Appendix L
Local Transportation Assessment

ESA

21611 South Perry Street

Local Transportation Assessment

Prepared for:
21611 Perry Street, LLC

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LB21-0049.00

FEHR PEERS

Table of Contents

Appendices

1. Introduction

This report documents the assumptions, methodologies, and findings of a traffic and parking study conducted by Fehr & Peers to address non-CEQA related transportation needs and potential improvements for the 21611 South Perry Street self-storage/mixed-use project (the "Project") in the City of Carson, California, on a 2.8-acre site located east of the I-405 Freeway interchange with Carson Street.

1.1 Project Description

The Project is proposed to be developed in the City of Carson in the South Bay area of Los Angeles County on a currently vacant lot. It is located approximately 17.5 miles south of downtown Los Angeles and approximately 8.5 miles east of the Pacific Ocean. The Project site is comprised of approximately 2.8 acres located to the east of the I-405 Freeway interchange with Carson Street. The Project site is bounded by a single-family residential neighborhood to the north, a mix of residential and commercial uses to the east, a truck dealership to the south, and the Dominguez Channel to the west. **Figure 1** illustrates the Project site and study area. **Figure 2** includes the site plan.

The Project as analyzed in this study involves the construction of:

- 109,039 square feet (725 storage units) of self-storage warehouse space
- 2,425 square feet of self-storage office space
- 700 square feet of retail space
- 1,550 square feet of restaurant space

The Project, as illustrated in the site plan in **Figure 2**, will have side-street stop control access and egress at one driveway location. This Project driveway will provide access to and from Perry Street.

1.2 Study Scope

The scope of work for this study was determined in conjunction with the City of Carson's Transportation staff. The base assumptions and technical methodologies were discussed with the City of Carson as part of the study approach and agreed to in a memorandum of understanding, dated December 13, 2021. This memorandum is included in **Appendix E** of this document.

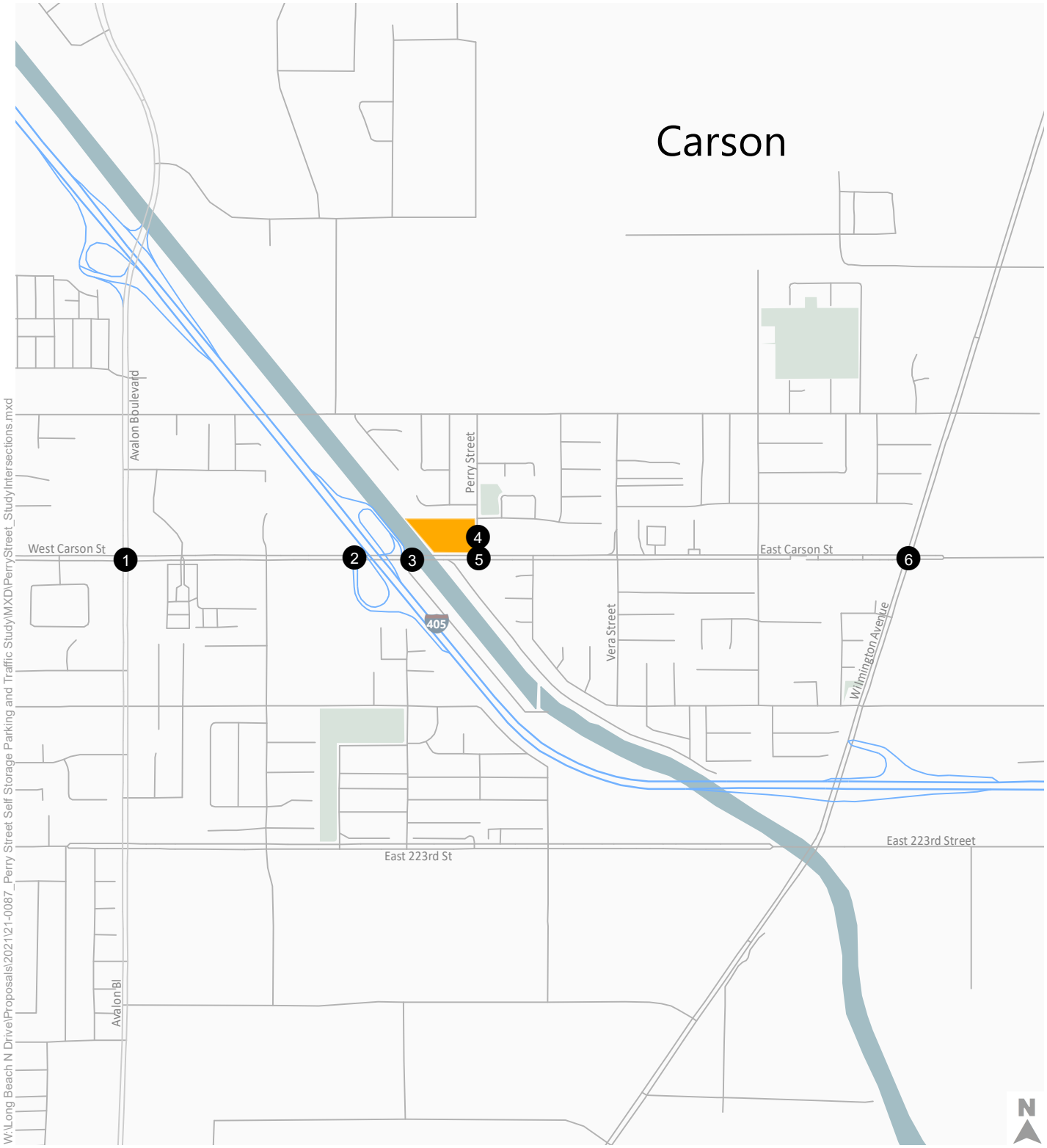


Figure 1

Project Location and Study Intersections

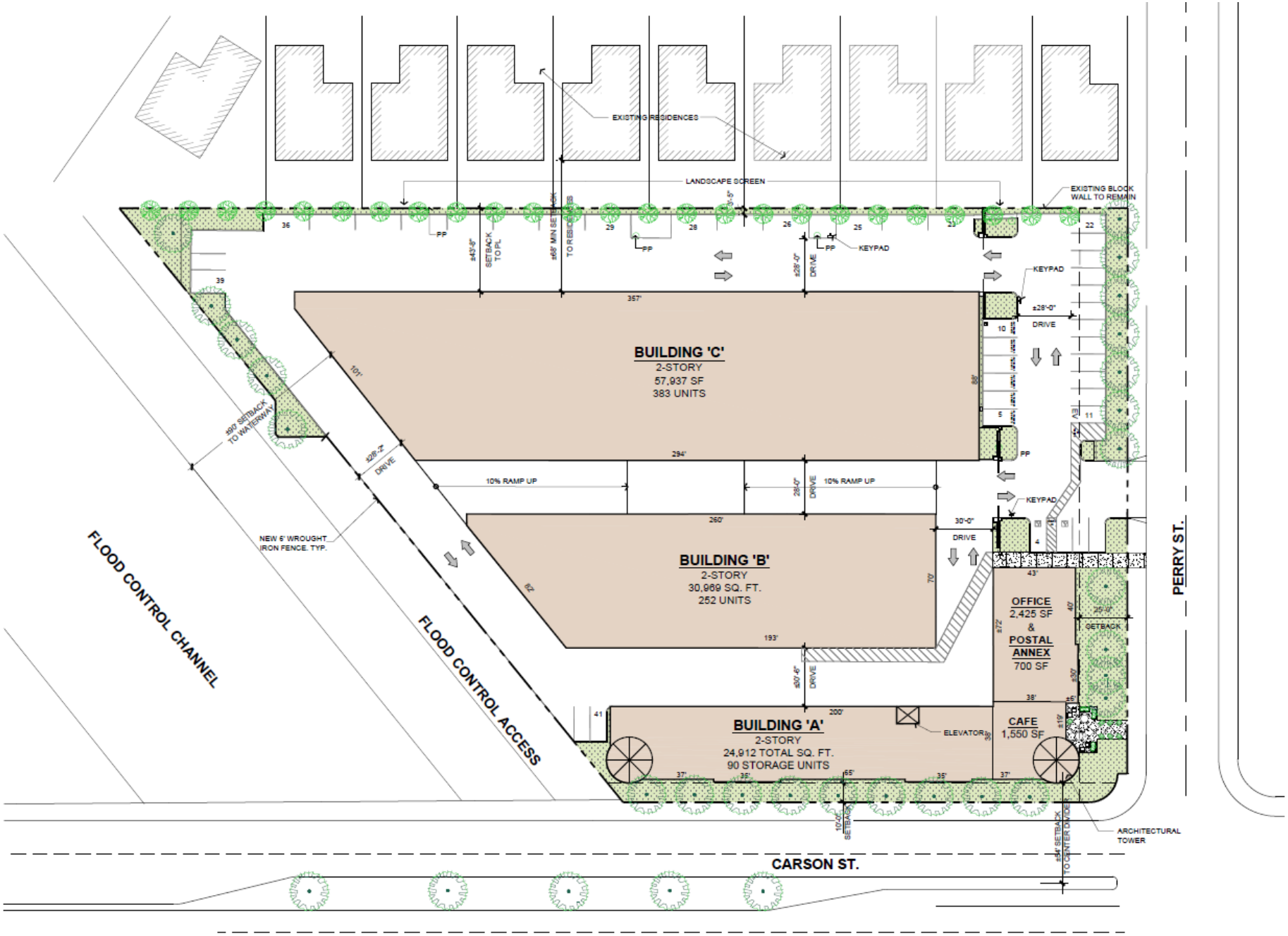


Image Source: Jordan Architects

Figure 2

Site Plan

1.3 Traffic Scenarios

The study assumes that the Project will be completed by year 2023. This study analyzes the potential project-generated traffic effects to the local street system under both existing and future year traffic conditions. The following traffic scenarios have been developed and analyzed as part of this study:

- Existing Conditions – The existing conditions analysis includes a description of the transportation system serving the Project site, existing traffic volumes, and an assessment of the operating conditions at the study analysis locations described below. This scenario is described in detail in **Chapter 2**.
- Existing plus Ambient Growth plus Project Conditions – This traffic scenario provides projected traffic volumes and an assessment of operations under existing conditions with the addition of project-generated traffic and ambient regional growth by the year 2023. The effects of the proposed Project on existing traffic operating conditions were then identified. This scenario is described in detail in **Chapter 3**.
- Future Base (Year 2023) Conditions – Future traffic projections without the proposed Project were developed for the year 2023. The objective of this analysis was to project future traffic growth and operating conditions that could be expected to result from ambient regional growth and related projects in the vicinity of the Project site by the year 2023. This scenario is described in detail in **Chapter 3**.
- Future (Year 2023) plus Project Conditions – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under future conditions with the addition of Project-generated traffic. The effects of the proposed Project on future traffic operating conditions were then identified. This scenario is described in **Chapter 3**.

1.4 Study Intersections

A total of 6 intersections were selected for the analysis of the Project in consultation with the City of Carson. Of the 6 intersections, 4 are signalized intersections and 2 are unsignalized intersections.

1.4.1 Signalized Intersections

The following signalized intersections, illustrated in **Figure 1**, were identified in conjunction with the City of Carson to be analyzed as part of the scope of work for this Project:

1. Avalon Boulevard & Carson Street
2. I-405 Southbound Ramps & Carson Street
3. I-405 Northbound Ramps/Recreation Road & Carson Street
6. Wilmington Avenue & Carson Street

1.4.2 Unsignalized Intersections

The following two unsignalized intersections, illustrated in **Figure 1**, were identified in conjunction with the City of Carson:

4. Perry Street & Project Driveway
5. Perry Street & Carson Street

1.5 Organization of Report

This report is divided into 6 chapters, including this introduction. **Chapter 2** describes the existing conditions including an inventory of the streets, highways, and transit service in the study area, a summary of existing traffic volumes, and an assessment of existing operating conditions. The methodologies used to develop traffic forecasts for the Existing, Existing plus Ambient Growth plus Project, Future Base, and Future plus Project scenarios and the forecasts themselves are included in **Chapter 3**. **Chapter 4** presents an assessment of intersection traffic conditions with the addition of Project trips. **Chapter 5** provides an assessment of the proposed Project's parking and access scheme. **Chapter 6** provides a summary and conclusions.

2. Existing Conditions

A comprehensive data collection effort was conducted to develop a detailed description of existing conditions in the study area. The assessment of conditions includes a description of the study area, an inventory of the local street system, a review of traffic volume on these facilities, an assessment of the resulting operating conditions, and the current transit service in the study area. This chapter presents a detailed description of these elements.

2.1 Study Area

The Project site is located within the City of Carson. The study area selected for analysis is bounded by the State Route 91 freeway to the north, the Harbor Freeway (I-110) to the west, State Route 47 to the east, and 223rd Street to the south. The streets in the study area are under the jurisdiction of the City of Carson, except for all freeway ramp terminal intersections which are controlled by Caltrans.

2.2 Existing Street System

As illustrated in **Figure 1**, the Project site is located just east of the I-405 Freeway interchange with Carson Street. The site is currently a vacant lot. I-405 provides the primary regional access to the Project site.

Major arterials serving the study area include Carson Street in the east/west direction and Avalon Boulevard and Wilmington Avenue in the north/south direction.

The characteristics of the freeways and major roadways serving the study area are described below.

2.2.1 Freeways

- **Interstate 405** runs in a northwest/southeast direction in the study area, extending from I-5 in the City of Irvine to the San Fernando Valley in the City of Los Angeles. In the study area, the freeway provides four lanes and one carpool lane in each direction plus auxiliary lanes. Ramps are provided at Carson Street.

2.2.2 East/West Streets

- **Carson Street** is classified as a Major Highway in the City of Carson's General Plan, Transportation and Infrastructure Element and runs in the east/west direction south of the Project site with two lanes in each direction through most of the study area. Parking is generally permitted on both sides of the street and left-turn pockets are present at major intersections. Carson Street from Figueroa Street to the I-405 interchange was recently improved as part of the Carson Street Mixed-Use District Master Plan, adding pedestrian enhancements including curb bulbouts and high-visibility crosswalks.

2.2.3 North/South Streets

- **Avalon Boulevard** is classified as a Major Highway and runs in the north/south direction west of the Project site with three travel lanes in each direction north of Carson Street and two travel lanes in each direction south of Carson Street. Parking is permitted on the blocks south of Carson Street but not on the blocks north of Carson Street. Left-turn pockets are present at major intersections.
- **Wilmington Avenue** is classified as a Major Highway and runs in the north/south direction east of the Project site with generally two travel lanes in each direction. Parking is generally permitted on both sides of the street and left-turn pockets are present at major intersections.

Lane configurations of the study intersections are provided in **Appendix A**.

2.3 Existing Public Transit Service

The Project site is served by one public transit route, Long Beach Transit Route 4, which provides service to the LA Metro J Line bus rapid transit at Carson Station and the LA Metro A Line light rail at Del Amo Station. Route 4 provides service every 40 minutes on weekdays and Saturdays.

2.4 Existing Bicycle and Pedestrian Facilities

Figure 3 shows existing bicycle facilities in the study area. As shown in the figure, the study area has a limited existing bikeway network. Carson Street is now designated as a Class III bike route west of I-405 as part of the recent street improvements. The study area generally has a network of 4- to 8-foot-wide sidewalks but does not have crosswalks on all intersection legs and countdown pedestrian signals at all marked crossings.

There are several bike lanes and bike routes planned throughout the study area as well as a planned extension of the bike path along the Dominguez Channel, east of I-405. Proposed bicycle facilities are also shown in **Figure 4**. Data on the proposed facilities come from two sources: the City of Carson Master Plan of Bikeways and Metro's Active Transportation Strategic Plan.

