)	42	3	62	26	2	32	139	621	30	112	980	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	3	67	28	2	35	151	675	33	122	1065	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	10	225	317	13	223	429	3175	155	602	3022	283
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1371	68	1527	1331	86	1512	482	4988	243	741	4749	445
Grp Volume(v), veh/h	46	0	70	28	0	37	151	460	248	122	763	402
Grp Sat Flow(s),veh/h/ln	1371	0	1595	1331	0	1598	482	1702	1827	741	1702	1790
Q Serve(g_s), s	1.3	0.0	1.6	0.8	0.0	0.8	8.9	2.4	2.4	3.5	4.4	4.4
Cycle Q Clear(g_c), s	2.1	0.0	1.6	2.4	0.0	0.8	13.3	2.4	2.4	5.8	4.4	4.4
Prop In Lane	1.00		0.96	1.00		0.95	1.00		0.13	1.00		0.25
Lane Grp Cap(c), veh/h	347	0	235	317	0	236	429	2167	1163	602	2167	1139
V/C Ratio(X)	0.13	0.00	0.30	0.09	0.00	0.16	0.35	0.21	0.21	0.20	0.35	0.35
Avail Cap(c_a), veh/h	3257	0	3621	3141	0	3627	429	2167	1163	602	2167	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	15.8	16.9	0.0	15.5	6.7	3.2	3.2	4.4	3.5	3.5
Incr Delay (d2), s/veh	0.2	0.0	0.7	0.1	0.0	0.3	2.3	0.2	0.4	0.8	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.6	0.2	0.0	0.3	0.7	0.3	0.4	0.4	0.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	0.0	16.5	17.0	0.0	15.8	8.9	3.4	3.6	5.2	4.0	4.4
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		116			65			859			1287	
Approach Delay, s/veh		16.5			16.3			4.4			4.2	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.0		10.6		31.0		10.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.5		94.5		26.5		94.5				
Max Q Clear Time (g_c+I1), s		16.3		5.1		8.8		5.4				
Green Ext Time (p_c), s		4.3		0.6		7.9		0.3				

Intersection Summary

HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Vol, veh/h	6	5	0	13	10	0
Future Vol, veh/h	6	5	0	13	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	5	0	14	11	0

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	29	7	0	0	14
Stage 1	7	-	-	-	-
Stage 2	22	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	986	1075	-	-	1604
Stage 1	1016	-	-	-	-
Stage 2	1001	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	979	1075	-	-	1604
Mov Cap-2 Maneuver	979	-	-	-	-
Stage 1	1016	-	-	-	-
Stage 2	994	-	-	-	-

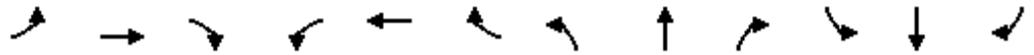
Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1020	1604
HCM Lane V/C Ratio	-	-	0.012	0.007
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th Signalized Intersection Summary

8: Valley Blvd & Willow Ave

12/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷	↷	↶	↷			↷	↷
Traffic Volume (veh/h)	33	596	0	6	465	57	1	0	2	179	0	56
Future Volume (veh/h)	33	596	0	6	465	57	1	0	2	179	0	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	648	0	7	505	62	1	0	2	195	0	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	927	414	171	927	414	844	0	982	971	0	982
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.26	0.62	0.00	0.62	0.62	0.00	0.62
Sat Flow, veh/h	844	3554	1585	783	3554	1585	1341	0	1585	1414	0	1585
Grp Volume(v), veh/h	36	648	0	7	505	62	1	0	2	195	0	61
Grp Sat Flow(s),veh/h/ln	844	1777	1585	783	1777	1585	1341	0	1585	1414	0	1585
Q Serve(g_s), s	2.9	12.4	0.0	0.6	9.2	2.3	0.0	0.0	0.0	4.6	0.0	1.1
Cycle Q Clear(g_c), s	12.1	12.4	0.0	13.0	9.2	2.3	4.6	0.0	0.0	4.6	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	927	414	171	927	414	844	0	982	971	0	982
V/C Ratio(X)	0.17	0.70	0.00	0.04	0.54	0.15	0.00	0.00	0.00	0.20	0.00	0.06
Avail Cap(c_a), veh/h	380	1633	728	327	1633	728	844	0	982	971	0	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.1	25.1	0.0	31.0	23.9	21.3	7.3	0.0	5.5	6.3	0.0	5.7
Incr Delay (d2), s/veh	0.4	1.0	0.0	0.1	0.5	0.2	0.0	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.9	0.0	0.1	3.6	0.8	0.0	0.0	0.0	1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	26.1	0.0	31.1	24.4	21.5	7.3	0.0	5.5	6.8	0.0	5.8
LnGrp LOS	C	C	A	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		684			574			3			256	
Approach Delay, s/veh		26.2			24.2			6.1			6.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.0		24.1		51.0		24.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		46.5		34.5		46.5		34.5				
Max Q Clear Time (g_c+I1), s		7.6		15.4		7.6		16.0				
Green Ext Time (p_c), s		0.0		4.2		1.2		3.2				
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Valley Blvd & Gateway Plz/Value Ctr

12/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑↑ ↗			↖ ↑↑ ↗		↖ ↗	↖ ↗	↖ ↗			↖ ↗	
Traffic Volume (veh/h)	10	757	0	2	517	3	0	0	0	3	0	7
Future Volume (veh/h)	10	757	0	2	517	3	0	0	0	3	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	823	0	2	562	3	0	0	0	3	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	1445	0	205	1005	448	109	1087	0	279	36	656
Arrive On Green	0.28	0.28	0.00	0.28	0.28	0.28	0.00	0.00	0.00	0.58	0.00	0.58
Sat Flow, veh/h	846	5274	0	665	3554	1585	1407	1870	0	361	62	1129
Grp Volume(v), veh/h	11	823	0	2	562	3	0	0	0	11	0	0
Grp Sat Flow(s),veh/h/ln	846	1702	0	665	1777	1585	1407	1870	0	1552	0	0
Q Serve(g_s), s	0.7	9.1	0.0	0.2	8.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.7	9.1	0.0	9.3	8.9	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	0.27		0.73
Lane Grp Cap(c), veh/h	234	1445	0	205	1005	448	109	1087	0	971	0	0
V/C Ratio(X)	0.05	0.57	0.00	0.01	0.56	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Avail Cap(c_a), veh/h	537	3276	0	444	2280	1017	109	1087	0	971	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.3	20.3	0.0	24.3	20.2	17.1	0.0	0.0	0.0	5.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	20.7	0.0	24.3	20.7	17.1	0.0	0.0	0.0	5.9	0.0	0.0
LnGrp LOS	C	C	A	C	C	B	A	A	A	A	A	A
Approach Vol, veh/h	834		567		0		11					
Approach Delay, s/veh	20.7		20.7		0.0		5.9					
Approach LOS	C		C		A		A					
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		23.2		43.0		23.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	38.5		42.5		38.5		42.5					
Max Q Clear Time (g_c+l1), s	0.0		12.7		3.2		12.3					
Green Ext Time (p_c), s	0.0		6.1		0.0		3.8					
Intersection Summary												
HCM 6th Ctrl Delay			20.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Riverside Dr & Valley Blvd

12/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	200	522	150	145	52	340	674	110	52	1022	28
Future Volume (veh/h)	36	200	522	150	145	52	340	674	110	52	1022	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	208	544	156	151	54	354	702	115	54	1065	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	526	1404	626	347	1404	626	540	2166	351	355	2500	68
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1177	3554	1585	711	3554	1585	1000	4427	718	669	5110	139
Grp Volume(v), veh/h	38	208	544	156	151	54	354	538	279	54	709	385
Grp Sat Flow(s),veh/h/ln	1177	1777	1585	711	1777	1585	500	1702	1741	669	1702	1845
Q Serve(g_s), s	1.6	2.9	24.6	14.0	2.1	1.7	27.5	7.4	7.6	4.1	10.4	10.5
Cycle Q Clear(g_c), s	3.7	2.9	24.6	17.0	2.1	1.7	37.9	7.4	7.6	11.7	10.4	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		0.08
Lane Grp Cap(c), veh/h	526	1404	626	347	1404	626	540	1665	852	355	1665	903
V/C Ratio(X)	0.07	0.15	0.87	0.45	0.11	0.09	0.66	0.32	0.33	0.15	0.43	0.43
Avail Cap(c_a), veh/h	713	1967	877	459	1967	877	540	1665	852	355	1665	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	15.1	21.6	20.6	14.8	14.7	25.0	12.0	12.1	15.6	12.8	12.8
Incr Delay (d2), s/veh	0.1	0.0	6.9	0.9	0.0	0.1	6.1	0.5	1.0	0.9	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	9.3	2.2	0.8	0.6	3.4	2.6	2.8	0.7	3.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	15.2	28.5	21.5	14.9	14.8	31.1	12.6	13.1	16.5	13.6	14.3
LnGrp LOS	B	B	C	C	B	B	C	B	B	B	B	B
Approach Vol, veh/h	790			361			1171			1148		
Approach Delay, s/veh	24.4			17.7			18.3			14.0		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.5		35.2		42.5		35.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	38.0		43.0		38.0		43.0					
Max Q Clear Time (g_c+l1), s	40.9		27.6		14.7		20.0					
Green Ext Time (p_c), s	0.0		3.1		7.9		2.3					
Intersection Summary												
HCM 6th Ctrl Delay	18.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

11: I-10 WB Ramps & Riverside Dr

12/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↵	↵	↵	↵↵	↵↵↵			↵↵↵	↵
Traffic Volume (veh/h)	0	0	0	469	1	425	145	689	0	0	1144	548
Future Volume (veh/h)	0	0	0	469	1	425	145	689	0	0	1144	548
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				614	0	290	148	703	0	0	1167	559
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				894	0	398	490	3216	0	0	4052	998
Arrive On Green				0.25	0.00	0.25	0.63	0.63	0.00	0.00	0.63	0.63
Sat Flow, veh/h				3563	0	1585	546	5274	0	0	6696	1585
Grp Volume(v), veh/h				614	0	290	148	703	0	0	1167	559
Grp Sat Flow(s),veh/h/ln				1781	0	1585	273	1702	0	0	1609	1585
Q Serve(g_s), s				11.8	0.0	12.7	12.7	4.5	0.0	0.0	6.2	15.2
Cycle Q Clear(g_c), s				11.8	0.0	12.7	18.9	4.5	0.0	0.0	6.2	15.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				894	0	398	490	3216	0	0	4052	998
V/C Ratio(X)				0.69	0.00	0.73	0.30	0.22	0.00	0.00	0.29	0.56
Avail Cap(c_a), veh/h				1582	0	704	490	3216	0	0	4052	998
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.6	0.0	25.9	10.6	6.0	0.0	0.0	6.3	8.0
Incr Delay (d2), s/veh				0.9	0.0	2.6	1.6	0.2	0.0	0.0	0.2	2.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	0.0	4.8	0.7	1.2	0.0	0.0	1.6	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.5	0.0	28.5	12.2	6.2	0.0	0.0	6.5	10.3
LnGrp LOS				C	A	C	B	A	A	A	A	B
Approach Vol, veh/h						904		851			1726	
Approach Delay, s/veh						27.1		7.2			7.7	
Approach LOS						C		A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		52.0				52.0		23.4				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		47.5				47.5		33.5				
Max Q Clear Time (g_c+I1), s		21.9				18.2		15.7				
Green Ext Time (p_c), s		9.6				12.4		3.3				

Intersection Summary

HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Riverside Dr & I-10 EB Ramps

12/16/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	0	250	0	0	0	0	576	355	486	1127	0
Future Volume (veh/h)	258	0	250	0	0	0	0	576	355	486	1127	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	350	0	173				0	600	370	506	1174	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	542	0	241				0	2525	1176	915	2636	0
Arrive On Green	0.15	0.00	0.15				0.00	0.74	0.74	0.74	0.74	0.00
Sat Flow, veh/h	3563	0	1585				0	3572	1585	1124	3647	0
Grp Volume(v), veh/h	350	0	173				0	600	370	506	1174	0
Grp Sat Flow(s),veh/h/ln	781	0	1585				0	1702	1585	562	1777	0
Q Serve(g_s), s	7.8	0.0	8.8				0.0	4.7	6.7	23.4	10.8	0.0
Cycle Q Clear(g_c), s	7.8	0.0	8.8				0.0	4.7	6.7	30.0	10.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	542	0	241				0	2525	1176	915	2636	0
V/C Ratio(X)	0.65	0.00	0.72				0.00	0.24	0.31	0.55	0.45	0.00
Avail Cap(c_a), veh/h	760	0	338				0	2525	1176	915	2636	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.8	0.0	34.2				0.0	3.4	3.7	8.7	4.2	0.0
Incr Delay (d2), s/veh	1.3	0.0	4.3				0.0	0.2	0.7	2.4	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	3.6				0.0	1.1	1.6	2.4	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	0.0	38.5				0.0	3.7	4.4	11.1	4.8	0.0
LnGrp LOS	D	A	D				A	A	A	B	A	A
Approach Vol, veh/h	523						970			1680		
Approach Delay, s/veh	36.2						3.9			6.7		
Approach LOS	D						A			A		
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	67.4		17.4		67.4							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	62.9		18.1		62.9							
Max Q Clear Time (g_c+l1), s	9.7		11.8		33.0							
Green Ext Time (p_c), s	7.7		1.1		17.8							
Intersection Summary												
HCM 6th Ctrl Delay	10.7											
HCM 6th LOS	B											
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th AWSC
 1: San Bernardino Ave & Lilac Ave

12/12/2021

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↑	↔		↔↑	↔		↔	↔		↔	↔
Traffic Vol, veh/h	17	374	27	35	370	49	27	55	21	37	47	10
Future Vol, veh/h	17	374	27	35	370	49	27	55	21	37	47	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	407	29	38	402	53	29	60	23	40	51	11
Number of Lanes	0	2	1	0	2	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	14	13.7	11.9	12.2
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	33%	0%	12%	0%	0%	22%	0%	0%	44%	0%
Vol Thru, %	67%	0%	88%	100%	0%	78%	100%	0%	56%	0%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	100%
Sign Control	Stop									
Traffic Vol by Lane	82	21	142	249	27	158	247	49	84	10
LT Vol	27	0	17	0	0	35	0	0	37	0
Through Vol	55	0	125	249	0	123	247	0	47	0
RT Vol	0	21	0	0	27	0	0	49	0	10
Lane Flow Rate	89	23	154	271	29	172	268	53	91	11
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.193	0.044	0.284	0.495	0.048	0.317	0.485	0.086	0.2	0.021
Departure Headway (Hd)	7.798	6.928	6.641	6.58	5.872	6.63	6.518	5.81	7.879	6.952
Convergence, Y/N	Yes									
Cap	463	520	537	545	604	539	550	611	458	518
Service Time	5.504	4.633	4.432	4.372	3.663	4.42	4.308	3.6	5.584	4.657
HCM Lane V/C Ratio	0.192	0.044	0.287	0.497	0.048	0.319	0.487	0.087	0.199	0.021
HCM Control Delay	12.4	10	12.1	15.7	9	12.5	15.4	9.2	12.5	9.8
HCM Lane LOS	B	A	B	C	A	B	C	A	B	A
HCM 95th-tile Q	0.7	0.1	1.2	2.7	0.2	1.4	2.6	0.3	0.7	0.1