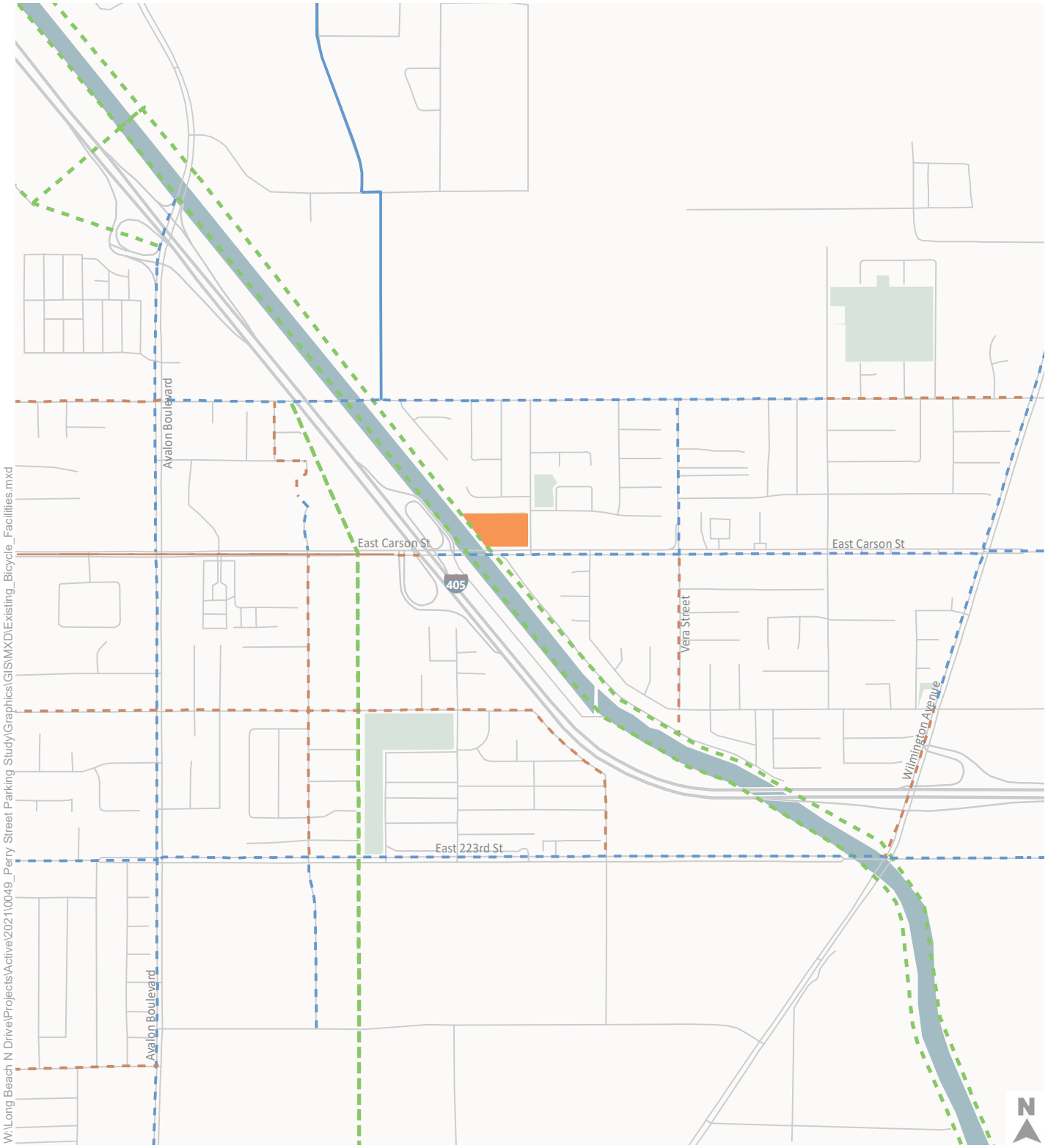


Figure 3

Existing and Proposed Bicycle Facilities

2.5 Existing Traffic Volumes and Level of Service

This section presents existing peak hour traffic volumes, describes the methodology used to assess traffic conditions at each intersection, and analyzes the resulting operating conditions at each location, indicating average vehicle delay and levels of service (LOS).

2.5.1 Existing Traffic Volumes

Due to significant changes in travel behavior caused by the COVID-19 pandemic, this study utilized AM and PM peak hour traffic counts collected in the year prior to the start of the pandemic (March 2019-March 2020). Since pre-pandemic traffic counts were not available for Intersection 5 – Perry Street & Carson Street, new traffic counts were collected at this location on Thursday, December 9, 2021. Adjustment factors were then applied to the new traffic counts to estimate pre-pandemic traffic levels. These adjustment factors were derived by comparing the pre-pandemic counts at nearby intersections with the new counts. Specifically, traffic heading towards the I-405 Freeway in the AM peak hour was increased by approximately 30% and traffic heading away from the I-405 Freeway in the PM peak hour was increased by approximately 20%. The existing weekday morning and evening peak hour volumes at the study intersections, and the adjustment factor volumes, are provided in **Appendix A**. Signal timing plans for the signalized study intersections are provided in **Appendix B**. Traffic count worksheets for the study intersections are contained in **Appendix C**.

2.5.2 Level of Service Methodology

Per the City of Carson guidelines, study intersections are analyzed using the Highway Capacity Manual (HCM), 6th Edition method. The HCM method estimates the average vehicle delay at each intersection based on key parameters including traffic volume, signal timing, and roadway geometry. The overall intersection delay per vehicle is subsequently assigned a LOS value to describe intersection operations, as shown in **Table 1**. LOS ranges from LOS A (free flow) to LOS F (gridlock condition).

The two unsignalized study intersections (Intersections 4 and 5) are both side-street stop-controlled, and the LOS for these intersections is based on the worst operating stop-controlled approach.[1] **Table 1** also shows the LOS values assigned based on stop-controlled approach delay per vehicle for unsignalized intersections using the HCM method.

2.5.3 Existing 2019 Levels of Service

Existing year traffic volumes, presented in **Appendix A**, were analyzed using the methodologies described above to determine the existing operating conditions at the study intersections. **Table 2** summarizes the resulting seconds of delay per vehicle and the corresponding LOS at each of the analyzed intersections.

[1] The analysis for Intersection 5 includes southern approach volumes for reference. The southern approach is the private driveway for a truck dealer facility. Since the southern approach is a private driveway with low traffic volumes in all scenarios, the LOS reported for this intersection is based on the delay for the northern approach.

All existing study intersections operate at LOS D or better during both peak periods. Detailed LOS analysis sheets for the Project are provided in **Appendix D**.

Table 1: HCM Level of Service Definitions

LOS	Description for Signalized Intersections	Signalized Delay (Seconds)	Unsignalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operations with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).

Table 2: Existing Levels of Service

Study Intersection	Control Type	Period	Delay (s)	LOS
1. Avalon Boulevard & Carson Street	Signalized	AM	39.9	D
		PM	51.2	D
2. I-405 SB Ramps & Carson Street	Signalized	AM	9.4	A
		PM	10.2	B
3. I-405 NB Ramps & Carson Street	Signalized	AM	7.5	A
		PM	8.1	A
4. Perry Street & Project Driveway	TWSC [1]	AM	Project Only Scenarios	
		PM		
5. Perry Street & Carson Street	TWSC	AM	18.3	C
		PM	19.0	C
6. Wilmington Avenue & Carson Street	Signalized	AM	28.2	C
		PM	26.0	C

[1] TWSC = Two-Way Stop-Controlled
Source: Fehr & Peers.

3. Traffic Projections

3.1 Project Traffic

The development of trip generation estimates for the proposed Project involves the use of a 3-step process: trip generation, trip distribution, and traffic assignment.

3.1.1 Project Trip Generation

As indicated in Chapter 1, the proposed Project uses include 109,039 square feet (or 725 storage units) of self-storage warehouse space, 2,425 square feet of self-storage office space, 700 square feet of retail space, and 1,550 square feet of restaurant space.

Trip generation rates from *Trip Generation, 11th Edition* (Institute of Transportation Engineers [ITE], 2021) were used to estimate the number of trips associated with the Project and are presented in **Table 3**. As described below, reductions were applied to the standard ITE rates to account for pass-by trips. The standard ITE rates reflect land uses within a suburban, auto-oriented environment. To be conservative, this analysis does not include trip reductions for walking, biking and transit use beyond the levels found in a typical suburban environment.

Pass-by credits account for patrons making an intermediate stop on the way from an origin to a primary trip destination without a route diversion. A typical pass-by trip is a retail destination that people may visit on the way home from work. These trips would be attracted from traffic passing the site on nearby streets. The City of Carson does not have standard pass-by credit guidelines. Instead, pass-by credits were informed by the ITE *Trip Generation Handbook*.

As shown in **Table 3**, the Project will generate an estimate net increase of 580 daily trips, including 93 trips (49 inbound/44 outbound) during the AM peak hour and 45 trips (22 inbound/23 outbound) during the PM peak hour.

3.1.2 Project Traffic Distribution

The geographic distribution of traffic generated by the proposed Project depends on several factors. These include the type and density of the proposed land uses, the geographic distribution of population and employment centers from the patrons and employees of the Project may be drawn, and the location of the Project's driveway access in relation to the surrounding street system. Considering these factors, trip distribution patterns were developed according to the nature of the land uses and the corresponding percentage of traffic likely to use the freeway versus the local street system to access the Project site. **Figure 4** illustrates the distribution pattern for the Project.

TABLE 3
PERRY STREET SELF-STORAGE PROJECT
ESTIMATED PROJECT TRIP GENERATION

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
Mini-Warehouse	151	7.25 Units (100s) [b]	17.96	1.21	51%	49%	1.68	50%	50%	130	5	4	9	6	6	12
Less: Internal capture			*0%*		*0%*	*0%*		*0%*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Less: Walk/Bike/Transit Credit [c]			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net External Vehicle Trips										130	5	4	9	6	6	12
Coffee/Donut Shop without Drive-Through Window [d]	936	1.55 KSF	450.49	93.08	51%	49%	32.29	50%	50%	698	73	71	144	25	25	50
Less: Internal capture			*0%*		*0%*	*0%*		*0%*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Less: Walk/Bike/Transit Credit [c]			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total Driveway Trips										698	73	71	144	25	25	50
Less: Pass-by			*43%*	*43%*			*43%*			*(300)*	*(31)*	*(31)*	*(62)*	*(11)*	*(11)*	*(22)*
Net External Vehicle Trips										398	42	40	82	14	14	28
Copy, Print, and Express Ship Store [e]	920	0.7 KSF	74.2	2.78	75%	25%	7.42	44%	56%	52	2	0	2	2	3	5
Less: Internal capture			*0%*		*0%*	*0%*		*0%*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Less: Walk/Bike/Transit Credit [c]			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total Driveway Trips										52	2	0	2	2	3	5
Less: Pass-by			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net External Vehicle Trips										52	2	0	2	2	3	5
TOTAL DRIVEWAY TRIPS										880	80	75	155	33	34	67
TOTAL PROJECT EXTERNAL VEHICLE TRIPS										580	49	44	93	22	23	45
EXISTING USE CREDIT																
Vacant Lot	-		-	-	-	-	-	-	-	0	0	0	0	0	0	0
TOTAL EXISTING DRIVEWAY TRIPS										0	0	0	0	0	0	0
NET INCREMENTAL EXTERNAL TRIPS										580	49	44	93	22	23	45

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021

[b] The independent variable used to estimate trip generation for the self-storage use is total number of storage units. Trip generation for the self-storage office space is considered to be inclusive, per the ITE approach.

[c] A 0% Walk/Bike/Transit Credit was used based on the site's general suburban context.

[d] ITE use 933 - Fast-Food Restaurant without Drive-Through Window used for daily rate due to lack of daily rate data for ITE use 936 - Coffee/Donut Shop without Drive-Through Window.

[e] ITE use 920 does not have a daily rate. The daily rate is estimated to be 10 times greater than the PM peak hour traffic volume for the use.

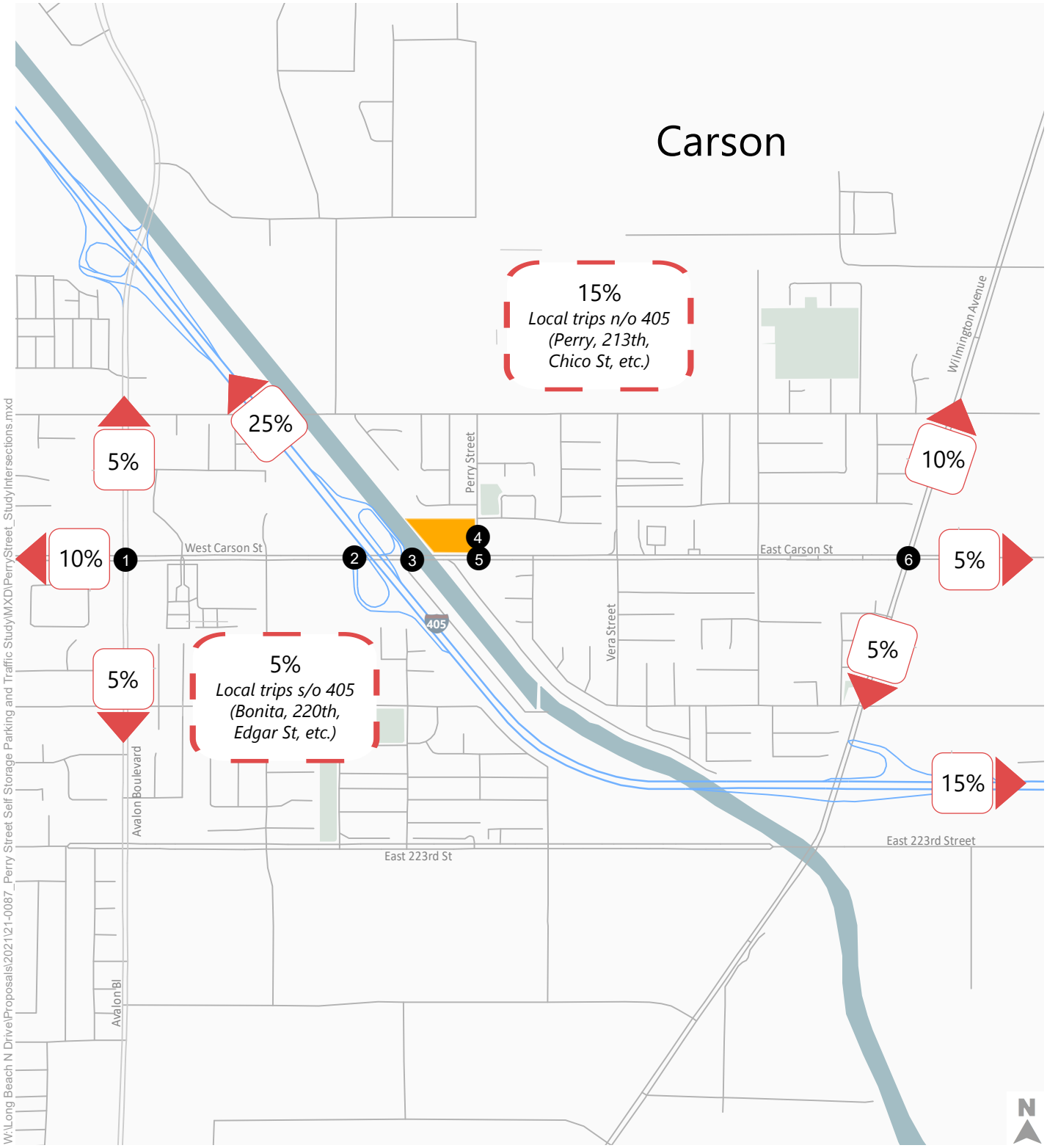


Figure 4

Project Trip Distribution

3.1.3 Project Traffic Assignment

The traffic expected to be generated by the proposed Project was assigned to the street network using the distribution patterns illustrated in **Figure 4**. **Appendix A** shows the assignment of Project-only traffic volumes for the morning and evening peak hours at the 6 analyzed intersection locations.

3.2 Existing Plus Ambient Growth Plus Project Traffic Conditions

Based on historic trends and at the direction of the City of Carson, it was established that an ambient growth factor of 0.5% per year should be applied to adjust the existing base year traffic volumes to reflect the effects of regional growth and development by year 2023. This growth factor was applied to the 2019 traffic volume data to reflect the effect of ambient growth by the year 2023.

The Project traffic estimated and assigned to the study intersections was added to the existing traffic volumes along with the regional ambient traffic growth to estimate Existing plus Ambient Growth plus Project traffic volumes. Turning movement traffic volumes for the Existing plus Ambient Growth plus Project scenario are provided in **Appendix A**. Analysis sheets are provided in **Appendix D**.

3.3 Future Year 2023 Traffic Conditions

To evaluate the potential effects of the proposed Project on future (Year 2023) conditions, it was necessary to develop estimates of future traffic conditions in the area both with and without Project traffic. First, estimates of traffic growth were developed for the study area to forecast future conditions without the Project. These forecasts included traffic increases due to both regional ambient traffic growth and traffic generated by specific developments in the vicinity of the Project (related projects). Including both ambient growth and trips from specific projects proposed within the vicinity of the Project provides a conservative estimate of future traffic projections.

These projected traffic volumes, identified herein as the Future Base conditions, represent the future conditions without the proposed Project.

3.3.1 Related Project Traffic Generation and Assignment

Future Base traffic forecasts include the effects of known specific projects, called related projects, expected to be implemented in the vicinity of the proposed Project. A list of related projects was prepared based on data from the City of Carson. A total of 25 related projects were identified in the study area; these projects are listed in **Table 4** and illustrated in **Figure 5**.

3.3.1.1 Trip Generation

Trip generation estimates for the related projects were calculated using a combination of previous study findings, publicly available environmental documentation, and trip generation rates contained in *Trip*

Generation, 10th Edition.[2] **Table 4** presents the resulting trip generation estimates for these related projects. These trip generation projections are conservative in that they do not in every case account for either the existing uses to be removed or the possible use of walking, biking and transit. Traffic mitigation measures associated with the related projects are not considered in order to conduct a more conservative analysis.

3.3.1.2 Trip Distribution

The geographic distribution of the traffic generated by the related projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments may be drawn, the locations of employment and commercial centers to which residents of residential projects may be drawn, and the location of the projects in relation to the surrounding street system. Additionally, if the traffic study or environmental document for a related project was available, the trip distribution from that study was considered.

Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network.

3.3.2 Future Year 2023 Base Traffic Volumes

Future (Year 2023) Base weekday AM and PM peak hour traffic volumes and lane geometries for the analyzed intersections are provided in **Appendix A**. The Future Base traffic conditions represent an estimate of future conditions without the proposed Project inclusive of the regional ambient growth and related projects traffic.