HCM 6th AWSC
2: Willow Ave & San Bernardino Ave

12/12/2021

Intersection

Intersection Delay, s/veh30.2

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↗	↗		↕	
Traffic Vol, veh/h	17	397	24	8	401	86	22	170	30	87	163	21
Future Vol, veh/h	17	397	24	8	401	86	22	170	30	87	163	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	432	26	9	436	93	24	185	33	95	177	23
Number of Lanes	1	2	0	1	2	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	28.4	29.3	24	39.9
HCM LOS	D	D	C	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	11%	0%	100%	0%	0%	100%	0%	0%	32%
Vol Thru, %	89%	0%	0%	100%	85%	0%	100%	61%	60%
Vol Right, %	0%	100%	0%	0%	15%	0%	0%	39%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	192	30	17	265	156	8	267	220	271
LT Vol	22	0	17	0	0	8	0	0	87
Through Vol	170	0	0	265	132	0	267	134	163
RT Vol	0	30	0	0	24	0	0	86	21
Lane Flow Rate	209	33	18	288	170	9	291	239	295
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.581	0.084	0.051	0.746	0.435	0.023	0.743	0.591	0.786
Departure Headway (Hd)	10.022	9.236	9.863	9.338	9.226	9.724	9.2	8.913	9.609
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	361	388	364	388	391	369	395	406	377
Service Time	7.779	6.993	7.6	7.075	6.962	7.461	6.936	6.649	7.347
HCM Lane V/C Ratio	0.579	0.085	0.049	0.742	0.435	0.024	0.737	0.589	0.782
HCM Control Delay	25.8	12.8	13.1	35	18.9	12.7	34.3	23.8	39.9
HCM Lane LOS	D	B	B	D	C	B	D	C	E
HCM 95th-tile Q	3.5	0.3	0.2	5.9	2.1	0.1	5.9	3.7	6.6

HCM 6th Signalized Intersection Summary

3: Riverside Ave & San Bernardino Ave

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	134	352	139	290	232	72	214	830	478	72	582	50
Future Volume (veh/h)	134	352	139	290	232	72	214	830	478	72	582	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No										
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	363	143	299	239	74	221	856	493	74	600	52
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	493	191	328	744	225	253	1354	604	110	995	86
Arrive On Green	0.10	0.20	0.20	0.18	0.28	0.28	0.14	0.38	0.38	0.06	0.30	0.30
Sat Flow, veh/h	1781	2502	971	1781	2688	813	1781	3554	1585	1781	3309	286
Grp Volume(v), veh/h	138	256	250	299	156	157	221	856	493	74	322	330
Grp Sat Flow(s),veh/h/ln	1781	1777	1696	1781	1777	1724	1781	1777	1585	1781	1777	1819
Q Serve(g_s), s	7.7	13.8	14.2	16.8	7.1	7.4	12.4	20.1	28.5	4.2	15.8	15.8
Cycle Q Clear(g_c), s	7.7	13.8	14.2	16.8	7.1	7.4	12.4	20.1	28.5	4.2	15.8	15.8
Prop In Lane	1.00		0.57	1.00		0.47	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	186	350	334	328	492	477	253	1354	604	110	534	547
V/C Ratio(X)	0.74	0.73	0.75	0.91	0.32	0.33	0.87	0.63	0.82	0.68	0.60	0.60
Avail Cap(c_a), veh/h	311	661	631	328	679	659	253	1354	604	134	534	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	38.5	38.6	40.8	29.3	29.4	42.9	25.8	28.4	46.9	30.5	30.5
Incr Delay (d2), s/veh	5.8	3.0	3.4	28.4	0.4	0.4	26.8	2.3	11.6	9.5	5.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	6.2	6.1	9.8	3.0	3.1	7.2	8.4	12.3	2.1	7.2	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	41.4	42.0	69.3	29.6	29.8	69.7	28.0	40.0	56.4	35.5	35.4
LnGrp LOS	D	D	D	E	C	C	E	C	D	E	D	D
Approach Vol, veh/h		644			612			1570			726	
Approach Delay, s/veh		43.5			49.0			37.6			37.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	43.4	23.3	24.6	19.0	35.2	15.1	32.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	37.5	18.8	38.0	14.5	30.7	17.8	39.0					
Max Q Clear Time (g_c+I1), s	31.5	19.8	17.2	15.4	18.8	10.7	10.4					
Green Ext Time (p_c), s	0.0	3.6	0.0	2.9	0.0	2.9	0.2	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				40.7								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

4: Senior Wy & Riverside Ave

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↑↑↑			↕ ↑↑↑		
Traffic Volume (veh/h)	102	0	61	11	0	12	68	1525	2	4	1076	43
Future Volume (veh/h)	102	0	61	11	0	12	68	1525	2	4	1076	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	0	66	12	0	13	74	1605	2	4	1133	47
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	0	82	30	0	32	354	3206	4	13	3372	140
Arrive On Green	0.13	0.00	0.13	0.04	0.00	0.04	0.61	0.61	0.61	0.01	0.67	0.67
Sat Flow, veh/h	1068	0	635	803	0	870	475	5267	7	1781	5028	208
Grp Volume(v), veh/h	177	0	0	25	0	0	74	1037	570	4	767	413
Grp Sat Flow(s),veh/h/ln	703	0	0	1674	0	0	475	1702	1869	1781	1702	1833
Q Serve(g_s), s	8.4	0.0	0.0	1.2	0.0	0.0	6.7	14.2	14.2	0.2	7.9	7.9
Cycle Q Clear(g_c), s	8.4	0.0	0.0	1.2	0.0	0.0	10.5	14.2	14.2	0.2	7.9	7.9
Prop In Lane	0.63		0.37	0.48		0.52	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	220	0	0	62	0	0	354	2072	1138	13	2283	1229
V/C Ratio(X)	0.80	0.00	0.00	0.40	0.00	0.00	0.21	0.50	0.50	0.30	0.34	0.34
Avail Cap(c_a), veh/h	370	0	0	667	0	0	354	2072	1138	151	2283	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	0.0	39.0	0.0	0.0	9.4	9.1	9.1	40.9	5.8	5.8
Incr Delay (d2), s/veh	6.7	0.0	0.0	4.2	0.0	0.0	1.3	0.9	1.6	12.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8	0.0	0.0	0.6	0.0	0.0	0.7	4.5	5.1	0.1	2.2	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	0.0	0.0	43.2	0.0	0.0	10.7	10.0	10.7	53.1	6.2	6.5
LnGrp LOS	D	A	A	D	A	A	B	A	B	D	A	A
Approach Vol, veh/h		177			25			1681			1184	
Approach Delay, s/veh		41.7			43.2			10.2			6.5	
Approach LOS		D			D			B			A	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	54.9			15.2		60.0		7.6				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	44.0			18.0		55.5		33.0				
Max Q Clear Time (g_c+I), s	17.2			10.4		10.9		4.2				
Green Ext Time (p_c), s	0.0	13.8		0.5		9.5		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				10.9								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	114	0	81	54	50
Future Vol, veh/h	0	114	0	81	54	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	124	0	88	59	54

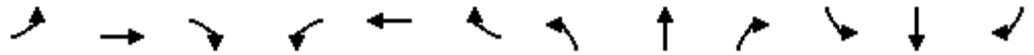
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	57	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	846	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	846	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 846	-	-
HCM Lane V/C Ratio	- 0.146	-	-
HCM Control Delay (s)	- 10	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.5	-	-

HCM 6th Signalized Intersection Summary
6: Gateway Plz/Value Ctr & Riverside Dr

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↑↑↑		↶	↑↑↑	
Traffic Volume (veh/h)	168	6	106	53	13	119	236	1347	55	132	912	120
Future Volume (veh/h)	168	6	106	53	13	119	236	1347	55	132	912	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	6	110	55	14	124	246	1403	57	138	950	125
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	24	438	455	47	418	360	2587	105	276	2348	308
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1251	83	1515	1276	163	1447	525	5033	204	364	4567	599
Grp Volume(v), veh/h	175	0	116	55	0	138	246	949	511	138	707	368
Grp Sat Flow(s),veh/h/ln	1251	0	1598	1276	0	1610	525	1702	1834	364	1702	1763
Q Serve(g_s), s	5.8	0.0	2.5	1.6	0.0	3.0	17.6	8.6	8.6	14.9	5.8	5.9
Cycle Q Clear(g_c), s	8.8	0.0	2.5	4.1	0.0	3.0	23.5	8.6	8.6	23.5	5.8	5.9
Prop In Lane	1.00		0.95	1.00		0.90	1.00		0.11	1.00		0.34
Lane Grp Cap(c), veh/h	436	0	462	455	0	465	360	1750	943	276	1750	906
V/C Ratio(X)	0.40	0.00	0.25	0.12	0.00	0.30	0.68	0.54	0.54	0.50	0.40	0.41
Avail Cap(c_a), veh/h	2469	0	3058	2529	0	3082	360	1750	943	276	1750	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	12.5	14.0	0.0	12.6	15.6	7.5	7.5	16.4	6.8	6.8
Incr Delay (d2), s/veh	0.6	0.0	0.3	0.1	0.0	0.4	10.1	1.2	2.2	6.3	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.8	0.4	0.0	1.0	3.1	2.2	2.6	1.6	1.4	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.0	12.7	14.2	0.0	13.0	25.7	8.7	9.7	22.8	7.5	8.2
LnGrp LOS	B	A	B	B	A	B	C	A	A	C	A	A
Approach Vol, veh/h		291			193			1706			1213	
Approach Delay, s/veh		15.1			13.3			11.4			9.4	
Approach LOS		B			B			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		17.7		28.0		17.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		87.5		23.5		87.5				
Max Q Clear Time (g_c+I1), s		26.5		11.8		26.5		7.1				
Green Ext Time (p_c), s		0.0		1.4		0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	6.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		B			A
Traffic Vol, veh/h	22	17	0	17	14	0
Future Vol, veh/h	22	17	0	17	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	18	0	18	15	0

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	39	9	0	0	18	0
Stage 1	9	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	973	1073	-	-	1599	-
Stage 1	1014	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	964	1073	-	-	1599	-
Mov Cap-2 Maneuver	964	-	-	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	984	-	-	-	-	-

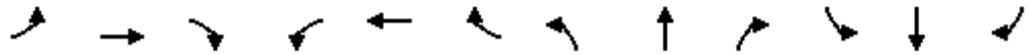
Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1009	1599
HCM Lane V/C Ratio	-	-	0.042	0.01
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th Signalized Intersection Summary

8: Valley Blvd & Willow Ave

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷	↷	↶	↷	↷	↶	↷	↷
Traffic Volume (veh/h)	68	751	5	6	631	133	3	1	12	157	1	49
Future Volume (veh/h)	68	751	5	6	631	133	3	1	12	157	1	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	774	5	6	651	137	3	1	12	162	1	51
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1209	539	199	1209	539	744	67	809	847	5	867
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	687	3554	1585	693	3554	1585	1352	123	1480	1385	9	1585
Grp Volume(v), veh/h	70	774	5	6	651	137	3	0	13	163	0	51
Grp Sat Flow(s),veh/h/ln	687	1777	1585	693	1777	1585	1352	0	1604	1394	0	1585
Q Serve(g_s), s	7.3	14.6	0.2	0.6	11.8	5.0	0.1	0.0	0.3	4.8	0.0	1.2
Cycle Q Clear(g_c), s	19.1	14.6	0.2	15.2	11.8	5.0	5.1	0.0	0.3	5.1	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.92	0.99		1.00
Lane Grp Cap(c), veh/h	223	1209	539	199	1209	539	744	0	877	852	0	867
V/C Ratio(X)	0.31	0.64	0.01	0.03	0.54	0.25	0.00	0.00	0.01	0.19	0.00	0.06
Avail Cap(c_a), veh/h	313	1675	747	290	1675	747	744	0	877	852	0	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	22.1	17.4	28.6	21.2	19.0	10.7	0.0	8.2	9.4	0.0	8.4
Incr Delay (d2), s/veh	0.8	0.6	0.0	0.1	0.4	0.2	0.0	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.7	0.1	0.1	4.5	1.7	0.0	0.0	0.1	1.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	22.7	17.4	28.6	21.6	19.2	10.7	0.0	8.3	9.9	0.0	8.6
LnGrp LOS	C	C	B	C	C	B	B	A	A	A	A	A
Approach Vol, veh/h		849			794			16				214
Approach Delay, s/veh		23.3			21.2			8.7				9.6
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.0		31.6		48.0		31.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		37.5		43.5		37.5				
Max Q Clear Time (g_c+I1), s		8.1		22.1		8.1		18.2				
Green Ext Time (p_c), s		0.0		5.0		1.0		4.5				
Intersection Summary												
HCM 6th Ctrl Delay				20.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Valley Blvd & Gateway Plz/Value Ctr

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘			↖ ↗ ↘		↖ ↗	↖ ↗	↖ ↗			↖ ↗	
Traffic Volume (veh/h)	43	867	0	22	749	10	1	0	0	7	0	18
Future Volume (veh/h)	43	867	0	22	749	10	1	0	0	7	0	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	903	0	23	780	10	1	0	0	7	0	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1858	0	237	1293	577	818	964	0	244	32	585
Arrive On Green	0.36	0.36	0.00	0.36	0.36	0.36	0.52	0.00	0.00	0.52	0.00	0.52
Sat Flow, veh/h	686	5274	0	617	3554	1585	1393	1870	0	355	63	1135
Grp Volume(v), veh/h	45	903	0	23	780	10	1	0	0	26	0	0
Grp Sat Flow(s),veh/h/ln	686	1702	0	617	1777	1585	1393	1870	0	1553	0	0
Q Serve(g_s), s	4.3	10.2	0.0	2.2	13.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.6	10.2	0.0	12.4	13.4	0.3	0.0	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	0.27		0.73
Lane Grp Cap(c), veh/h	223	1858	0	237	1293	577	818	964	0	862	0	0
V/C Ratio(X)	0.20	0.49	0.00	0.10	0.60	0.02	0.00	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	364	2906	0	363	2023	902	818	964	0	862	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.5	18.4	0.0	23.2	19.4	15.2	8.8	0.0	0.0	8.9	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	0.0	0.3	5.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	18.6	0.0	23.3	19.8	15.2	8.8	0.0	0.0	9.0	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h		948			813			1			26	
Approach Delay, s/veh		19.0			19.9			8.8			9.0	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		31.7		43.0		31.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		38.5		42.5		38.5		42.5				
Max Q Clear Time (g_c+l1), s		3.0		20.6		3.6		16.4				
Green Ext Time (p_c), s		0.0		6.5		0.1		5.8				