3.4 Future Plus Project Traffic Projections

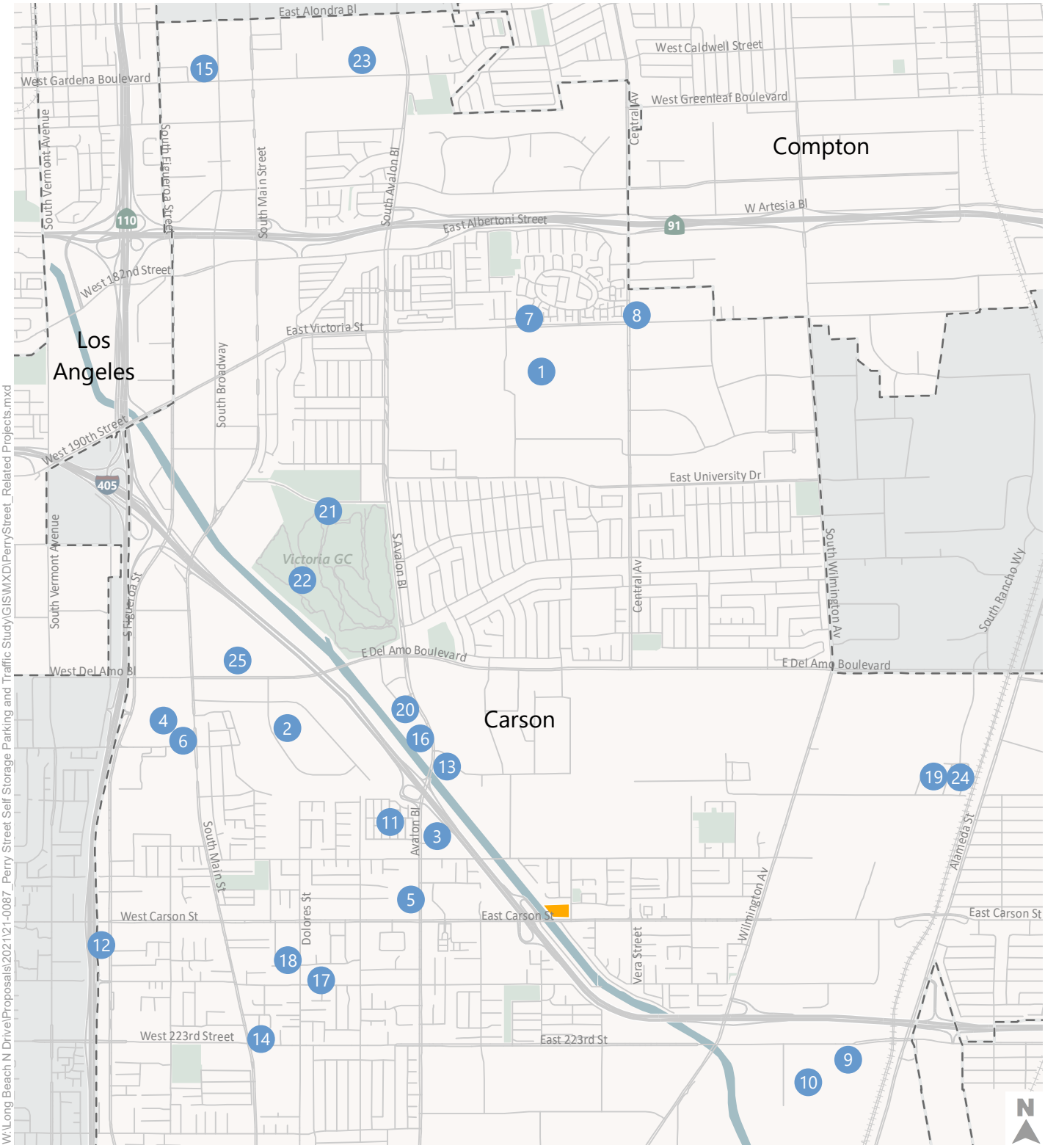
The proposed Project traffic volumes were added to the Future (Year 2023) Base traffic projections, resulting in Future (Year 2023) plus Project AM and PM peak hour traffic volumes. The Future (Year 2023) plus Project scenario represents future traffic conditions with the completion of the proposed Project. **Appendix A** shows the lane configurations and volumes analyzed as part of the Future plus Project scenario.

[2] Trip generation estimates for related projects, along with previous study findings and publicly available environmental documentation, were conducted prior to the issuance of *Trip Generation, 11th Edition*.

TABLE 4
PERRY STREET SELF STORAGE PROJECT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
1	CSUDH Master Plan	Mixed Use	[1]	[1]	N/A	2,299	1,415	3,714	1,940	2,286	4,226
2	The District at South Bay	Mixed Use	[1]	[1]	42,791	1,490	1,349	2,838	1,809	1,997	3,805
3	21212 Avalon Blvd	Mixed Use	[1]	[1]	9,779	171	347	518	391	268	659
4	20601 S Main St	Industrial Park	267	ksf	900	87	20	107	22	85	107
5	Union South Bay (21521 S Avalon Blvd)	Multifamily	357	du	3,685	54	156	210	199	137	335
		Shopping	31	ksf							
6	225 W Torrance Blvd	Multifamily	356	du	1,937	33	95	128	96	61	157
7	1007 E Victoria St	Multifamily	35	du	278	4	13	17	13	8	21
8	NEC Victoria and Central	Multifamily	175	du	1,281	19	62	81	62	36	98
9	2254 E 223rd St	Warehousing	121	ksf	429	29	8	36	10	29	39
10	2112 E 223rd St	Warehousing	292	ksf	507	38	12	50	14	41	55
11	21207 Avalon Blvd	Mixed Use	[1]	[1]	5,586	125	277	402	283	174	457
12	21809-21811 S Figueroa St	Multifamily	32	du	234	3	11	14	11	7	18
13	888 E Dominguez St	Hotel	118	keys	905	32	22	54	36	35	71
14	123 E 223rd st	Multifamily	10	du	36	2	1	3	1	2	3
15	333 W Gardena Blvd	Warehousing	146	ksf	276	19	6	25	7	21	28
16	20707 Avalon Blvd	Retail	3	ksf	608	26	26	52	22	20	42
17	345/349 E 220th St	Multifamily	35	du	256	4	12	16	12	7	19
18	21915 S Dolores St	Multifamily	5	du	37	1	2	3	2	2	4
19	2315 E Dominguez St	Warehousing	14	ksf	68	1	1	2	1	2	3
20	20501 Avalon Blvd	Retail	5	ksf	1,013	44	43	86	37	34	70
21	Carol Kimmelman Campus	Mixed Use	[1]	[1]	3,808	105	83	188	244	192	436
22	Creek Dominguez Hills	Mixed Use	[1]	[1]	16,132	580	384	964	727	669	1,396
23	439 E Gardena Blvd	Warehousing	4	ksf	52	1	0	1	0	1	1
24	20950 Brant Ave	Retail	4	ksf	151	2	2	4	7	8	15
25	20330 S Main St	Multifamily	300	du	1,580	27	109	136	84	45	129
				Total	92,329	5,196	4,456	9,649	6,030	6,167	12,194

Notes:
du = dwelling unit
ksf = one thousand square feet
[1] Mixed Use developments contain more than one independent variable to calculate trip generation.
Related projects list is based on information provided by the City of Carson, the County of Los Angeles, publicly available environmental documentation, and trip generation rates contained in ITE Trip Generation, 10th Edition.



Proposed Project Site

Cities

Related Projects

Figure 5

Related Projects

4. Intersection Traffic Analysis

The intersection traffic analysis evaluates the projected LOS at each study intersection under the Existing plus Ambient Growth plus Project and Future (Year 2023) plus Project conditions to estimate the incremental increase in seconds of delay per vehicle expected to be caused by the proposed Project.

4.1 Existing Plus Ambient Growth Plus Project Analysis

4.1.1 Existing Plus Ambient Growth Plus Project Traffic Level of Service

The Existing plus Ambient Growth plus Project traffic volumes presented in **Appendix A** were analyzed to determine the projected delay per vehicle and LOS for each of the study intersections. **Table 5** summarizes the Existing plus Ambient Growth plus Project LOS. Analysis sheets are provided in **Appendix D**. As shown in **Table 5**, all study intersections are projected to operate at LOS D or better during both morning and evening peak hours under Existing plus Ambient Growth plus Project conditions.

4.2 Future Plus Project Analysis

4.2.1 Future Base Traffic Level of Service

The Future (Year 2023) Base peak hour traffic volumes were analyzed to determine the projected seconds of delay per vehicle and LOS for each of the study intersections. **Table 6** summarizes the future LOS at each intersection. Five of the 6 study intersections are projected to operate at LOS D or better during the morning and evening peak hours under Future Base conditions.

The following study intersection is projected to operate at LOS E under Future Base conditions:

1. Avalon Boulevard & Carson Street (AM & PM Peak Hours)

Detailed LOS analysis sheets for the Future Base scenario are provided in **Appendix D**.

4.2.2 Future Plus Project Traffic Level of Service

The Future (Year 2023) plus Project peak hour traffic volumes, provided in **Appendix A**, were analyzed to determine the projected future operating conditions with the addition of the proposed Project traffic. The results of the Future (Year 2023) plus Project analysis are also presented in **Table 6**, with analysis sheets provided in **Appendix D**. Five of the 6 study intersections are projected to operate at LOS D or better during the morning and evening peak hours under Future plus Project conditions.

The following study intersection is projected to operate at LOS E under Future plus Project conditions:

1. Avalon Boulevard & Carson Street (AM & PM Peak Hours)

Table 5: Existing Plus Ambient Growth Plus Project Levels of Service

Study Intersection	Period	Existing		Existing + Ambient + Project	
		Delay (s)	LOS	Delay (s)	LOS
1. Avalon Boulevard & Carson Street	AM	39.9	D	42.3	D
	PM	51.2	D	53.6	D
2. I-405 SB Ramps & Carson Street	AM	9.4	A	9.9	A
	PM	10.2	B	10.7	B
3. I-405 NB Ramps & Carson Street	AM	7.5	A	7.7	A
	PM	8.1	A	8.2	A
4. Perry Street & Project Driveway	AM	Project Only Scenario		9.5	A
	PM			9.4	A
5. Perry Street & Carson Street	AM	18.3	C	24.5	C
	PM	19.0	C	19.6	C
6. Wilmington Avenue & Carson Street	AM	28.2	C	29.5	C
	PM	26.0	C	26.8	C

Source: Fehr & Peers.

Table 6: Future Base and Future Plus Project Levels of Service

Study Intersection	Period	Future Base		Future + Project	
		Delay (s)	LOS	Delay (s)	LOS
1. Avalon Boulevard & Carson Street	AM	**59.1**	**E**	**59.8**	**E**
	PM	**79.0**	**E**	**79.4**	**E**
2. I-405 SB Ramps & Carson Street	AM	9.5	A	9.9	A
	PM	11.3	B	11.4	B
3. I-405 NB Ramps & Carson Street	AM	7.7	A	7.9	A
	PM	8.1	A	8.2	A
4. Perry Street & Project Driveway	AM	Project Only Scenario		9.5	A
	PM			9.4	A
5. Perry Street & Carson Street	AM	21.8	C	31.6	D
	PM	27.2	D	31.3	D
6. Wilmington Avenue & Carson Street	AM	29.8	C	30.2	C
	PM	29.4	C	29.5	C

Source: Fehr & Peers.

5. Site Access Analysis

5.1 Project Driveway

The Project will provide direct access to and from Perry Street from a new driveway between 216th Street and Carson Street. The project driveway approach will be stop-controlled. This driveway is included in the LOS analysis portion of this study as Intersection 4. **Figure 2** shows the site plan and Project driveway access.

5.2 Queuing Analysis

A queueing analysis was performed for all study intersections and all traffic volume scenarios to determine if the addition of Project traffic causes potential safety issues related to spill over queues. Study intersections are considered adversely affected if the Project's traffic contributes to unacceptable queuing, defined as:

- Spill over from turn pockets into through lanes
- Spill over into intersections

This analysis utilized the *HCM, 6th Edition* methodology to calculate the 95th percentile queue lengths for each left-turn pocket of each study intersection. Additionally, the 95th percentile queue length for the northbound left-turn movement into the Project site from Perry Street was measured. **Table 7** presents a summary of the left-turn pocket queuing analysis for Existing, Existing plus Ambient Growth plus Project, Future (Year 2023) Base, and Future (Year 2023) plus Project scenarios. As shown in **Table 7**, although several queues exceed the turn pocket storage length, these issues occur even without the addition of Project trips. Also, Project traffic is never estimated to add more than one vehicle to any queue length. These findings suggest that the addition of Project traffic will not cause any new potential safety issues related to spill over queuing. Detailed analysis sheets for each study intersection are provided in **Appendix D**.

Table 7: Study Intersection Left-Turn Pocket Queuing

Study Intersection	Direction	Storage Length (ft)	Period	Existing	Existing Ambient Project	Future Base	Future Project	Unacceptable?
1. Avalon Boulevard & Carson Street	SBL	145	AM	200	200	500	500	NO
			PM	375	400	725	725	NO
	WBL	210	AM	250	275	275	275	NO
			PM	250	275	250	275	NO
	NBL	140	AM	150	150	150	150	NO
			PM	150	150	200	200	NO
	EBL	225	AM	125	125	150	150	NO
			PM	125	125	200	200	NO
2. I-405 SB Ramps & Carson Street	WBL	55	AM	100	100	75	100	NO
			PM	75	100	75	100	NO
	EBL	45	AM	25	25	25	25	NO
			PM	25	25	25	25	NO
	Off-Ramp	1,130	AM	75	75	75	75	NO
			PM	25	50	50	50	NO
3. I-405 NB Ramps & Carson Street	WBL	100	AM	25	25	25	25	NO
			PM	50	50	50	50	NO
	EBL	70	AM	125	150	150	150	NO
			PM	175	175	150	150	NO
	Off-Ramp	1,220	AM	50	50	50	50	NO
			PM	75	75	75	75	NO
4. Perry Street & Project Driveway	NBL	150	AM	Project Only Scenario	25	Project Only Scenario	25	NO
			PM		0		0	NO
5. Perry Street & Carson Street	WBL	75	AM	0	0	0	0	NO
			PM	0	0	0	0	NO
	EBL	100	AM	25	25	25	25	NO
			PM	25	25	25	25	NO
6. Wilmington Avenue & Carson Street	SBL	210	AM	200	200	225	225	NO
			PM	400	425	425	425	NO
	WBL	195	AM	125	125	125	125	NO
			PM	100	100	100	100	NO
	NBL	295	AM	100	125	125	125	NO
			PM	150	150	150	150	NO
	EBL	195	AM	250	275	275	300	NO
			PM	175	175	175	175	NO

Source: Fehr & Peers.

5.3 Parking Demand Analysis

The Project site plans to provide 41 total parking spaces to serve the on-site uses. Of the 41 total parking spaces, 19 are designated for the self-storage use and are located within a controlled-access gated area. Only customers and employees of the self-storage facility will have access to these spaces. The remaining 22 spaces are available to serve all on-site users, including customers and employees of the retail and restaurant uses and prospective customers for the self-storage use.

5.3.1 Municipal Code Required Parking

The Carson Municipal Code includes minimum off-street parking ratios as a general requirement for new developments within the City[3]. **Table 8** shows the code parking requirements for the proposed Project land uses. As shown in the table, if the code were applied, the parking requirement would be 65 – or 24 more spaces than proposed. Therefore, the proposed parking supply would not meet the minimum code requirement for off-street parking.

Table 8: Carson Municipal Code Parking Requirements

Land Use	Parking Ratio	Size	Parking Spaces
Self-Storage	1 space per 20 units of storage area	725 units	36
	1 space per 300 SF of office area	2,425 SF	8
Restaurant	1 space per 100 SF	1,550 SF	16
Retail	1 space per 300 SF (Minimum of 5 spaces)	700 SF	5
		Total	**65**

Source: City of Carson, Fehr & Peers.

5.3.2 ITE Parking Generation Rates

The Institute of Transportation Engineers (ITE) maintains an informational report, *Parking Generation*, based on parking demand studies submitted to ITE by public agencies; consulting firms (including Fehr & Peers); universities and colleges; developers; associations; and local sections, districts, and student chapters of ITE. The data in the report is periodically updated, and is currently in its fifth edition, published in 2019[4]. Included in this report is empirically collected hourly parking demand count data from a variety of uses in the U.S. and Canada.

Based on the compiled parking data, peak period parking demand can be estimated at similar facilities using independent variables specified in the ITE report and either fitted curve or average demand rates. To evaluate the number of spaces needed at the proposed Project, this analysis uses the gross floor area

[3] *Carson Municipal Code, Section 9162.21,* City of Carson, 2022
[4] *Parking Generation, Fifth Edition,* Institute of Transportation Engineers, Washington D.C., 2019

from the proposed Project site and the demand rates from the ITE report to estimate peak period parking demand.

Table 9 provides a summary of estimated peak parking demand using the data from the ITE report. As shown in **Table 9**, the estimated peak parking demand for the proposed project using the ITE method is 29 spaces. This finding suggests that the 41 parking spaces proposed for the project will be more than adequate to accommodate peak parking demand for the Project.

Table 9: Peak Parking Demand Estimate – ITE Method

ITE Land Use Code	Equation [2]	Project Size	Project Demand
151 – Mini-Warehouse [1]	P = 0.1x	111,464 SF	11
936 – Coffee/Donut Shop without Drive-Through Window	P = 10.49x	1,550 SF	16
920 – Copy, Print, and Express Ship Store	P = 3.01x	700 SF	2
		Total	**29**

[1] The ITE report specifies Mini-Warehouse to be "typically referred to as 'self-storage' facilities."
[2] P = Parked Vehicles, x = 1,000 square feet increments of gross floor area.
Source: Fehr & Peers.

6. Summary and Conclusions

The following summarizes the results of the Project's traffic and parking study analysis:

- The Project consists of the proposed construction of 109,039 square feet (or 725 storage units) of self-storage warehouse space, 2,425 square feet of self-storage office space, 700 square feet of retail space, and 1,550 square feet of restaurant space.