Intersection Summary

HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

10: Riverside Dr & Valley Blvd

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	374	430	155	315	145	409	1367	182	135	916	67
Future Volume (veh/h)	96	374	430	155	315	145	409	1367	182	135	916	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	390	448	161	328	151	426	1424	190	141	954	70
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	1373	612	298	1373	612	586	2261	302	178	2409	176
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	916	3554	1585	656	3554	1585	1068	4557	608	313	4855	355
Grp Volume(v), veh/h	100	390	448	161	328	151	426	1063	551	141	668	356
Grp Sat Flow(s),veh/h/ln	916	1777	1585	656	1777	1585	534	1702	1761	313	1702	1806
Q Serve(g_s), s	6.3	5.8	18.5	17.2	4.8	4.9	28.5	17.5	17.5	20.5	9.4	9.5
Cycle Q Clear(g_c), s	11.1	5.8	18.5	23.0	4.8	4.9	38.0	17.5	17.5	38.0	9.4	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		0.20
Lane Grp Cap(c), veh/h	391	1373	612	298	1373	612	586	1689	874	178	1689	896
V/C Ratio(X)	0.26	0.28	0.73	0.54	0.24	0.25	0.73	0.63	0.63	0.79	0.40	0.40
Avail Cap(c_a), veh/h	551	1995	890	413	1995	890	586	1689	874	178	1689	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	16.2	20.1	24.1	15.9	15.9	25.0	14.1	14.1	32.2	12.1	12.1
Incr Delay (d2), s/veh	0.3	0.1	1.7	1.5	0.1	0.2	7.7	1.8	3.4	29.5	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.1	6.4	2.5	1.8	1.7	4.2	6.1	6.7	4.0	3.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	16.3	21.9	25.6	16.0	16.1	32.6	15.9	17.6	61.7	12.8	13.4
LnGrp LOS	B	B	C	C	B	B	C	B	B	E	B	B
Approach Vol, veh/h		938			640			2040			1165	
Approach Delay, s/veh		19.4			18.4			19.9			18.9	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.5		34.1		42.5		34.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		38.0		43.0		38.0		43.0				
Max Q Clear Time (g_c+l1), s		41.0		21.5		41.0		26.0				
Green Ext Time (p_c), s		0.0		4.6		0.0		3.6				
Intersection Summary												
HCM 6th Ctrl Delay				19.3								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

11: I-10 WB Ramps & Riverside Dr

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶ ↷	↶ ↷	↶ ↷	↶ ↷ ↶ ↷	↶ ↷ ↶ ↷			↶ ↷ ↶ ↷	↶ ↷
Traffic Volume (veh/h)	0	0	0	347	4	486	291	1413	0	0	985	470
Future Volume (veh/h)	0	0	0	347	4	486	291	1413	0	0	985	470
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				549	0	318	306	1487	0	0	1037	495
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				892	0	397	549	3282	0	0	4136	1019
Arrive On Green				0.25	0.00	0.25	0.64	0.64	0.00	0.00	0.64	0.64
Sat Flow, veh/h				3563	0	1585	658	5274	0	0	6696	1585
Grp Volume(v), veh/h				549	0	318	306	1487	0	0	1037	495
Grp Sat Flow(s),veh/h/ln				1781	0	1585	329	1702	0	0	1609	1585
Q Serve(g_s), s				11.5	0.0	15.8	31.1	12.4	0.0	0.0	5.8	13.7
Cycle Q Clear(g_c), s				11.5	0.0	15.8	36.9	12.4	0.0	0.0	5.8	13.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				892	0	397	549	3282	0	0	4136	1019
V/C Ratio(X)				0.62	0.00	0.80	0.56	0.45	0.00	0.00	0.25	0.49
Avail Cap(c_a), veh/h				1139	0	507	549	3282	0	0	4136	1019
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.0	0.0	29.6	14.3	7.6	0.0	0.0	6.4	7.8
Incr Delay (d2), s/veh				0.7	0.0	7.1	4.0	0.5	0.0	0.0	0.1	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.8	0.0	6.6	2.2	3.6	0.0	0.0	1.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.7	0.0	36.7	18.3	8.0	0.0	0.0	6.5	9.5
LnGrp LOS				C	A	D	B	A	A	A	A	A
Approach Vol, veh/h					867			1793			1532	
Approach Delay, s/veh					31.6			9.8			7.5	
Approach LOS					C			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		58.6				58.6		25.6				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		54.1				54.1		26.9				
Max Q Clear Time (g_c+I1), s		39.9				16.7		18.8				
Green Ext Time (p_c), s		11.5				11.3		2.2				

Intersection Summary

HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Riverside Dr & I-10 EB Ramps

12/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	590	0	312	0	0	0	0	1119	449	421	911	0
Future Volume (veh/h)	590	0	312	0	0	0	0	1119	449	421	911	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	723	0	219				0	1178	473	443	959	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	713	0	317				0	2507	1004	484	2488	0
Arrive On Green	0.20	0.00	0.20				0.00	0.70	0.70	0.70	0.70	0.00
Sat Flow, veh/h	3563	0	1585				0	3750	1435	587	3647	0
Grp Volume(v), veh/h	723	0	219				0	1120	531	443	959	0
Grp Sat Flow(s),veh/h/ln	781	0	1585				0	1702	1612	293	1777	0
Q Serve(g_s), s	18.0	0.0	11.5				0.0	13.2	13.3	49.7	10.0	0.0
Cycle Q Clear(g_c), s	18.0	0.0	11.5				0.0	13.2	13.3	63.0	10.0	0.0
Prop In Lane	1.00		1.00				0.00		0.89	1.00		0.00
Lane Grp Cap(c), veh/h	713	0	317				0	2383	1128	484	2488	0
V/C Ratio(X)	1.01	0.00	0.69				0.00	0.47	0.47	0.91	0.39	0.00
Avail Cap(c_a), veh/h	713	0	317				0	2383	1128	484	2488	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.0	0.0	33.4				0.0	6.0	6.0	26.8	5.5	0.0
Incr Delay (d2), s/veh	37.4	0.0	6.3				0.0	0.7	1.4	24.4	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	4.9				0.0	3.7	3.7	6.4	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.4	0.0	39.7				0.0	6.7	7.5	51.2	6.0	0.0
LnGrp LOS	F	A	D				A	A	A	D	A	A
Approach Vol, veh/h	942						1651			1402		
Approach Delay, s/veh	65.6						6.9			20.3		
Approach LOS	E						A			C		
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	67.5		22.5		67.5							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	63.0		18.0		63.0							
Max Q Clear Time (g_c+l1), s	16.3		21.0		66.0							
Green Ext Time (p_c), s	16.9		0.0		0.0							

Intersection Summary

HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Queues

11: I-10 WB Ramps & Riverside Dr

12/16/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	299	289	267	145	635	1116	528
v/c Ratio	0.65	0.64	0.46	0.30	0.20	0.29	0.45
Control Delay	31.6	27.0	7.5	11.6	8.1	8.4	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	31.6	27.0	7.5	11.6	8.1	8.4	2.6
Queue Length 50th (ft)	134	113	14	15	44	66	0
Queue Length 95th (ft)	213	194	69	45	89	122	46
Internal Link Dist (ft)		685			265	350	
Turn Bay Length (ft)				150			
Base Capacity (vph)	723	690	776	478	3104	3912	1172
Starvation Cap Reductn	0	0	0	0	0	0	193
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.42	0.34	0.30	0.20	0.29	0.54