- The site on which the Project will be developed is comprised of approximately 2.8 acres located to the east of the I-405 Freeway interchange with Carson Street. The Project proposes to provide side-street stop-controlled vehicular ingress and egress at one location: along Perry Street midblock between Carson Street and 216th Street.

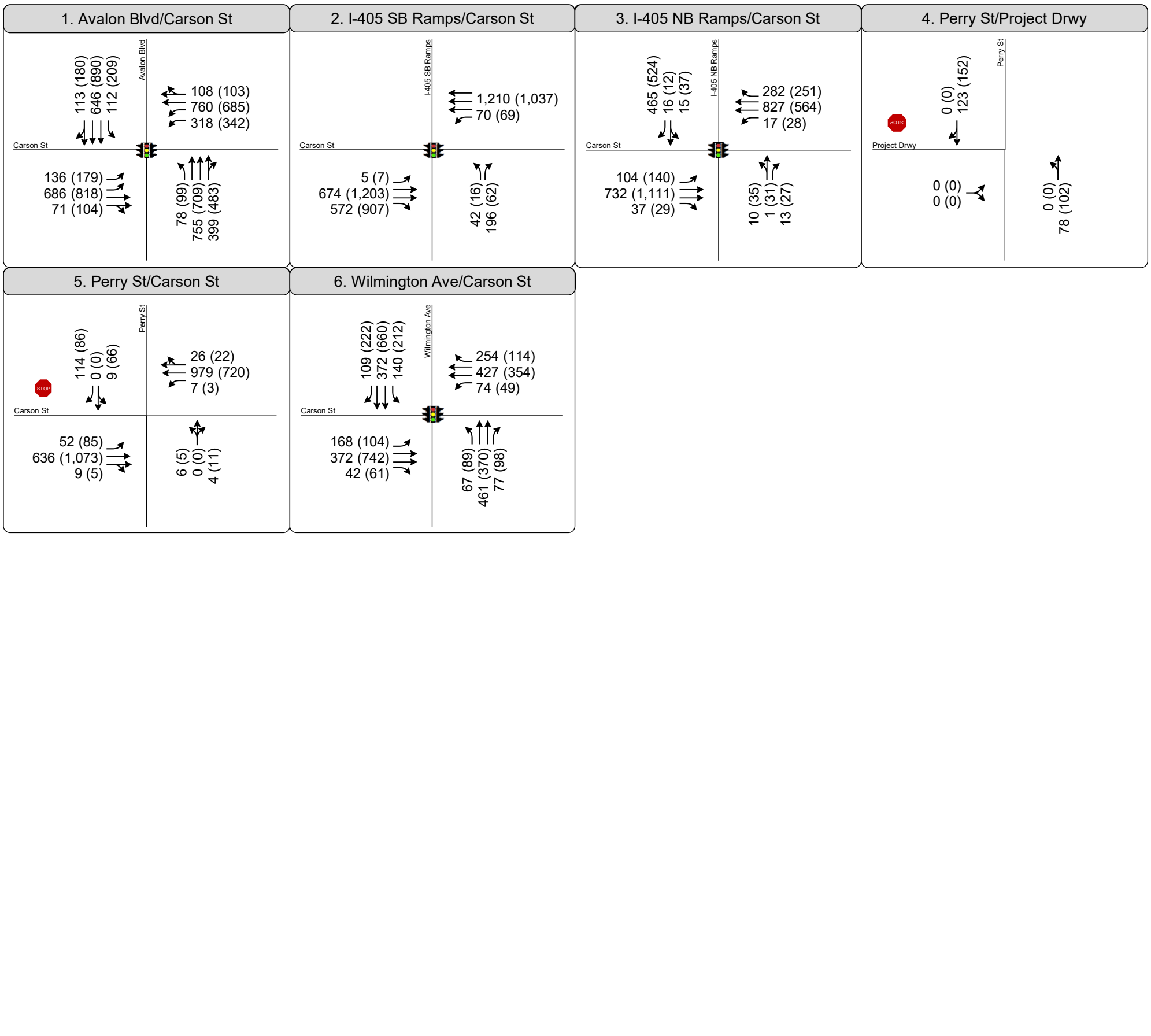
- The Project is expected to generate approximately 580 net new daily trips, 93 net new trips during the AM peak hour, and 45 net new trips during the PM peak hour.

- The addition of Project trips does not cause average vehicle delay at any study intersection to worsen from LOS D or better to LOS E or F.

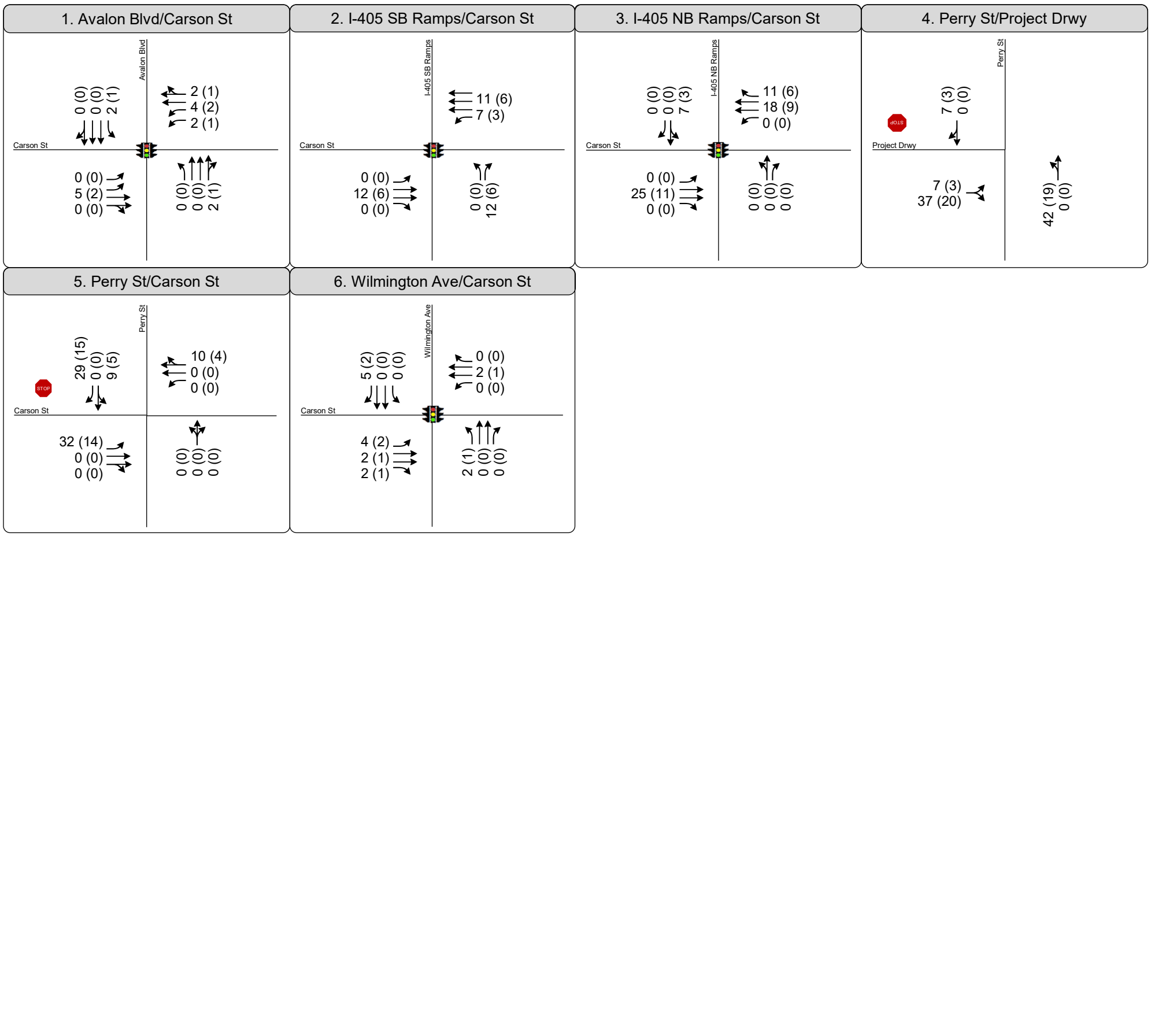
- The addition of Project trips does not cause spill over queuing at any study intersection. At intersections already experiencing spill over queueing without Project trips, the addition of Project trips increases the queue by no more than one vehicle at any study intersection approach.

- Using the ITE method for estimating parking demand, the proposed on-site parking supply of 41 spaces is more than adequate to accommodate the estimated peak parking demand of 29 spaces.

APPENDIX A:
LANE CONFIGURATIONS AND TRAFFIC VOLUMES



Traffic Volumes and Lane Configurations
Existing Conditions - AM (PM) Peak Hour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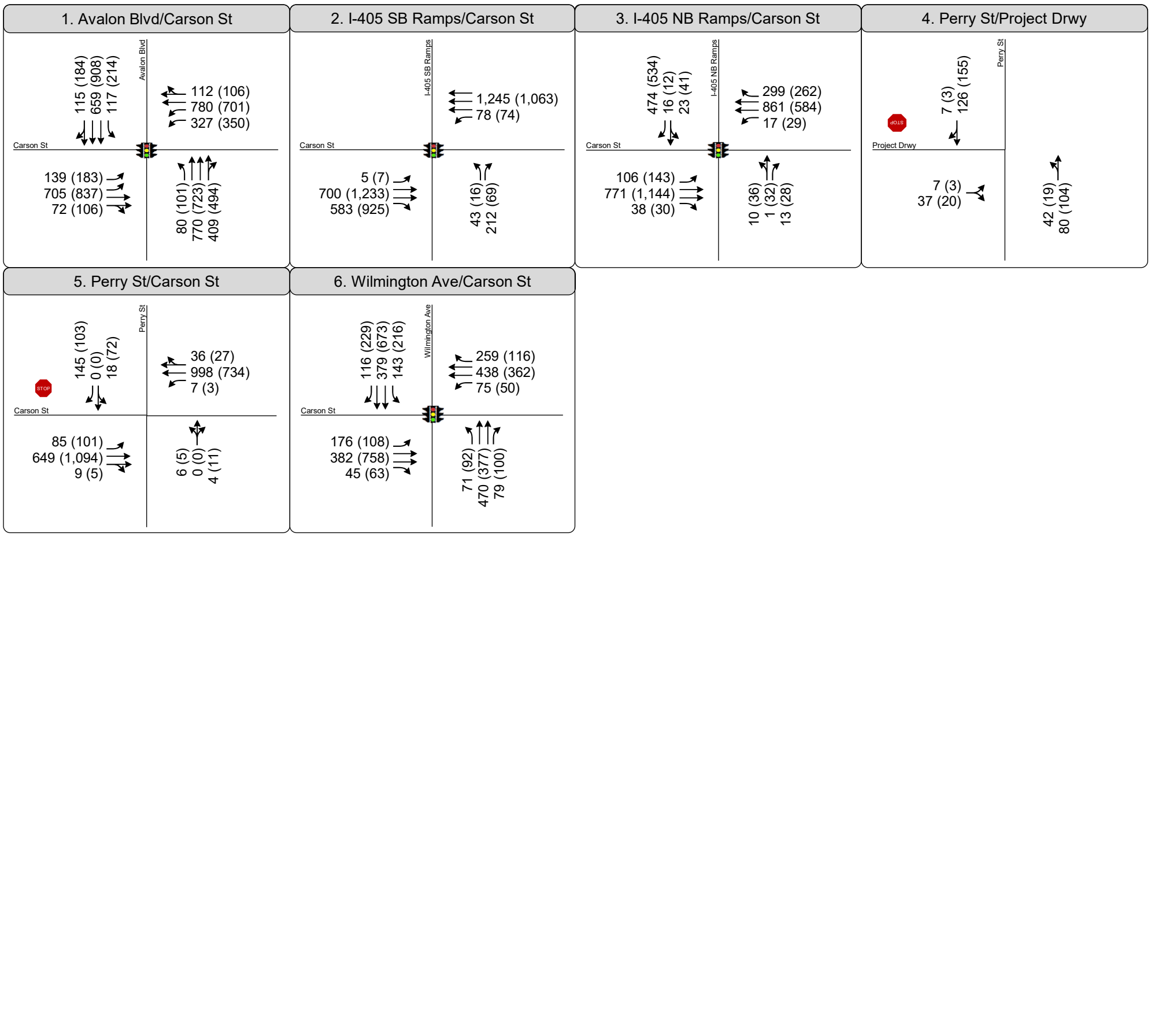
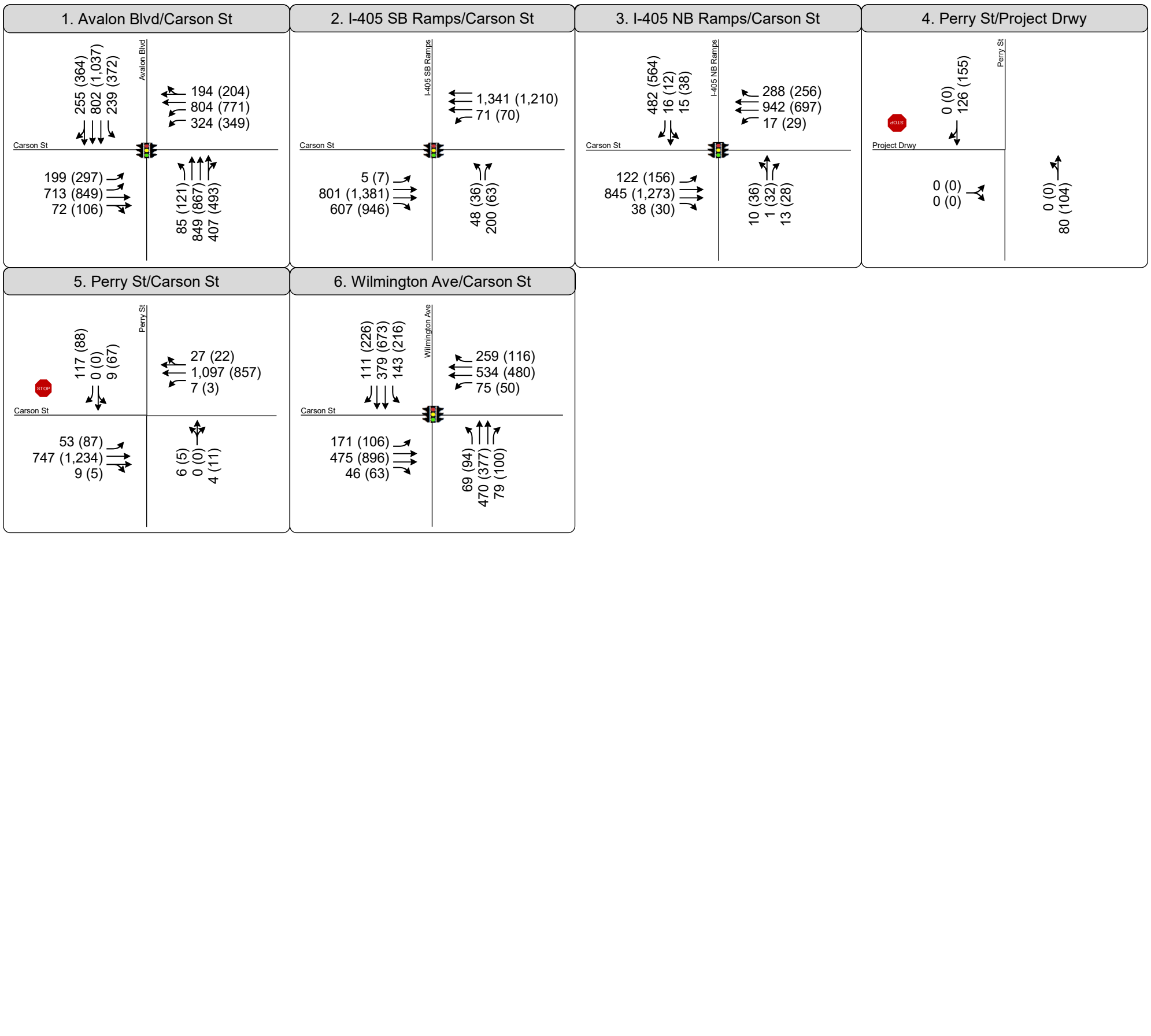
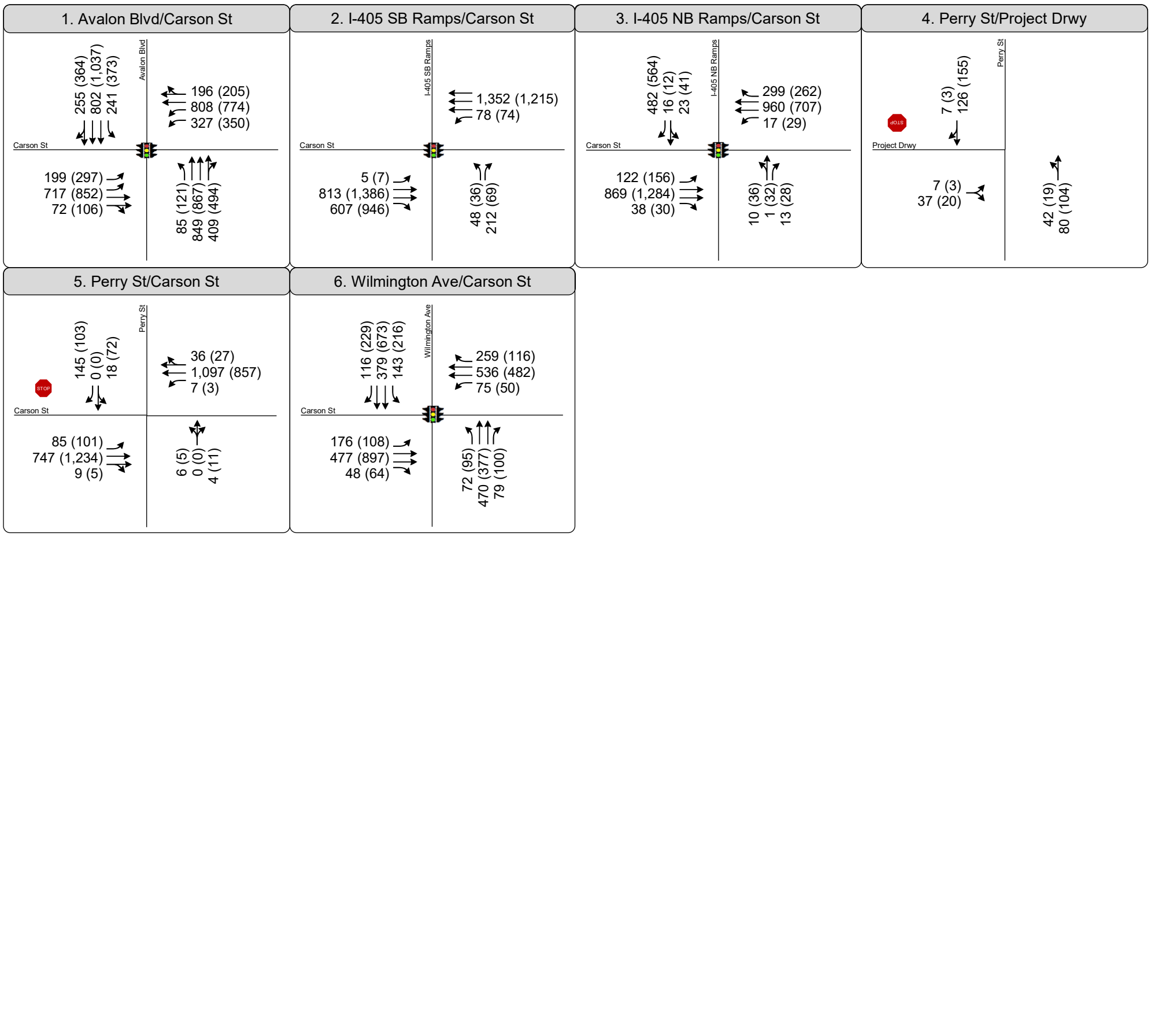
Avalon Blvd
Carson St
0 (0)
0 (0)
2 (1)
2 (1)
4 (2)
2 (1)
0 (0)
5 (2)
0 (0)
0 (0)
0 (0)
2 (1)
2. I-405 SB Ramps/Carson St
I-405 SB Ramps
Carson St
11 (6)
7 (3)
0 (0)
12 (6)
0 (0)
12 (6)
3. I-405 NB Ramps/Carson St
I-405 NB Ramps
Carson St
0 (0)
0 (0)
7 (3)
11 (6)
18 (9)
0 (0)
0 (0)
25 (11)
0 (0)
0 (0)
0 (0)
0 (0)
4. Perry St/Project Drwy
Perry St
STOP
Project Drwy
7 (3)
0 (0)
7 (3)
37 (20)
42 (19)
0 (0)
5. Perry St/Carson St
Perry St
STOP
Carson St
29 (15)
0 (0)
9 (5)
10 (4)
0 (0)
0 (0)
32 (14)
0 (0)
0 (0)
0 (0)
0 (0)
0 (0)
6. Wilmington Ave/Carson St
Wilmington Ave
Carson St
5 (2)
0 (0)
0 (0)
0 (0)
2 (1)
0 (0)
4 (2)
2 (1)
2 (1)
2 (1)
0 (0)
0 (0)