Intersection Summary

Queues

12: Riverside Dr & I-10 EB Ramps

12/16/2021



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	166	160	152	934	475	1142
v/c Ratio	0.62	0.51	0.44	0.26	0.62	0.44
Control Delay	43.8	22.0	13.1	2.6	10.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.1
Total Delay	43.8	22.0	13.1	2.6	10.7	6.5
Queue Length 50th (ft)	88	39	12	28	54	108
Queue Length 95th (ft)	154	103	66	48	120	167
Internal Link Dist (ft)		657		520		265
Turn Bay Length (ft)						
Base Capacity (vph)	355	386	417	3615	770	2600
Starvation Cap Reductn	0	0	0	0	0	1121
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.41	0.36	0.26	0.62	0.77

Intersection Summary

Queues

11: I-10 WB Ramps & Riverside Dr

12/16/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	278	268	255	298	1374	916	414
v/c Ratio	0.67	0.66	0.63	0.46	0.42	0.22	0.36
Control Delay	35.8	30.8	29.1	11.8	8.5	7.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.6	0.0	0.3
Total Delay	35.8	30.8	29.1	11.8	9.0	7.0	2.1
Queue Length 50th (ft)	134	112	100	36	115	52	0
Queue Length 95th (ft)	216	197	177	84	184	85	36
Internal Link Dist (ft)		685			265	350	
Turn Bay Length (ft)				150			
Base Capacity (vph)	586	551	554	650	3265	4115	1164
Starvation Cap Reductn	0	0	0	0	1332	0	272
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.49	0.46	0.46	0.71	0.22	0.46

Intersection Summary

Queues

12: Riverside Dr & I-10 EB Ramps

12/16/2021



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	301	297	270	1590	363	909
v/c Ratio	0.91	0.91	0.59	0.45	1.12	0.37
Control Delay	68.5	66.8	15.7	5.1	103.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.9
Total Delay	68.5	66.8	15.7	5.1	103.5	6.8
Queue Length 50th (ft)	176	171	35	98	-123	94
Queue Length 95th (ft)	#334	#337	117	123	#115	122
Internal Link Dist (ft)		657		520		265
Turn Bay Length (ft)						
Base Capacity (vph)	337	332	461	3502	325	2488
Starvation Cap Reductn	0	0	0	0	0	1209
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.89	0.59	0.45	1.12	0.71

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

11: I-10 WB Ramps & Riverside Dr

12/16/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	307	296	273	148	648	1142	541
v/c Ratio	0.66	0.64	0.48	0.32	0.21	0.29	0.46
Control Delay	31.9	27.3	8.3	12.1	8.2	8.6	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	31.9	27.3	8.3	12.1	8.2	8.6	2.7
Queue Length 50th (ft)	138	117	21	16	46	69	0
Queue Length 95th (ft)	220	201	78	48	91	125	46
Internal Link Dist (ft)		685			265	350	
Turn Bay Length (ft)				150			
Base Capacity (vph)	721	688	770	459	3092	3897	1174
Starvation Cap Reductn	0	0	0	0	0	0	189
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.43	0.35	0.32	0.21	0.29	0.55

Intersection Summary

Queues

12: Riverside Dr & I-10 EB Ramps

12/16/2021



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	170	164	156	952	488	1167
v/c Ratio	0.63	0.52	0.45	0.26	0.65	0.45
Control Delay	44.2	22.3	14.5	2.6	11.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.1
Total Delay	44.2	22.3	14.5	2.6	11.8	6.7
Queue Length 50th (ft)	90	40	17	30	59	113
Queue Length 95th (ft)	157	105	73	49	131	173
Internal Link Dist (ft)		657		520		265
Turn Bay Length (ft)						
Base Capacity (vph)	354	386	412	3612	752	2596
Starvation Cap Reductn	0	0	0	0	0	1107
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.42	0.38	0.26	0.65	0.78

Intersection Summary

Queues

11: I-10 WB Ramps & Riverside Dr

12/16/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	285	274	263	306	1405	936	424
v/c Ratio	0.69	0.68	0.65	0.48	0.43	0.23	0.36
Control Delay	37.2	32.0	30.5	12.2	8.5	7.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.6	0.0	0.3
Total Delay	37.2	32.0	30.5	12.2	9.1	7.0	2.1
Queue Length 50th (ft)	142	117	106	39	121	54	0
Queue Length 95th (ft)	227	206	188	86	183	84	35
Internal Link Dist (ft)		685			265	350	
Turn Bay Length (ft)				150			
Base Capacity (vph)	557	527	529	636	3277	4129	1170
Starvation Cap Reductn	0	0	0	0	1345	0	279
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.52	0.50	0.48	0.73	0.23	0.48

Intersection Summary

Queues

12: Riverside Dr & I-10 EB Ramps

12/16/2021



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	309	305	276	1627	373	928
v/c Ratio	0.92	0.92	0.61	0.47	1.21	0.37
Control Delay	69.7	68.3	17.2	5.3	140.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.0
Total Delay	69.7	68.3	17.2	5.3	140.4	7.0
Queue Length 50th (ft)	183	178	43	102	-134	96
Queue Length 95th (ft)	#346	#350	128	128	#132	125
Internal Link Dist (ft)		657		520		265
Turn Bay Length (ft)						
Base Capacity (vph)	336	331	454	3485	308	2477
Starvation Cap Reductn	0	0	0	0	0	1200
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.92	0.61	0.47	1.21	0.73

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

4: Senior Wy & Riverside Ave

12/16/2021



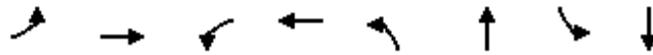
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	7	50	693	16	1295
v/c Ratio	0.15	0.02	0.16	0.16	0.07	0.30
Control Delay	2.6	0.2	9.0	4.4	25.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.6	0.2	9.0	4.4	25.0	2.9
Queue Length 50th (ft)	0	0	0	0	4	0
Queue Length 95th (ft)	7	0	42	92	23	122
Internal Link Dist (ft)	132	78		256		804
Turn Bay Length (ft)			150		115	
Base Capacity (vph)	1067	1016	310	4205	560	4373
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.16	0.16	0.03	0.30

Intersection Summary

Queues

6: Gateway Plz/Value Ctr & Riverside Dr

12/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	70	28	37	151	708	122	1165
v/c Ratio	0.21	0.27	0.13	0.14	0.50	0.20	0.25	0.32
Control Delay	18.7	19.5	17.3	16.0	14.1	3.4	5.6	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	19.5	17.3	16.0	14.1	3.4	5.6	3.8
Queue Length 50th (ft)	10	16	6	7	17	21	11	39
Queue Length 95th (ft)	31	42	22	25	#97	36	33	64
Internal Link Dist (ft)		126		111		824		463
Turn Bay Length (ft)					230		115	
Base Capacity (vph)	1365	1595	1324	1598	305	3614	494	3593
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.04	0.02	0.02	0.50	0.20	0.25	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

11: I-10 WB Ramps & Riverside Dr

12/16/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	316	307	291	148	703	1167	559
v/c Ratio	0.66	0.64	0.52	0.34	0.23	0.30	0.48
Control Delay	31.7	26.3	11.4	12.7	8.5	8.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	31.7	26.3	11.4	12.7	8.5	8.9	2.8
Queue Length 50th (ft)	143	117	40	17	54	75	0
Queue Length 95th (ft)	227	204	106	48	99	128	47
Internal Link Dist (ft)		685			265	350	
Turn Bay Length (ft)				150			
Base Capacity (vph)	713	683	748	439	3059	3856	1175
Starvation Cap Reductn	0	0	0	0	0	0	183
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.45	0.39	0.34	0.23	0.30	0.56
Intersection Summary							

Queues

12: Riverside Dr & I-10 EB Ramps

12/16/2021



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	183	177	169	970	506	1174
v/c Ratio	0.65	0.59	0.49	0.27	0.69	0.46
Control Delay	45.1	31.5	16.4	2.7	13.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.2
Total Delay	45.1	31.5	16.4	2.7	13.7	7.0
Queue Length 50th (ft)	98	68	25	32	68	118
Queue Length 95th (ft)	170	139	85	51	150	173
Internal Link Dist (ft)		657		520		265
Turn Bay Length (ft)						
Base Capacity (vph)	353	362	408	3596	729	2580
Starvation Cap Reductn	0	0	0	0	0	1097
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.49	0.41	0.27	0.69	0.79

Intersection Summary

Queues

4: Senior Wy & Riverside Ave

12/16/2021



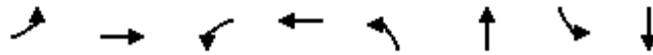
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	177	25	74	1607	4	1180
v/c Ratio	0.72	0.11	0.27	0.48	0.03	0.34
Control Delay	34.1	0.9	14.2	10.1	40.0	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	0.9	14.2	10.1	40.0	6.9
Queue Length 50th (ft)	36	0	10	94	2	61
Queue Length 95th (ft)	117	0	68	315	13	155
Internal Link Dist (ft)	180	78		256		804
Turn Bay Length (ft)			150		115	
Base Capacity (vph)	310	745	279	3358	152	3464
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.03	0.27	0.48	0.03	0.34

Intersection Summary

Queues

6: Gateway Plz/Value Ctr & Riverside Dr

12/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	175	116	55	138	246	1460	138	1075
v/c Ratio	0.58	0.30	0.18	0.35	0.96	0.50	0.91	0.37
Control Delay	24.5	16.9	15.7	17.8	66.0	7.5	74.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	16.9	15.7	17.8	66.0	7.5	74.2	6.5
Queue Length 50th (ft)	44	27	12	33	57	77	30	50
Queue Length 95th (ft)	93	59	34	69	#202	134	#94	90
Internal Link Dist (ft)		126		111		824		463
Turn Bay Length (ft)					230		115	
Base Capacity (vph)	1246	1598	1270	1611	257	2900	152	2873
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.07	0.04	0.09	0.96	0.50	0.91	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

11: I-10 WB Ramps & Riverside Dr

12/16/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	307	292	282	306	1487	1037	495
v/c Ratio	0.72	0.73	0.69	0.55	0.46	0.25	0.42
Control Delay	39.2	35.8	33.7	14.5	8.9	7.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.8	0.0	0.3
Total Delay	39.2	35.8	33.7	14.5	9.7	7.3	2.3
Queue Length 50th (ft)	156	135	123	44	139	65	0
Queue Length 95th (ft)	248	231	211	95	194	92	37
Internal Link Dist (ft)		685			265	350	
Turn Bay Length (ft)				150			
Base Capacity (vph)	535	498	505	555	3258	4106	1192
Starvation Cap Reductn	0	0	0	0	1315	0	262
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.59	0.56	0.55	0.77	0.25	0.53

Intersection Summary

Queues

12: Riverside Dr & I-10 EB Ramps

12/16/2021



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	329	325	295	1651	443	959
v/c Ratio	0.98	0.97	0.66	0.47	1.49	0.39
Control Delay	82.2	78.9	21.1	5.4	255.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.1
Total Delay	82.2	78.9	21.1	5.4	255.6	7.2
Queue Length 50th (ft)	196	193	60	106	-93	101
Queue Length 95th (ft)	#374	#381	154	131	#189	131
Internal Link Dist (ft)		657		520		265
Turn Bay Length (ft)						
Base Capacity (vph)	336	334	445	3487	298	2477
Starvation Cap Reductn	0	0	0	0	0	1185
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.97	0.66	0.47	1.49	0.74

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX D

CUMULATIVE PROJECTS
INFORMATION

TOTAL CUMULATIVE PROJECTS TRAFFIC

		AM Peak Hour											
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	San Bernardino Ave at Lilac Ave	0	0	0	0	0	0	0	4	0	0	2	0
2	San Bernardino Ave at Willow Ave	0	0	0	0	0	0	0	4	0	0	2	0
3	San Bernardino Ave at Riverside Ave	0	2	0	0	6	0	0	4	0	0	2	0
4	Riverside Ave at Senior Wy	0	2	0	0	6	0	0	0	0	0	0	0
5	Riverside Ave at Project Dwy	0	2	0	0	6	0	0	0	0	0	0	0
6	Riverside Ave at Gateway Plaza/Value Ctr	0	2	0	0	6	0	0	0	0	0	0	0
7	Willow Ave at Project Driveway	0	0	0	0	0	0	0	0	0	0	0	0
8	Valley Blvd at Willow Ave	0	0	0	0	0	0	0	0	0	0	1	0
9	Valley Blvd at Gateway Plaza/Value Ctr	0	0	0	0	0	0	0	0	0	0	1	0
10	Valley Blvd at Riverside Ave	0	2	0	0	6	0	0	0	0	0	1	0
11	Riverside Ave at I-10 WB Ramps	0	1	0	0	3	3	0	0	0	2	0	1
12	Riverside Ave at I-10 EB Ramps	0	0	0	3	2	0	1	0	2	0	0	0

		PM Peak Hour											
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	San Bernardino Ave at Lilac Ave	0	0	0	0	0	0	0	3	0	0	5	0
2	San Bernardino Ave at Willow Ave	0	0	0	0	0	0	0	3	0	0	5	0
3	San Bernardino Ave at Riverside Ave	0	7	0	0	4	0	0	3	0	0	5	0
4	Riverside Ave at Senior Wy	0	7	0	0	4	0	0	0	0	0	0	0
5	Riverside Ave at Project Dwy	0	7	0	0	4	0	0	0	0	0	0	0
6	Riverside Ave at Gateway Plaza/Value Ctr	0	7	0	0	4	0	0	0	0	0	0	0
7	Willow Ave at Project Driveway	0	0	0	0	0	0	0	0	0	0	0	0
8	Valley Blvd at Willow Ave	0	0	0	0	0	0	0	1	0	0	1	0
9	Valley Blvd at Gateway Plaza/Value Ctr	0	0	0	0	0	0	0	1	0	0	1	0
10	Valley Blvd at Riverside Ave	0	7	0	0	4	0	0	1	0	0	1	0
11	Riverside Ave at I-10 WB Ramps	2	4	0	0	2	2	0	0	0	1	0	4
12	Riverside Ave at I-10 EB Ramps	0	2	2	2	1	0	4	0	1	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 1 San Bernardino Ave at Lilac Ave

Mirror distribution? Y Entire Intersection

Mirror distribution? [Pink Box]

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	0	0	0	2	0
AM Out		0	0	0	0	0	0	0	4	0	0	0	0
AM Tot		0	0	0	0	0	0	0	4	0	0	2	0
PM In		0	0	0	0	0	0	0	0	0	0	5	0
PM Out		0	0	0	0	0	0	0	3	0	0	0	0
PM Tot		0	0	0	0	0	0	0	3	0	0	5	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	0	0	0	0	0	0	0	0
PM In	73	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	
Y	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out											25%	
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	2	0
AM Out	17	0	0	0	0	0	0	0	4	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	5	0
PM Out	11	0	0	0	0	0	0	0	3	0	0	0	0