1. Avalon Blvd/Carson St
Avalon Blvd
Carson St
115 (184)
659 (908)
117 (214)
112 (106)
780 (701)
327 (350)
139 (183)
705 (837)
72 (106)
80 (101)
770 (723)
409 (494)
2. I-405 SB Ramps/Carson St
I-405 SB Ramps
Carson St
1,245 (1,063)
78 (74)
5 (7)
700 (1,233)
583 (925)
43 (16)
212 (69)
3. I-405 NB Ramps/Carson St
I-405 NB Ramps
Carson St
474 (534)
16 (12)
23 (41)
299 (262)
861 (584)
17 (29)
106 (143)
771 (1,144)
38 (30)
10 (36)
1 (32)
13 (28)
4. Perry St/Project Drwy
Perry St
STOP
Project Drwy
7 (3)
126 (155)
7 (3)
37 (20)
42 (19)
80 (104)
5. Perry St/Carson St
Perry St
STOP
Carson St
145 (103)
0 (0)
18 (72)
36 (27)
998 (734)
7 (3)
85 (101)
649 (1,094)
9 (5)
6 (5)
0 (0)
4 (11)
6. Wilmington Ave/Carson St
Wilmington Ave
Carson St
116 (229)
379 (673)
143 (216)
259 (116)
438 (362)
75 (50)
176 (108)
382 (758)
45 (63)
71 (92)
470 (377)
79 (100)


1. Avalon Blvd/Carson St
Avalon Blvd
Carson St
255 (364)
802 (1,037)
239 (372)
194 (204)
804 (771)
324 (349)
199 (297)
713 (849)
72 (106)
85 (121)
849 (867)
407 (493)
2. I-405 SB Ramps/Carson St
I-405 SB Ramps
Carson St
1,341 (1,210)
71 (70)
5 (7)
801 (1,381)
607 (946)
48 (36)
200 (63)
3. I-405 NB Ramps/Carson St
I-405 NB Ramps
Carson St
482 (564)
16 (12)
15 (38)
288 (256)
942 (697)
17 (29)
122 (156)
845 (1,273)
38 (30)
10 (36)
1 (32)
13 (28)
4. Perry St/Project Drwy
Perry St
STOP
Project Drwy
0 (0)
126 (155)
0 (0)
0 (0)
0 (0)
80 (104)
5. Perry St/Carson St
Perry St
STOP
Carson St
117 (88)
0 (0)
9 (67)
27 (22)
1,097 (857)
7 (3)
53 (87)
747 (1,234)
9 (5)
6 (5)
0 (0)
4 (11)
6. Wilmington Ave/Carson St
Wilmington Ave
Carson St
111 (226)
379 (673)
143 (216)
259 (116)
534 (480)
75 (50)
171 (106)
475 (896)
46 (63)
69 (94)
470 (377)
79 (100)


1. Avalon Blvd/Carson St
Avalon Blvd
Carson St
255 (364)
802 (1,037)
241 (373)
196 (205)
808 (774)
327 (350)
199 (297)
717 (852)
72 (106)
85 (121)
849 (867)
409 (494)
2. I-405 SB Ramps/Carson St
I-405 SB Ramps
Carson St
1,352 (1,215)
78 (74)
5 (7)
813 (1,386)
607 (946)
48 (36)
212 (69)
3. I-405 NB Ramps/Carson St
I-405 NB Ramps
Carson St
482 (564)
16 (12)
23 (41)
299 (262)
960 (707)
17 (29)
122 (156)
869 (1,284)
38 (30)
10 (36)
1 (32)
13 (28)
4. Perry St/Project Drwy
Perry St
Project Drwy
STOP
7 (3)
126 (155)
7 (3)
37 (20)
42 (19)
80 (104)
5. Perry St/Carson St
Perry St
Carson St
STOP
145 (103)
0 (0)
18 (72)
36 (27)
1,097 (857)
7 (3)
85 (101)
747 (1,234)
9 (5)
6 (5)
0 (0)
4 (11)
6. Wilmington Ave/Carson St
Wilmington Ave
Carson St
116 (229)
379 (673)
143 (216)
259 (116)
536 (482)
75 (50)
176 (108)
477 (897)
48 (64)
72 (95)
470 (377)
79 (100)

APPENDIX B:
SIGNAL TIMING SHEETS

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09/KH By: DMP

T.S. No.: 3991 Date Implemented: 10-19-09 By:

1. CONFIGURATION SUBMENU

1. CONTROLLER SEQUENCE

PRIORITY	1	2	3	4	5	6	7	8	9	10	11	12
RING 1	1	2	3	4								
RING 2	5	6	7	8								
CG (CONCURRENT GROUPS)		X		X								

2. PHASES IN USE

	PHASE NUMBER											
	1	2	3	4	5	6	7	8	9	10	11	12
PHASES IN USE	X	X	X	X	X	X	X	X				
EXCLUSIVE PED												

3. PHASE TO LOAD SWITCH (MMU) ASSIGNMENT

LOAD SWITCH (MMU)	SIGNAL DRIVER GROUP		LOAD SWITCH (MMU)	SIGNAL DRIVER GROUP	
CHANNEL	PHASE/OVLP	PED	CHANNEL	PHASE/OVLP	PED
1	1		9	2	X
2	2		10	4	X
3	3		11	6	X
4	4		12	8	X
5	5		13		
6	6		14		
7	7		15		
8	8		16		

4. SDLC OPTIONS/ENABLES

	BIU NUMBER							
	1	2	3	4	5	6	7	8
TERM & FACIL								
DETECTOR RACK								
TYPE 2 RUNS AS TYPE 1								
MMU DISABLE								X
DIAGNOSTIC ENABLE (TEST FIXTURE)								
PEER TO PEER ENABLE								
PEER TO PEER ADDRESS:								

1)		2)		3)		4)		5)	
6)		7)		8)		9)		10)	

5. PORT 2 CONFIGURATION

PORT 2 PROTOCOL	
PORT 2 ENABLE	
DATA RATE (BPS)	
DATA, PARITY, STOP	
AB3418 ADDRESS	
AB3418 GROUP ADDRESS	
AB3418 RESPONSE DELAY	
AB3418 SINGLE FLAG ENABLE	
AB3418 DROP-OUT TIME	
AB3418 TOD SF SELECT	
AB3418 RTS TIMING	
AB3418 RTS TO CTS DELAY	
AB3418 RTS TURN-OFF DELAY	
AB3418 EARLY RTS	

6. PORT 3 CONFIGURATION

PORT 3 PROTOCOL	
PORT 3 ENABLE	
PORT 3 MILLISEC TIMING	
PORT 3 RTS TO CTS DELAY	
PORT 3 RTS TURN-OFF DELAY	
DUPLEX -- HALF OR FULL	
MODEM DATA RATE (BPS)	
DATA, PARITY, STOP	
TELEMETRY ADDRESS	
SYSTEM DETECTOR 9-16 ADDRESS	
TELEMETRY RESPONSE DELAY	
AB3418 ADDRESS	
AB3418 GROUP ADDRESS	
AB3418 RESPONSE DELAY	
AB3418 SINGLE FLAG ENABLE	
AB3418 DROP-OUT TIME	
AB3418 TOD SF SELECT	
AB3418 EARLY RTS	
RICOCHET OPTION	
RICOCHET ADDRESS	
Auto Status Destination ADDR	
Auto Status Report Delay	
Icons Live Time	

8. UTILITIES SUBMENU

5. SIGN ON

SOFTWARE ASSY		VERSION
BOOT		
MAIN PROGRAM		
HELP		
CONFIGURATION		

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By:

1. CONFIGURATION SUBMENU (Continued)

7. ENABLE EVENT LOGS

CRITICAL RFE'S (MMU/TF)	X
NON-CRITICAL RFE'S(DET/TEST)	X
DETECTOR ERRORS	X
COORDINATION ERRORS	X
MMU FLASH FAULTS	X
LOCAL FLASH FAULTS	X
PREEMPT	X
POWER ON/OFF	X
LOW BATTERY	X
SPARE	
ALARM 1	X
ALARM 2	
ALARM 3	
ALARM 4	
ALARM 5	
ALARM 6	
ALARM 7	
ALARM 8	
ALARM 9	
ALARM 10	
ALARM 11	
ALARM 12	
ALARM 13	
ALARM 14	
ALARM 15	
ALARM 16	

8. OPTIONS #

SUPERVISOR ACCESS CODE	
DATA CHANGE ACCESS CODE	
KEY CLICK ENABLE	
BACKLIGHT ENABLE	

9. MMU PROGRAM CAN SERVE WITH

PHASE	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
1															
2															■
3														■	■
4													■	■	■
5												■	■	■	■
6											■	■	■	■	■
7										■	■	■	■	■	■
8									■	■	■	■	■	■	■
9								■	■	■	■	■	■	■	■
10							■	■	■	■	■	■	■	■	■
11						■	■	■	■	■	■	■	■	■	■
12					■	■	■	■	■	■	■	■	■	■	■
13				■	■	■	■	■	■	■	■	■	■	■	■
14			■	■	■	■	■	■	■	■	■	■	■	■	■
15		■	■	■	■	■	■	■	■	■	■	■	■	■	■

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S
PROGRAM REFERENCE CARD

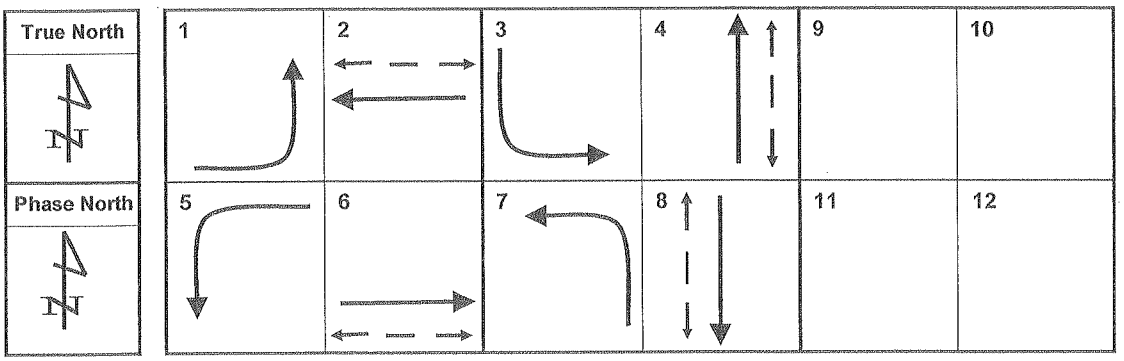
INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: [illegible]

2. CONTROLLER SUBMENU

1. CONTROLLER TIMING DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MIN GREEN	4	6	4	6	4	6	4	6				
BIKE GREEN	0	0	0	0	0	0	0	0				
CS MIN GREEN	0	0	0	0	0	0	0	0				
WALK	0	7	0	7	0	7	0	7				
PED CLEAR	0	17	0	17	0	17	0	17				
VEH EXT	1.5	4.0	1.5	4.0	1.5	4.0	1.5	4.0				
VEH EXT 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
MAX EXT	0	0	0	0	0	0	0	0				
MAX 1	20	50	20	50	20	50	20	50				
MAX 2	20	130	20	50	20	130	20	50				
MAX 3	0	0	0	0	0	0	0	0				
DET MAX	0	0	0	0	0	0	0	0				
YELLOW	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5				
RED CLEAR	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0				
RED REVERT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
					0							
ACT B4	0	0	0	0	0	0	0	0				
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
MAX INITIAL	0	0	0	0	0	0	0	0				
TIME B4 REDUCTION	0	15	0	15	0	15	0	15				
CARS WT	0	255	0	255	0	255	0	255				
TIME TO REDUCE	0	15	0	15	0	15	0	15				
MIN GAP	1.5	3.0	1.5	3.0	1.5	3.0	1.5	3.0				



COMMENTS:

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HcH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: HcH

2. CONTROLLER SUBMENU (Continued)

2. PHASE OVERLAP ASSIGNMENTS

	OVERLAP CONSISTS OF PHASES:											
OVLP PHASE	1	2	3	4	5	6	7	8	9	10	11	12
1	X											
2		X										
3			X									
4				X								
5					X							
6						X						
7							X					
8								X				
9									X			
10										X		
11											X	
12												X

3. PED TIMING CARRYOVER

PHASE	CARRYOVER PHASE	PHASE	CARRYOVER PHASE
1		7	
2		8	
3		9	
4		10	
5		11	
6		12	

4. CONTROLLER RECALL DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
LOCKING MEMORY		X		X		X		X				
VEH RECALL												
PED RECALL												
RECALL TO MAX												
SOFT RECALL		X				X						
DON'T REST HERE												
PED DARK N/CALL												

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09/HCH By: PMP

T.S. No.: 3991 Date Implemented: By:

2. CONTROLLER SUBMENU (Continued)

5. CONTROLLER OVERLAP DATA

OVERLAP A	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN TIMER												
LAG/LEAD GREEN TIMER												
LAG/LEAD YELLOW TIMER												
LAG/LEAD RED TIMER												

OVERLAP B	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN TIMER												
LAG/LEAD GREEN TIMER												
LAG/LEAD YELLOW TIMER												
LAG/LEAD RED TIMER												

OVERLAP C	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN TIMER												
LAG/LEAD GREEN TIMER												
LAG/LEAD YELLOW TIMER												
LAG/LEAD RED TIMER												

OVERLAP D	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN TIMER												
LAG/LEAD GREEN TIMER												
LAG/LEAD YELLOW TIMER												
LAG/LEAD RED TIMER												

PED OVERLAP ASSIGNMENTS OVERLAP CONSISTS OF PHASES:												
OVLP PHASE	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: [illegible]

2. CONTROLLER SUBMENU (Continued)

6. CONTROLLER START/FLASH DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
POWER START		X				X						
EXTERNAL START		X				X						
ENTRY REM FLASH												
EXIT REM FLASH												
REM FLASH YELLOW												
FL TOGETHER PHS												
FL TOGETHER OVLPS	A			B			C			D		