Zone # 4 Auto Sales/Service

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	7	0	0	0	0	0	0	0	0	0	0	0	0

Int. #: 1 San Bernardino Ave at Lilac Ave

Zone # 5 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 2 San Bernardino Ave at Willow Ave

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	0	0	0	0	0	0	2	0
AM Out		0	0	0	0	0	0	0	4	0	0	0	0
AM Tot		0	0	0	0	0	0	0	4	0	0	2	0
PM In		0	0	0	0	0	0	0	0	0	0	5	0
PM Out		0	0	0	0	0	0	0	3	0	0	0	0
PM Tot		0	0	0	0	0	0	0	3	0	0	5	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	0	0	0	0	0	0	0	0
PM In	73	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	
Y	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	2	0
AM Out	17	0	0	0	0	0	0	0	4	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	5	0
PM Out	11	0	0	0	0	0	0	0	3	0	0	0	0

Zone # 4 Auto Sales/Service

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	7	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 2 San Bernardino Ave at Willow Ave

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Int. #: 3 San Bernardino Ave at Riverside Ave

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	2	0	0	0	0	0	0	0	0	2	0
AM Out		0	0	0	0	6	0	0	4	0	0	0	0
AM Tot		0	2	0	0	6	0	0	4	0	0	2	0
PM In		0	7	0	0	0	0	0	0	0	0	5	0
PM Out		0	0	0	0	4	0	0	3	0	0	0	0
PM Tot		0	7	0	0	4	0	0	3	0	0	5	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	2	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	6	0	0	0	0	0	0	0
PM In	73	0	7	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	4	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	
Y	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	2	0
AM Out	17	0	0	0	0	0	0	0	4	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	5	0
PM Out	11	0	0	0	0	0	0	0	3	0	0	0	0

Zone # 4 Auto Sales/Service

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	7	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 3 San Bernardino Ave at Riverside Ave

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 4 Riverside Ave at Senior Wy

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	2	0	0	0	0	0	0	0	0	0	0
AM Out		0	0	0	0	6	0	0	0	0	0	0	0
AM Tot		0	2	0	0	6	0	0	0	0	0	0	0
PM In		0	7	0	0	0	0	0	0	0	0	0	0
PM Out		0	0	0	0	4	0	0	0	0	0	0	0
PM Tot		0	7	0	0	4	0	0	0	0	0	0	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	2	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	6	0	0	0	0	0	0	0
PM In	73	0	7	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	4	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	17	0	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	11	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 Auto Sales/Service

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	7	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 4 Riverside Ave at Senior Wy

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 5 Riverside Ave at Project Dwy

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	2	0	0	0	0	0	0	0	0	0	0
AM Out		0	0	0	0	6	0	0	0	0	0	0	0
AM Tot		0	2	0	0	6	0	0	0	0	0	0	0
PM In		0	7	0	0	0	0	0	0	0	0	0	0
PM Out		0	0	0	0	4	0	0	0	0	0	0	0
PM Tot		0	7	0	0	4	0	0	0	0	0	0	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	2	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	6	0	0	0	0	0	0	0
PM In	73	0	7	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	4	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	17	0	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	11	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 Auto Sales/Service

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	7	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 5 Riverside Ave at Project Dwy

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 6 Riverside Ave at Gateway Plaza/Value Ctr

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	2	0	0	0	0	0	0	0	0	0	0
AM Out		0	0	0	0	6	0	0	0	0	0	0	0
AM Tot		0	2	0	0	6	0	0	0	0	0	0	0
PM In		0	7	0	0	0	0	0	0	0	0	0	0
PM Out		0	0	0	0	4	0	0	0	0	0	0	0
PM Tot		0	7	0	0	4	0	0	0	0	0	0	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	2	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	6	0	0	0	0	0	0	0
PM In	73	0	7	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	4	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	17	0	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	11	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 Auto Sales/Service

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	7	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 6 Riverside Ave at Gateway Plaza/Value Ctr

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 7 Willow Ave at Project Driveway

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	0	0	0	0	0	0	0	0
AM Out		0	0	0	0	0	0	0	0	0	0	0	0
AM Tot		0	0	0	0	0	0	0	0	0	0	0	0
PM In		0	0	0	0	0	0	0	0	0	0	0	0
PM Out		0	0	0	0	0	0	0	0	0	0	0	0
PM Tot		0	0	0	0	0	0	0	0	0	0	0	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	0	0	0	0	0	0	0	0
PM In	73	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	17	0	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	11	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 Auto Sales/Service

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	7	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 7 Willow Ave at Project Driveway

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 8 Valley Blvd at Willow Ave

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	0	0	0	0	0	0	1	0
AM Out		0	0	0	0	0	0	0	0	0	0	0	0
AM Tot		0	0	0	0	0	0	0	0	0	0	1	0
PM In		0	0	0	0	0	0	0	0	0	0	1	0
PM Out		0	0	0	0	0	0	0	1	0	0	0	0
PM Tot		0	0	0	0	0	0	0	1	0	0	1	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	0	0	0	0	0	0	0	0
PM In	73	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	17	0	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	11	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 Auto Sales/Service

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	1	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	1	0
PM Out	7	0	0	0	0	0	0	0	1	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 8 Valley Blvd at Willow Ave

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 9 Valley Blvd at Gateway Plaza/Value Ctr

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	0	0	0	0	0	0	1	0
AM Out		0	0	0	0	0	0	0	0	0	0	0	0
AM Tot		0	0	0	0	0	0	0	0	0	0	1	0
PM In		0	0	0	0	0	0	0	0	0	0	1	0
PM Out		0	0	0	0	0	0	0	1	0	0	0	0
PM Tot		0	0	0	0	0	0	0	1	0	0	1	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	0	0	0	0	0	0	0	0
PM In	73	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	17	0	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	11	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 Auto Sales/Service

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	1	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	1	0
PM Out	7	0	0	0	0	0	0	0	1	0	0	0	0

Zone # 5 RV Service/Manufacturing

Int. #: 9 Valley Blvd at Gateway Plaza/Value Ctr

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 6 RV Service/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	8	0	0	0	0	0	0	0	0	0	0	0	0
PM In	14	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	31	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells Yellow cells calculate

Int. #: 10 Valley Blvd at Riverside Ave

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	2	0	0	0	0	0	0	0	0	1	0
AM Out		0	0	0	0	6	0	0	0	0	0	0	0
AM Tot		0	2	0	0	6	0	0	0	0	0	1	0
PM In		0	7	0	0	0	0	0	0	0	0	1	0
PM Out		0	0	0	0	4	0	0	1	0	0	0	0
PM Tot		0	7	0	0	4	0	0	1	0	0	1	0

Zone # 1 Warehousing/Manufacturing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	19	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	6	0	0	0	0	0	0	0	0	0	0	0	0
PM In	8	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	20	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 2 SF Detached Housing and Senior Housing

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		10%										
Y	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	23	0	2	0	0	0	0	0	0	0	0	0	0
AM Out	64	0	0	0	0	6	0	0	0	0	0	0	0
PM In	73	0	7	0	0	0	0	0	0	0	0	0	0
PM Out	44	0	0	0	0	4	0	0	0	0	0	0	0

Zone # 3 SF Detached Housing

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

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	17	0	0	0	0	0	0	0	0	0	0	0	0
PM In	18	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	11	0	0	0	0	0	0	0	0	0	0	0	0

Zone # 4 Auto Sales/Service

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	6	0	0	0	0	0	0	0	0	0	0	1	0
AM Out	2	0	0	0	0	0	0	0	0	0	0	0	0
PM In	5	0	0	0	0	0	0	0	0	0	0	1	0
PM Out	7	0	0	0	0	0	0	0	1	0	0	0	0