POWER START	YELLOW
EXTERNAL START	YELLOW
POWER START ALL RED TIME	0
POWER START FLASH TIME	0
REMOTE FLASH OPTIONS:	
OUT OF FLASH YELLOW	
OUT OF FLASH ALL RED	
MINIMUM RECALL	
SPARE	
FLASH THRU LOAD SWITCHES	
CYCLE THROUGH PHASES	

7. NO SERVE PHASE

PHASE	12	11	10	9	8	7	6	5	4	3	2
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											

8. DIMMING

LOAD SWITCH	1	2	3	4	5	6	7	8
DIM GRN/WALK								
DIM YEL/PC								
DIM RED/DW								
LOAD SWITCH	9	10	11	12	13	14	15	16
DIM GRN/WALK								
DIM YEL/PC								
DIM RED/DW								

9. CONTROLLER OPTION DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
GUAR PASSAGE												
NON ACTUATED I												
NON ACTUATED II												
DUAL ENTRY												
COND SERVICE												
COND RESERVICE												
REST IN WALK												
FLASHING WALK												

FIVE SECTION LEFT TURN HEADS
(SPECIAL PROGRAM OPTION FOR STATE OF ILLINOIS)

5 - 2		7 - 4		1 - 6	
3 - 8		11 - 10		9 - 12	

DUAL ENTRY		RESERVED	
COND SERVICE ENABLE		BACKUP PROTECTION GROUP 1	
COND SERVICE DET X SWITCHING		BACKUP PROTECTION GROUP 2	
PED CLEAR PROTECT		BACKUP PROTECTION GROUP 3	
SPEC PREEMPT OVLP FLASH		SIMULTANEOUS GAP GROUP 1	ON
LOCK DETECTORS IN RED ONLY		SIMULTANEOUS GAP GROUP 2	ON
RESERVED		SIMULTANEOUS GAP GROUP 3	

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S
PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 Hc11 By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: [illegible]

3. COORDINATOR SUBMENU

TIME OF DAY OPERATION SUMMARY					
PLAN 1	0900 - 1500 M-F 1800 - 2100 M-F	PLAN 4		PLAN 7	
PLAN 2	0600 - 0900 M-F	PLAN 5		PLAN 8	
PLAN 3	1500 - 1800 M-F	PLAN 6		PLAN 9	
FREE	ALL OTHER TIMES				

1. COORDINATOR OPTIONS

SPLIT UNITS	SEC	ACTUATED COORD PHASE(S)	X
OFFSET UNITS	SEC	ACTUATED WALK/REST	
INTERCONNECT FORMAT	STD	INHIBIT MAX	
INTERCONNECT SOURCE	NIC	MAX 2 SELECT	X
RESYNC COUNT	255	MULTISYNC	
TRANSITION	SMOOTH	FLOAT FORCE OFF	
DWELL PERIOD	255		

FREE ALTERNATE SEQUENCE	A		B		C		D		E		F	

2. COORD MANUAL AND SPLIT DEMAND

MANUAL ENABLE		MANUAL PATTERN	

SPLIT DEMAND:	DEMAND 1	DEMAND 2
DEMAND CALL TIME	0	0
DEMAND CYCLE COUNT	0	0

DEMAND PHASE	1	2	3	4	5	6	7	8	9	10	11	12
DEMAND 1 PHASES												
DEMAND 2 PHASES												

3. COORD AUTO PERM MIN GREEN

PHASE	AUTO PERM MIN GREEN	PHASE	AUTO PERM MIN GRN
1	7	7	7
2	7	8	7
3	7	9	
4	7	10	
5	7	11	
6	7	12	

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD

Date Prepared: 9-30-09 Hell By: RMP

Date Implemented: 10-19-09 By: [illegible]

T.S. No.: 3991

3. COORDINATOR SUBMENU (Continued)

4. PATTERN DATA

COORD PATTERN	1		
CYCLE LENGTH	120	C/O/S	1/1/1
OFFSET	38		

SPLITS								
PHASE 1	19	PHASE 2	16	PHASE 3	16	PHASE 4	38	
PHASE 5	19	PHASE 6	16	PHASE 7	16	PHASE 8	38	
PHASE 9		PHASE 10		PHASE 11		PHASE 12		
VEH PERMISSIVE	[1]	0		[2]	0			
VEH PERM 2 DISP								
PHASE RESERVICE								
SPLIT EXTENSION/RING	[1]	30		[2]	30			
SPL DMD PATTERN	[1]			[2]				
XARTERY PATTERN								

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES		X				X						
VEHICLE RECALL		X				X						
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

COORD PATTERN	2		
CYCLE LENGTH	120	C/O/S	2/1/1
OFFSET	39		

SPLITS								
PHASE 1	19	PHASE 2	28	PHASE 3	16	PHASE 4	40	
PHASE 5	19	PHASE 6	28	PHASE 7	16	PHASE 8	40	
PHASE 9		PHASE 10		PHASE 11		PHASE 12		
VEH PERMISSIVE	[1]	0		[2]	0			
VEH PERM 2 DISP								
PHASE RESERVICE								
SPLIT EXTENSION/RING	[1]	16		[2]	16			
SPL DMD PATTERN	[1]			[2]				
XARTERY PATTERN								

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES		X				X						
VEHICLE RECALL		X				X						
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD

Date Prepared: 9-30-09/Rev4 By: PMP

T.S. No.: 3991

Date Implemented: 10-19-09 By: [illegible]

3. COORDINATOR SUBMENU (Continued)

4. PATTERN DATA (Continued)

COORD PATTERN	3		
CYCLE LENGTH	120	C/O/S	3/1/1
OFFSET	48		

SPLITS								
PHASE 1	20	PHASE 2	26	PHASE 3	19	PHASE 4	38	
PHASE 5	20	PHASE 6	26	PHASE 7	19	PHASE 8	38	
PHASE 9		PHASE 10		PHASE 11		PHASE 12		
VEH PERMISSIVE	[1]	0		[2]	0			
VEH PERM 2 DISP								
PHASE RESERVICE								
SPLIT EXTENSION/RING	[1]	16		[2]	16			
SPL DMD PATTERN	[1]			[2]				
XARTERY PATTERN								

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES		X				X						
VEHICLE RECALL		X				X						
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

Up to 64 Coordination Patterns Available.

COORD PATTERN	4		
CYCLE LENGTH		C/O/S	
OFFSET			

SPLITS								
PHASE 1		PHASE 2		PHASE 3		PHASE 4		
PHASE 5		PHASE 6		PHASE 7		PHASE 8		
PHASE 9		PHASE 10		PHASE 11		PHASE 12		
VEH PERMISSIVE	[1]			[2]				
VEH PERM 2 DISP								
PHASE RESERVICE								
SPLIT EXTENSION/RING	[1]			[2]				
SPL DMD PATTERN	[1]			[2]				
XARTERY PATTERN								

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES												
VEHICLE RECALL												
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 (NOT USED) Date Implemented: _____ By: _____

4. PREEMPTOR SUBMENU

1. PRIORITY PREEMPTOR 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			

3. PRIORITY PREEMPTOR 3

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

2. PRIORITY PREEMPTOR 2

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

4. PRIORITY PREEMPTOR 4

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HeH By: DMP

T.S. No.: 3991 (NOT USED) Date Implemented: By:

4. PREEMPTOR SUBMENU (Continued)

5. PRIORITY PREEMPTOR 5

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												

TERM OVERLAP	A		B		C		D	

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

6. PRIORITY PREEMPTOR 6

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												

TERM OVERLAP	A		B		C		D	

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

7. BUS PREEMPTORS

	BUS PREEMPTOR 1	2	3	4
PREEMPTOR ACTIVE				
DETECTOR LOCK				
MAXIMUM TIME				
RESERVICE TIME				
DELAY TIME				
INHIBIT TIME				
ENTRANCE GREEN				
ENTRANCE PED CLEAR				
ENTRANCE YELLOW				
ENTRANCE RED				
MIN HOLD TIME				

	HOLD PHASE 1	2	3	4	5	6	7	8	9	10	11	12
PREEMPTOR 1												
PREEMPTOR 2												
PREEMPTOR 3												
PREEMPTOR 4												

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: JMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: [illegible]

5. NIC/TOD SUBMENU

1. NIC/TOD CLOCK/CALENDAR DATA

DATE SET	
TIME SET	
MANUAL NIC PROGRAM STEP	0
MANUAL TOD PROGRAM STEP	0
SYNC REFERENCE TIME	★ ★ 0000
SYNC REFERENCE	REFERENCE TIME
WEEK 1 BEGINS ON 1ST SUNDAY	
DISABLE DAYLIGHT SAVINGS	
DST BEGINS LAST SUNDAY	

2. NIC/TOD WEEKLY PROGRAMS

WEEK	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	1	1	1	1	1	2
2							
3							
4							
5							
6							
7							
8							
9							
10							

3. NIC/TOD YEARLY PROGRAMS

WEEK OF YEAR	1	2	3	4	5	6	7	8
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	9	10	11	12	13	14	15	16
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	17	18	19	20	21	22	23	24
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	25	26	27	28	29	30	31	32
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	33	34	35	36	37	38	39	40
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	41	42	43	44	45	46	47	48
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR				49	50	51	52	53
WEEKLY PROGRAM				1	1	1	1	1

4. NIC/TOD HOLIDAY PROGRAM

HOLIDAY	FLOAT/FIXED	MON/MON	DOW/DOM	WOM/YEAR	PROG
1	FIXED	1	1	0	2
2	FIXED	7	4	0	2
3	FIXED	11	11	0	2
4	FIXED	12	24	0	2
5	FIXED	12	25	0	2
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
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25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

★ ★ NOTE: WHEN USING RCTB UNIT, IN ORDER FOR THE CONTROLLER CLOCK TO BE PROPERLY UPDATED, THE RCTB UNIT MUST BE DESIGNED FOR A 3:30 AM SYNC PULSE.

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By:

5. NIC/TOD SUBMENU (Continued)

5. NIC PROGRAM STEP

STEP	PGM	TIME	PATTERN	OVERRIDE
1	1	0000	0	
2	2	0000	0	
3	1	0600	2	
4	1	0900	1	
5	1	1500	3	
6	1	1800	1	
7	1	2100	0	

Up to 200 NIC Program Steps Available.

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD

T.S. No.: 3991

(NOT USED)

Date Prepared: 9-30-09 HcH By: PMP

Date Implemented: ______ By: ______

5. NIC/TOD SUBMENU (Continued)

6. TOD PROGRAM STEPS

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD

Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991

(NOT USED)

Date Implemented: ______ By: ______

5. NIC/TOD SUBMENU (Continued)

6. TOD PROGRAM STEPS (CONTINUED)

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

Up to 100 TOD Program Steps Available.

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: [illegible]

6. DETECTORS SUBMENU

1. DETECTOR TYPE/TIMERS

DETECTOR	TYPE	LOCK	EXTEND	DELAY	NO RESET	LOG ENABLE
1	0					
2	5		2.0			
3	0					
4	5		2.0			
5	0					
6	5		2.0			
7	0					
8	5		2.0			
9	0					
10	0					
11	0					
12	0					
13	0					
14	0					
15						
16						
17						
18						
19						
20						
21						
22						
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53						
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60						
61						
62						
63						
64						

2. DETECTOR PHASE ASSIGNMENT

	PHASE ASSIGNMENT											
DETECTOR	1	2	3	4	5	6	7	8	9	10	11	12
1	X											
2		X										
3			X									
4				X								
5					X							
6						X						
7							X					
8								X				
9						X						
10				X								
11		X										
12								X				
13	X											
14					X							
15												
16												
17												
18												
19												
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61												
62												
63												
64												

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HcH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: mA

6. DETECTORS SUBMENU (Continued)

3. PED AND SYSTEM DETECTOR LOCAL ASSIGNMENT

DETECTOR LOG INTERVAL					MINUTES			
LOCAL PED DET NUMBER	PHASE PED DETECTOR							
	1	2	3	4	5	6		
		2		4		6		
	7	8	9	10	11	12		
NUMBER		8						
LOCAL DET NUMBER	LOCAL SYSTEM DETECTOR NUMBER							
	1	2	3	4	5	6	7	8
	9	10	11	12	13	14	15	16
NUMBER								

Section 6-4: (See Next Page)

5. SPEED DETECTORS

SPEED DETECTOR NUMBERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ONE DETECTOR SPEED:																
LOCAL DET NUMBER																
VEHICLE LENGTH																
LOOP LENGTH																
TWO DETECTOR SPEED:																
LOCAL DET NUMBER																
SPEED TRAP LENGTH																
ENABLE LOG																
UNITS:																

Section 6-6: (See Next Page)

7. PED DETECTOR DIAGNOSTIC PLAN

PLAN	DET NO.	1	2	3	4	5	6	7	8	9	10	11	12
1	DIAG NO.												
	SCALING												
2	DIAG NO.												
	SCALING												
3	DIAG NO.												
	SCALING												
4	DIAG NO.												
	SCALING												
5	DIAG NO.												
	SCALING												
6	DIAG NO.												
	SCALING												
7	DIAG NO.												
	SCALING												
8	DIAG NO.												
	SCALING												

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 (NOT USED) Date Implemented: By:

6. DETECTORS SUBMENU (Continued)

4. CROSS SWITCHING

	PHASES											
DETECTOR	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
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64												

6. VEHICLE DETECTOR DIAGNOSTIC PLAN

PLAN	DET NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	DIAG NO																
	SCALING																
2	DIAG NO																
	SCALING																
3	DIAG NO																
	SCALING																
4	DIAG NO																
	SCALING																
5	DIAG NO																
	SCALING																
6	DIAG NO																
	SCALING																
7	DIAG NO																
	SCALING																
8	DIAG NO																
	SCALING																
FAIL ACTION																	

PLAN	DET NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	DIAG NO																
	SCALING																
2	DIAG NO																
	SCALING																
3	DIAG NO																
	SCALING																
4	DIAG NO																
	SCALING																
5	DIAG NO																
	SCALING																
6	DIAG NO																
	SCALING																
7	DIAG NO																
	SCALING																
8	DIAG NO																
	SCALING																
FAIL ACTION																	

PLAN	DET NO.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
1	DIAG NO																
	SCALING																
2	DIAG NO																
	SCALING																
3	DIAG NO																
	SCALING																
4	DIAG NO																
	SCALING																
5	DIAG NO																
	SCALING																
6	DIAG NO																
	SCALING																
7	DIAG NO																
	SCALING																
8	DIAG NO																
	SCALING																
FAIL ACTION																	

Vehicle Detector Diagnostic Plans for Detectors 49-64 Also Available.

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 (NOT USED) Date Implemented: By:

6. DETECTORS SUBMENU (Continued)

8. DETECTOR DIAGNOSTIC INTERVAL

DETECTOR DIAGNOSTIC INTERVAL			
DIAGNOSTIC NUMBER	NO ACTIVITY	MAX PRESENCE	ERRATIC COUNTS
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
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31			
32			

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2S

PROGRAM REFERENCE CARD

INTERSECTION: CARSON ST @ AVALON BLVD Date Prepared: 9-30-09 HCH By: PMP

T.S. No.: 3991 Date Implemented: 10-19-09 By: [illegible]

NOTE: NOT IN SEQUENTIAL ORDER

DETECTOR ASSIGNMENT WORK SHEET

LOOP LOCATION	LANE	DET ASSIGN	DET TYP #	PHASE 1	2	3	4	5	6	7	8	9	10	11	12	DET DELAY	DET EXTEND	QUEUE MAX	REMARKS
1-N-Ø3	LT	3	0			X													F
2-S-Ø4	1,2,3	4	5				X										2.0		Q
1-W-Ø1	LT-1	1	0	X															F
2-E-Ø2	1,2	2	5		X												2.0		Q
1-S-Ø7	LT	7	0							X									F
2-N-Ø8	1,2,3	8	5								X						2.0		Q
1-E-Ø5	LT-1	5	0					X											F
2-W-Ø6	1,2	6	5						X								2.0		Q
1-E-Ø2	1,2	11	0		X														A
1-N-Ø8	1,2	12	0								X								A
1-W-Ø6	1,2	9	0						X										A
1-S-Ø4	1,2	10	0				X												A
2-W-Ø1	LT-2	13	0	X															F
2-E-Ø5	LT-2	14	0					X											F

DETECTOR ASSIGNMENT DEFINITIONS

CONTROLLER	CONNECTOR'S A,B C								CONNECTOR D								CONNECTOR TELEMETRY								CONNECTOR TYPE 1							
ASC-2	DETECTOR								DETECTOR								DETECTOR								INPUT TYPE 1 ONLY							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

* = DELAY Time or EXTEND Time set on External Sensor

** = When the Detector Input is set to be a TYPE 4 Detector, the EXTEND value set in the Controller becomes the QUEUE MAX value and any Extension Time needed must be set externally on the Sensor. If the Detector Input is set to be a TYPE 5, the EXTEND value becomes a Reset (Gap) Timer value and the Extension Time is set Externally on the Sensor Unit.

Q = QUEUE CLEARING LOOP F = FIRST VEHICLE LOOP

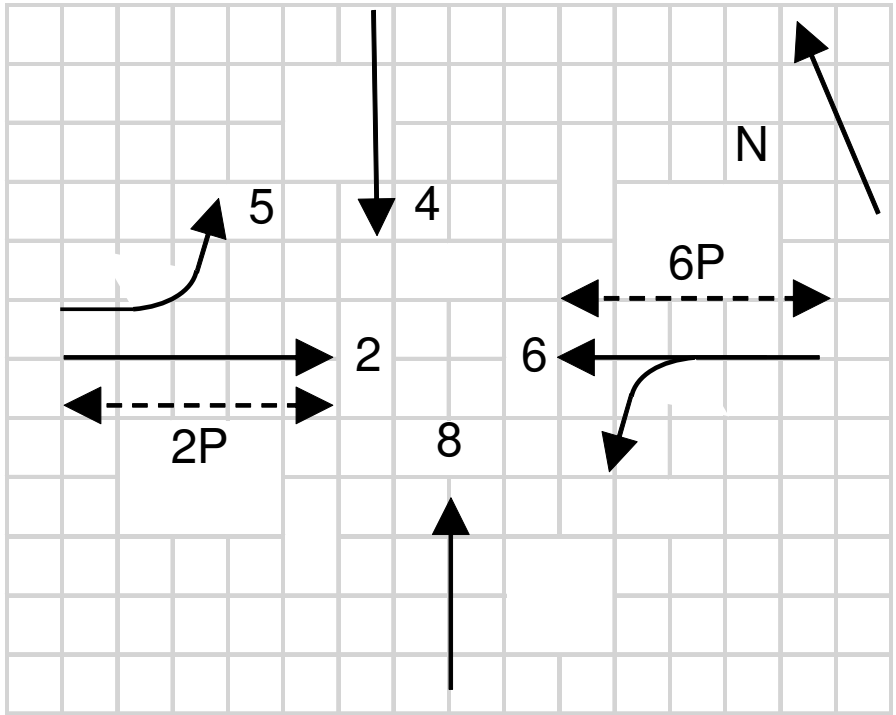
H = HOLDING LOOP A = ADVANCE LOOP

Location: R405 NB @ Carson St
System:
Master At: Here
District: 07
I/C: NB-SB Ramp
Designed By: HD
Installed By: HD
Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
	10/29/2020		10/15/2020	10/29/2020

		FLASH
PHASE	1)	[ ]
	2) EB Carson St (2ped)	[ ]
	3)	[ ]
	4) NB off Ramp	[ ]
	5) EBLT Carson St	[ ]
	6) WB Carson St (6 ped)	[ ]
	7)	[ ]
	8) NB Recreation Rd	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout



Comments and Notes:
* To prevent yellow trap WBLT (phase 5 place a call to phase 4 by 2-1-2-1)

RAM Checksum

Page 2: 5B9D	Page 8: 5996
Page 3: 034A	Page 9: D2FD
Page 4: A5B2	Page 10: D42B
Page 5: 191A	Page 11: C838
Page 6: 191A	Page 12: 1FB3
Page 7: 12D9	Page 13: 86F7

Post Mile: 10.58

Printed: 12/15/2021

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	. 2 . 4 5 6 . 8
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . 5 . . .
Yellow	. 2 . . . 6 . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . 4 . . . .
Vehicle Calls	. 2 . 4 5 6 . 8
Pedestrian Calls	. 2 . . . 6 . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . 4	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlaps	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlaps	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . 4 . . . .
P5	. . . . .
P6	. . . . . 6 . .
P7	. . . . .
P8	 8

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	7	0	0
Flash Don't Walk	0	25	0	0	0	18	0	0
Minimum Green	10	10	10	10	10	10	10	10
Det Limit	10	0	10	0	0	0	10	0
Max Initial	10	20	10	0	0	20	10	0
Max Green 1	50	40	50	20	20	40	50	20
Max Green 2	50	40	50	20	20	40	50	20
Max Green 3	50	40	50	20	20	40	50	20
Extension	5.0	4.0	5.0	3.0	2.5	4.0	5.0	3.0
Maximum Gap	5.0	5.0	5.0	3.0	2.5	5.0	5.0	3.0
Minimum Gap	5.0	3.0	5.0	3.0	2.5	3.0	5.0	3.0
Add Per Vehicle	1.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	1.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0
Yellow	5.0	4.4	5.0	4.1	3.7	4.4	5.0	4.1
All-Red	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90		. . . . .	10				58		20	25	28		20
Plan 2	Green Factor	90		. . . . .	10				58		20	25	28		20
Plan 3	Green Factor	90		. . . . .	10				58		20	25	28		20
Plan 4	Green Factor			. . . . .											
Plan 5	Green Factor			. . . . .											
Plan 6	Green Factor			. . . . .											
Plan 7	Green Factor			. . . . .											
Plan 8	Green Factor			. . . . .											
Plan 9	Green Factor			. . . . .											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	. . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	Veh Max
. 2 . . . 6 . .	. . . . .
Ped	Bike
. . . . .	. . . . .
Cond	Cond Grn
. . . . .	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .
Plan 2	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .
Plan 3	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .
Plan 4	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

MANUAL COMMANDS

Manual Plan (4-1)		*Plan: 1-29*
Plan	OffSet	*254 = Flash*
	A	*255 = Free*
		Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor			.....											
Plan 12	Green Factor			.....											
Plan 13	Green Factor			.....											
Plan 14	Green Factor			.....											
Plan 15	Green Factor			.....											
Plan 16	Green Factor			.....											
Plan 17	Green Factor			.....											
Plan 18	Green Factor			.....											
Plan 19	Green Factor			.....											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor			.....											
Plan 22	Green Factor			.....											
Plan 23	Green Factor			.....											
Plan 24	Green Factor			.....											
Plan 25	Green Factor			.....											
Plan 26	Green Factor			.....											
Plan 27	Green Factor			.....											
Plan 28	Green Factor			.....											
Plan 29	Green Factor			.....											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)				Slot
Det	Type	Phases	Lock	
1	COUNT+CALL+EXTEND	1	NO	I1U
2	COUNT+CALL+EXTEND	1	NO	I1L
3	COUNT+CALL+EXTEND	. 2	NO	I2U
4	COUNT+CALL+EXTEND	. 2	NO	I2L
5	COUNT+CALL+EXTEND	. 2	NO	I3U
6	CALL+EXTEND	. 2	NO	I3L
7	LIMITED	. 2	NO	I4U
8	COUNT+CALL+EXTEND	. 2	NO	I4L
9	COUNT+CALL+EXTEND	. . 3	NO	I5U
10	COUNT+CALL+EXTEND	. . 3	NO	I5L
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U
14	CALL+EXTEND	. . . 4 . . .	NO	I7L
15	LIMITED	. . . 4 . . .	NO	I8U
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L
17	COUNT+CALL+EXTEND	1	NO	I9U
18	COUNT+CALL+EXTEND	. . 3	NO	I9L
19	COUNT+CALL+EXTEND	. 2	NO	I10U
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U
26	CALL+EXTEND	. . . . . 6 . .	NO	J3L
27	LIMITED	. . . . . 6 . .	NO	J4U
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L
31	COUNT+CALL+EXTEND	 8	NO	J6U
32	COUNT+CALL+EXTEND	 8	NO	J6L
33	COUNT+CALL+EXTEND	 8	NO	J7U
34	CALL+EXTEND	 8	NO	J7L
35	LIMITED	 8	NO	J8U
36	COUNT+CALL+EXTEND	 8	NO	J8L
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U
38	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J9L
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U
40	COUNT+CALL+EXTEND	 8	NO	J10L
41	PEDESTRIAN	. 2	NO	I12U
42	PEDESTRIAN	. . . 4 . . .	NO	I12L
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U
44	PEDESTRIAN	 8	NO	I13L

Detector Configuration (5-2)				
Det	Delay	Extend	Recall	Port
1			10	3.2
2			10	7.2
3			10	1.1
4			10	1.5
5			10	4.5
6			10	6.2
7			10	2.1
8			10	7.4
9			10	3.4
10			10	7.6
11			10	1.3
12			10	1.7
13			10	4.7
14			10	6.4
15			10	2.3
16			10	7.8
17			10	3.6
18			10	3.8
19			10	4.1
20			10	4.2
21			10	3.1
22			10	7.1
23			10	1.2
24			10	1.6
25			10	4.6
26			10	6.3
27			10	2.2
28			10	7.3
29			10	3.3
30			10	7.5
31			10	1.4
32			10	1.8
33			10	4.8
34			10	6.5
35			10	2.4
36			10	7.7
37			10	3.5
38			10	3.7
39			10	4.3
40			10	4.4
41			10	5.1
42			10	5.3
43			10	5.2
44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0600	2	A
0900	255	A
1500	3	A
1800	1	A
2000	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
0630	1	A
0900	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Daylight Saving (8-1)

Enabled	YES	Month	Sunday
	Start	MAR	2nd
	End	NOV	1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	. . . . .
Holiday	. . . . .

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			. . . . .		. . . . .
2			. . . . .		. . . . .
3			. . . . .		. . . . .
4			. . . . .		. . . . .
5			. . . . .		. . . . .
6			. . . . .		. . . . .
7			. . . . .		. . . . .
8			. . . . .		. . . . .
9			. . . . .		. . . . .
10			. . . . .		. . . . .
11			. . . . .		. . . . .
12			. . . . .		. . . . .
13			. . . . .		. . . . .
14			. . . . .		. . . . .
15			. . . . .		. . . . .
16			. . . . .		. . . . .

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

	C2 (6-1-1)	C20 (6-1-2)	C21 (6-1-3)
Address			
Baud	1200	1200	1200
Protocol	MASTER	AB3418	AB3418
Data Bits	8	8	8
Parity	NONE	NONE	NONE
Stop Bits	1	1	1
RTS On Time	20	20	20
RTS Off Time	20	20	20
Handshaking	NORMAL	NORMAL	NORMAL
Access Level	0	0	0

CALLBACK NUMBERS

Callback Numbers (6-3...3)

Line Out			
Long Distance			
Local Toll			
Delay	10	10	10
Area Code			
Phone Number			

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

NETWORK

Network Parameters (6-4)

Address	
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	
Field Access	
ATSPM	OFF

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	255
Gateway	0	.	0	.	0	.	254

Access Levels:

0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

SPAT Network (6-5)

SPAT	1	2
Protocol	NONE	NONE
UDP Port	0	0

IP Address	0	.	0	.	0	.	0

RAILROAD PREEMPTION

RR 1

Timing (3-1-1)	
Clear 1	15
Clear 2	5
Clear 3	
Hold	
Min Gr	
Delay	
Exit	
Ped Clr	

Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
1 . . 4 . . 7 8	. . . .	. . . .	. . . .	. . . 4 . . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .

Exit Parameters (3-1-5)

Phase Green	Ovrlap Green	Veh Permit/Call	Ped Permit/Call
. 2 . . . 6 . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)

	PR	XR	Gate	Isld	APP	Sign	Sign	Max On	Latching
1								5	NO
2									

Valid Inputs: 1.x, 2.x, 3.x, 4.x, 5.x, 6.x, 7.x, 8.x x=1 to 8
Valid Outputs: 11.x, 12.x, 13.x, 14.x, 15.x, 16.x, 17.x, 18.x x=1 to 8

RR 2

Timing (3-2-1)	
Clear 1	15
Clear 2	5
Clear 3	
Hold	
Min Gr	
Delay	
Exit	
Ped Clr	

Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
1 2 3 . . 6 . .	. . . .	. . . .	. . . .	. 2 . . . 6 . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .

Exit Parameters (3-2-5)

Phase Green	Ovrlap Green	Veh Permit	Ped Permit
. 2 . . . 6 . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-2-6)

	PR	XR	Gate	Isld	APP	Sign	Sign	Max On	Latching
1								5	NO
2									

Valid Inputs: 1.x, 2.x, 3.x, 4.x, 5.x, 6.x, 7.x, 8.x x=1 to 8
Valid Outputs: 11.x, 12.x, 13.x, 14.x, 15.x, 16.x, 17.x, 18.x x=1 to 8

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4 . . 7 .	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	1 . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3 8	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	RR1		Free	
Max ON		RR2		D2	
Max OFF		RR3		D3	

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
	NORMAL

Y-Coordination (2-1-5-6	
Port C	Port D

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

INTERVAL CONTROL

Interval Control (3-3-1)	
	Time
Step 1	
Step 2	
Step 3	
Step 4	
Step 5	
Step 6	
Step 7	
Step 8	

Phase Control (3-3-2)		
Hold	Force	Advance
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Phase Recall (3-3-3)		
Veh Call	Ped Call	Int Call
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Phase Permitted (3-3-4)		
Phs Permit	Ped Permit	Ovrlap Permit
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Configuration (3-3-5)			
Input	Port	Delay	HRI Cross
1			
2			

HRI

HRI Configuration (3-4)	
RailRoad	51
Line	
Group	

	WAYSIDE	ATC
Subnode		
Device		

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	. . . . .	0.0	NONE	0	0
Plan 11-19	. . . . .	0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	. . . . .
	. . . . .

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	. . . . .

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .

TRUCK PRIORITY

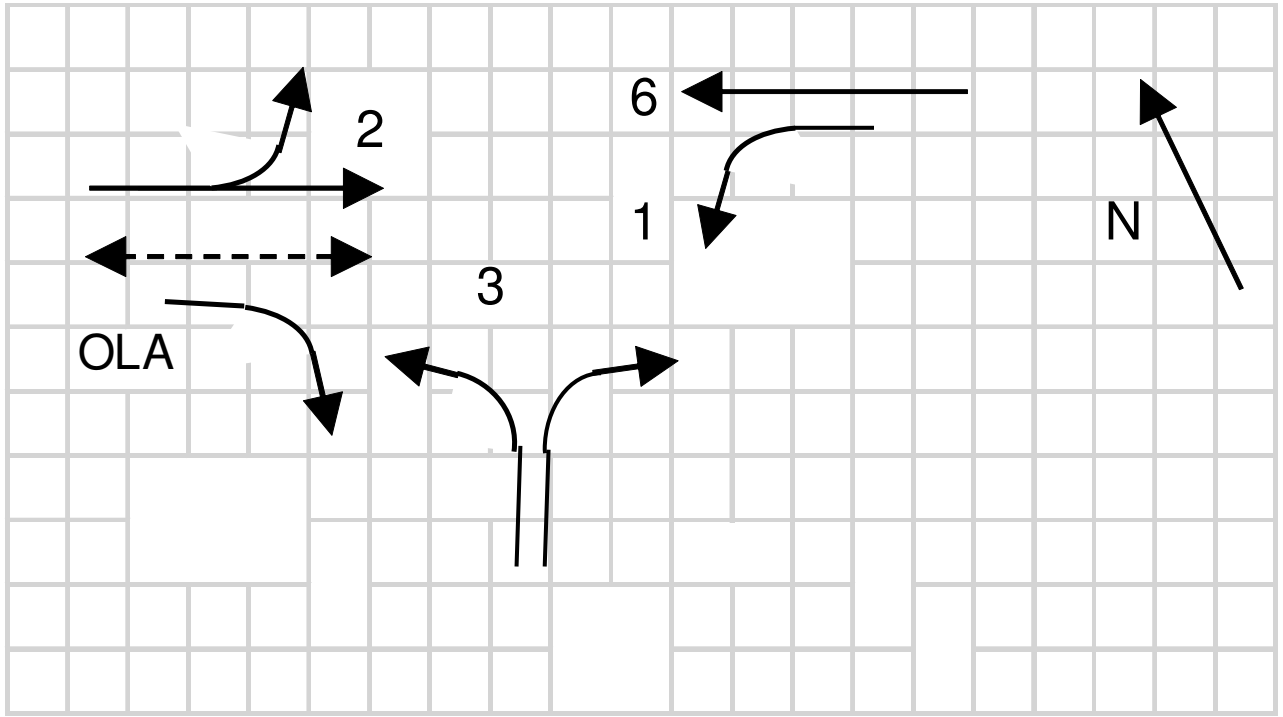
Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					. . . . .	0.0	0.0	0.0	0	0.0	0

Location: R405 SB @ Carson St
System:
Master At: NB Ramp
District: 07
I/C: SB-NB Ramp
Designed By: HD
Installed By: HD
Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
	10/29/2020		10/15/2020	10/29/2020

			FLASH
PHASE	1)	WBLT Carson St	[ ]
	2)	EB Carson St (2 ped)	[ ]
	3)	SB off Ramp	[ ]
	4)		[ ]
	5)		[ ]
	6)	WB Carson St	[ ]
	7)		[ ]
	8)		[ ]
OVERLAP	A)		[ ]
	B)		[ ]
	C)		[ ]
	D)		[ ]
	E)		[ ]
	F)		[ ]

Intersection Layout



Comments and Notes:
* To prevent yellow trap EBLT (phase 1 Place a call to phase 3 by 2-1-2-1)
* OLA (2 color) EBRT on Ramp is on with phase 3

RAM Checksum

Page 2: AA7B	Page 8: 5996
Page 3: 0F2D	Page 9: D2FD
Page 4: 6A0D	Page 10: 22C1
Page 5: 191A	Page 11: C838
Page 6: 191A	Page 12: 1FB3
Page 7: 12D9	Page 13: 86F7

Post Mile: 10.54

Printed: 12/15/2021

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 3 . . 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	1 . . . . .
Yellow	. 2 . . . 6 . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . 3 . . . . .
Vehicle Calls	1 2 3 . . 6 . .
Pedestrian Calls	. 2 . . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . 3	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlaps	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlaps	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . 4 . . . .
P5	. . . . .
P6	. . . . . 6 . .
P7	. . . . .
P8	 8

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . 3	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	10	0	0	0	10
Flash Don't Walk	0	30	0	10	0	0	0	10
Minimum Green	10	10	10	10	10	10	10	10
Det Limit	0	0	0	10	10	0	10	10
Max Initial	0	20	0	10	10	20	10	10
Max Green 1	20	40	25	50	50	40	50	50
Max Green 2	20	40	25	50	50	40	50	50
Max Green 3	20	40	25	50	50	40	50	50
Extension	2.5	4.0	3.0	5.0	5.0	4.0	5.0	5.0
Maximum Gap	2.5	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Gap	2.5	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Add Per Vehicle	0.0	2.0	0.0	1.0	1.0	2.0	1.0	1.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	0.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0
Yellow	3.7	4.4	4.1	5.0	5.0	4.4	5.0	5.0
All-Red	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90		. . . . .	9			16	37	20			58		
Plan 2	Green Factor	90		. . . . .	9			16	37	20			58		
Plan 3	Green Factor	90		. . . . .	9			16	37	20			58		
Plan 4	Green Factor			. . . . .											
Plan 5	Green Factor			. . . . .											
Plan 6	Green Factor			. . . . .											
Plan 7	Green Factor			. . . . .											
Plan 8	Green Factor			. . . . .											
Plan 9	Green Factor			. . . . .											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	. . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	Veh Max
. 2 . . . 6 . .	. . . . .
Ped	Bike
. . . . .	. . . . .
Cond	Cond Grn
. . . . .	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2	. . . . .
Plan 2	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2	. . . . .
Plan 3	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2	. . . . .
Plan 4	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-29
254 = Flash
255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor			.....											
Plan 12	Green Factor			.....											
Plan 13	Green Factor			.....											
Plan 14	Green Factor			.....											
Plan 15	Green Factor			.....											
Plan 16	Green Factor			.....											
Plan 17	Green Factor			.....											
Plan 18	Green Factor			.....											
Plan 19	Green Factor			.....											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor			.....											
Plan 22	Green Factor			.....											
Plan 23	Green Factor			.....											
Plan 24	Green Factor			.....											
Plan 25	Green Factor			.....											
Plan 26	Green Factor			.....											
Plan 27	Green Factor			.....											
Plan 28	Green Factor			.....											
Plan 29	Green Factor			.....											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)				Slot
Det	Type	Phases	Lock	
1	COUNT+CALL+EXTEND	1	NO	I1U
2	COUNT+CALL+EXTEND	1	NO	I1L
3	COUNT+CALL+EXTEND	. 2	NO	I2U
4	COUNT+CALL+EXTEND	. 2	NO	I2L
5	COUNT+CALL+EXTEND	. 2	NO	I3U
6	CALL+EXTEND	. 2	NO	I3L
7	LIMITED	. 2	NO	I4U
8	COUNT+CALL+EXTEND	. 2	NO	I4L
9	COUNT+CALL+EXTEND	. . 3	NO	I5U
10	COUNT+CALL+EXTEND	. . 3	NO	I5L
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U
14	CALL+EXTEND	. . . 4 . . .	NO	I7L
15	LIMITED	. . . 4 . . .	NO	I8U
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L
17	COUNT+CALL+EXTEND	1	NO	I9U
18	COUNT+CALL+EXTEND	. . 3	NO	I9L
19	COUNT+CALL+EXTEND	. 2	NO	I10U
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U
26	CALL+EXTEND	. . . . . 6 . .	NO	J3L
27	LIMITED	. . . . . 6 . .	NO	J4U
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L
31	COUNT+CALL+EXTEND	 8	NO	J6U
32	COUNT+CALL+EXTEND	 8	NO	J6L
33	COUNT+CALL+EXTEND	 8	NO	J7U
34	CALL+EXTEND	 8	NO	J7L
35	LIMITED	 8	NO	J8U
36	COUNT+CALL+EXTEND	 8	NO	J8L
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U
38	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J9L
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U
40	COUNT+CALL+EXTEND	 8	NO	J10L
41	PEDESTRIAN	. 2	NO	I12U
42	PEDESTRIAN	. . . 4 . . .	NO	I12L
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U
44	PEDESTRIAN	 8	NO	I13L

Detector Configuration (5-2)				
Det	Delay	Extend	Recall	Port
1			10	3.2
2			10	7.2
3			10	1.1
4			10	1.5
5			10	4.5
6			10	6.2
7			10	2.1
8			10	7.4
9			10	3.4
10			10	7.6
11			10	1.3
12			10	1.7
13			10	4.7
14			10	6.4
15			10	2.3
16			10	7.8
17			10	3.6
18			10	3.8
19			10	4.1
20			10	4.2
21			10	3.1
22			10	7.1
23			10	1.2
24			10	1.6
25			10	4.6
26			10	6.3
27			10	2.2
28			10	7.3
29			10	3.3
30			10	7.5
31			10	1.4
32			10	1.8
33			10	4.8
34			10	6.5
35			10	2.4
36			10	7.7
37			10	3.5
38			10	3.7
39			10	4.3
40			10	4.4
41			10	5.1
42			10	5.3
43			10	5.2
44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0600	2	A
0900	255	A
1500	3	A
1800	1	A
2000	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
0630	1	A
0900	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Daylight Saving (8-1)

Enabled	YES	Month	Sunday
	Start	MAR	2nd
	End	NOV	1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	. . . . .
Holiday	. . . . .

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			. . . . .		. . . . .
2			. . . . .		. . . . .
3			. . . . .		. . . . .
4			. . . . .		. . . . .
5			. . . . .		. . . . .
6			. . . . .		. . . . .
7			. . . . .		. . . . .
8			. . . . .		. . . . .
9			. . . . .		. . . . .
10			. . . . .		. . . . .
11			. . . . .		. . . . .
12			. . . . .		. . . . .
13			. . . . .		. . . . .
14			. . . . .		. . . . .
15			. . . . .		. . . . .
16			. . . . .		. . . . .

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

	C2 (6-1-1)	C20 (6-1-2)	C21 (6-1-3)
Address	1		
Baud	1200	1200	1200
Protocol	AB3418	AB3418	AB3418
Data Bits	8	8	8
Parity	NONE	NONE	NONE
Stop Bits	1	1	1
RTS On Time	20	20	20
RTS Off Time	20	20	20
Handshaking	NORMAL	NORMAL	NORMAL
Access Level	0	0	0

CALLBACK NUMBERS

Callback Numbers (6-3...3)

Line Out			
Long Distance			
Local Toll			
Delay	10	10	10
Area Code			
Phone Number			

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

NETWORK

Network Parameters (6-4)

Address	
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	
Field Access	
ATSPM	OFF

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	255
Gateway	0	.	0	.	0	.	254

Access Levels:

0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

SPAT Network (6-5)

SPAT	1	2
Protocol	NONE	NONE
UDP Port	0	0

IP Address	0	.	0	.	0	.	0

RAILROAD PREEMPTION

RR 1

Timing (3-1-1)	
Clear 1	15
Clear 2	5
Clear 3	
Hold	
Min Gr	
Delay	
Exit	
Ped Clr	

Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
1 . . 4 . . 7 8	. . . .	. . . .	. . . .	. . . 4 . . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .

Exit Parameters (3-1-5)			
Phase Green	Ovrlap Green	Veh Permit/Call	Ped Permit/Call
. 2 . . . 6 . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)									
	PR	XR	Gate	Isld	APP	Sign	Sign	Max On	Latching
1								5	NO
2									

Valid Inputs: 1.x, 2.x, 3.x, 4.x, 5.x, 6.x, 7.x, 8.x x=1 to 8
Valid Outputs: 11.x, 12.x, 13.x, 14.x, 15.x, 16.x, 17.x, 18.x x=1 to 8

RR 2

Timing (3-2-1)	
Clear 1	15
Clear 2	5
Clear 3	
Hold	
Min Gr	
Delay	
Exit	
Ped Clr	

Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
1 2 3 . . 6 . .	. . . .	. . . .	. . . .	. 2 . . . 6 . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .

Exit Parameters (3-2-5)			
Phase Green	Ovrlap Green	Veh Permit	Ped Permit
. 2 . . . 6 . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-2-6)									
	PR	XR	Gate	Isld	APP	Sign	Sign	Max On	Latching
1								5	NO
2									

Valid Inputs: 1.x, 2.x, 3.x, 4.x, 5.x, 6.x, 7.x, 8.x x=1 to 8
Valid Outputs: 11.x, 12.x, 13.x, 14.x, 15.x, 16.x, 17.x, 18.x x=1 to 8

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4 . . 7 .	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	1 . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3 8	. . . . .

Port	Latching	Phase Termination
	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	RR1		Free	
Max ON		RR2		D2	
Max OFF		RR3		D3	

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
	NORMAL

Y-Coordination (2-1-5-6	
Port C	Port D

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

INTERVAL CONTROL

Interval Control (3-3-1)	
	Time
Step 1	
Step 2	
Step 3	
Step 4	
Step 5	
Step 6	
Step 7	
Step 8	

Phase Control (3-3-2)		
Hold	Force	Advance
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Phase Recall (3-3-3)		
Veh Call	Ped Call	Int Call
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Phase Permitted (3-3-4)		
Phs Permit	Ped Permit	Ovrlap Permit
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Configuration (3-3-5)			
Input	Port	Delay	HRI Cross
1			
2			

HRI

HRI Configuration (3-4)	
RailRoad	51
Line	
Group	

	WAYSIDE	ATC
Subnode		
Device		

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	. . . . .	0.0	NONE	0	0
Plan 11-19	. . . . .	0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	. . . . .
	. . . . .

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	. . . . .

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					. . . . .	0.0	0.0	0.0	0	0.0	0

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2

PROGRAM REFERENCE CARD

INTERSECTION: Carson St. @ Wilmington Ave. Date Prepared: 8-11-10 HCH By: PMP

T.S. No.: 4028 Date Implemented: _____ By: _____

1. CONFIGURATION SUBMENU

1. CONTROLLER SEQUENCE

PRIORITY	1	2	3	4	5	6	7	8	9	10	11	12
RING 1	1	2	3	4								
RING 2	5	6	7	8								
CG (CONCURRENT GROUPS)		X		X								

2. PHASES IN USE

	PHASE NUMBER											
	1	2	3	4	5	6	7	8	9	10	11	12
PHASES IN USE	X	X	X	X	X	X	X	X				
EXCLUSIVE PED												

3. PHASE TO LOAD SWITCH (MMU) ASSIGNMENT

LOAD SWITCH (MMU)	SIGNAL DRIVER GROUP		LOAD SWITCH (MMU)	SIGNAL DRIVER GROUP	
CHANNEL	PHASE/OVLP	PED	CHANNEL	PHASE/OVLP	PED
1	1		9	2	X
2	2		10	4	X
3	3		11	6	X
4	4		12	8	X
5	5		13		
6	6		14		
7	7		15		
8	8		16		

4. SDLC OPTIONS/ENABLES

	BIU NUMBER							
	1	2	3	4	5	6	7	8
TERM & FACIL								
DETECTOR RACK								
TYPE 2 RUNS AS TYPE 1								
MMU DISABLE								X
DIAGNOSTIC ENABLE (TEST FIXTURE)								
PEER TO PEER ENABLE								

PEER TO PEER ADDRESS:									
1)		2)		3)		4)		5)	
6)		7)		8)		9)		10)	

5. PORT 2 CONFIGURATION

PORT 2 PROTOCOL	
PORT 2 ENABLE	
AB3418 ADDRESS	
AB3418 GROUP ADDRESS	
AB3418 RESPONSE DELAY	
AB3418 SINGLE FLAG ENABLE	
AB3418 DROP-OUT TIME	
AB3418 TOD SF SELECT	
DATA RATE (BPS)	
DATA, PARITY, STOP	

6. PORT 3 CONFIGURATION

PORT 3 PROTOCOL	
PORT 3 ENABLE	
TELEMETRY ADDRESS	
SYSTEM DETECTOR 9-16 ADDRESS	
TELEMETRY RESPONSE DELAY	
AB3418 ADDRESS	
AB3418 GROUP ADDRESS	
AB3418 RESPONSE DELAY	
AB3418 SINGLE FLAG ENABLE	
AB3418 DROP-OUT TIME	
AB3418 TOD SF SELECT	
ADDITIONAL SCREEN(S)	
DUPLEX -- HALF OR FULL	
MODEM DATA RATE (BPS)	
DATA, PARITY, STOP	

LOS ANGELES COUNTY
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1. CONFIGURATION SUBMENU (Continued)

7. ENABLE EVENT LOGS

CRITICAL RFE'S (MMU/TF)	
NON-CRITICAL RFE'S(DET/TEST)	
DETECTOR ERRORS	
COORDINATION ERRORS	
MMU FLASH FAULTS	
LOCAL FLASH FAULTS	
PREEMPT	
POWER ON/OFF	
LOW BATTERY	
SPARE	
ALARM 1	
ALARM 2	
ALARM 3	
ALARM 4	
ALARM 5	
ALARM 6	
ALARM 7	
ALARM 8	
ALARM 9	
ALARM 10	
ALARM 11	
ALARM 12	
ALARM 13	
ALARM 14	
ALARM 15	
ALARM 16	

8. OPTIONS

SUPERVISOR ACCESS CODE	
DATA CHANGE ACCESS CODE	
KEY CLICK ENABLE	
BACKLIGHT ENABLE	

9. MMU PROGRAM CAN SERVE WITH

PHASE	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

LOS ANGELES COUNTY
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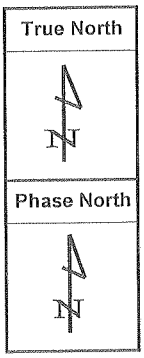
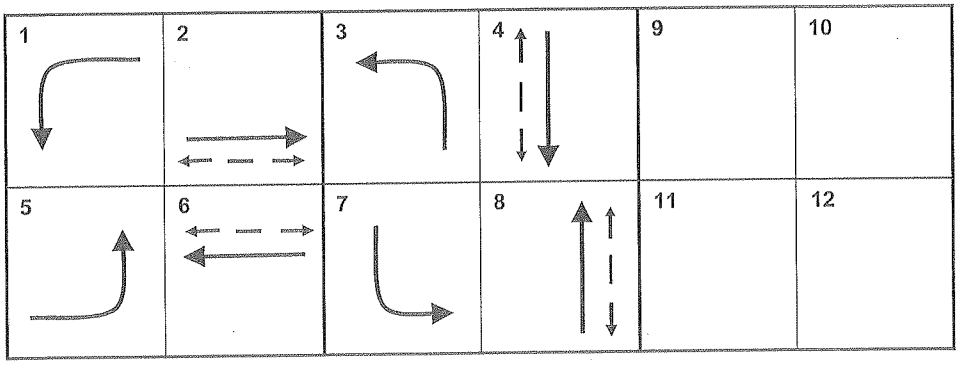
2. CONTROLLER SUBMENU

1. CONTROLLER TIMING DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MIN GREEN	4	6	4	6	4	6	4	6				
BIKE GREEN	0	0	0	0	0	0	0	0				
CS MIN GREEN	0	0	0	0	0	0	0	0				
WALK	0	7	0	7	0	7	0	7				
PED CLEAR	0	19	0	19	0	18	0	18				
VEH EXT	1.5	4.0	1.5	4.0	1.5	4.0	1.5	4.0				
VEH EXT 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
MAX EXT	0	0	0	0	0	0	0	0				
MAX 1	20	50	20	50	20	50	20	50				
MAX 2	20	130	20	50	20	130	20	50				
MAX 3	0	0	0	0	0	0	0	0				
DET MAX	0	0	0	0	0	0	0	0				
YELLOW	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5				
RED CLEAR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
RED REVERT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
ACT B4	0	0	0	0	0	0	0	0				
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
MAX INITIAL	0	0	0	0	0	0	0	0				
TIME B4 REDUCTION	0	15	0	15	0	15	0	15				
CARS WT	0	255	0	255	0	255	0	255				
TIME TO REDUCE	0	15	0	15	0	15	0	15				
MIN GAP	1.5	3.0	1.5	3.0	1.5	3.0	1.5	3.0				





COMMENTS:

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2

PROGRAM REFERENCE CARD

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T.S. No.: 4028 Date Implemented: _____ By: _____

2. CONTROLLER SUBMENU (Continued)

2. PHASE OVERLAP ASSIGNMENTS

	OVERLAP CONSISTS OF PHASES:											
OVLP PHASE	1	2	3	4	5	6	7	8	9	10	11	12
1	X											
2		X										
3			X									
4				X								
5					X							
6						X						
7							X					
8								X				
9									X			
10										X		
11											X	
12												X

3. PED TIMING CARRYOVER

PHASE	CARRYOVER PHASE	PHASE	CARRYOVER PHASE
1		7	
2		8	
3		9	
4		10	
5		11	
6		12	

4. CONTROLLER RECALL DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
LOCKING MEMORY		X		X		X		X				
VEH RECALL		X				X						
PED RECALL												
RECALL TO MAX												
SOFT RECALL												
DON'T REST HERE												
PED DARK N/CALL												

LOS ANGELES COUNTY
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PROGRAM REFERENCE CARD

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T.S. No.: 4028 Date Implemented: _____ By: _____

(NOT USED)

2. CONTROLLER SUBMENU (Continued)

5. CONTROLLER OVERLAP DATA

OVERLAP A	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN												
LAG/LEAD GREEN												
LAG/LEAD YELLOW												
LAG/LEAD RED TIMER												

OVERLAP B	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN												
LAG/LEAD GREEN												
LAG/LEAD YELLOW												
LAG/LEAD RED TIMER												

OVERLAP C	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN												
LAG/LEAD GREEN												
LAG/LEAD YELLOW												
LAG/LEAD RED TIMER												

OVERLAP D	1	2	3	4	5	6	7	8	9	10	11	12
STANDARD												
PROTECTED												
PERMITTED												
ENABLE LAG												
ENABLE LEAD												
SPARE												
ADVANCE GREEN												
LAG/LEAD GREEN												
LAG/LEAD YELLOW												
LAG/LEAD RED TIMER												

PED OVERLAP ASSIGNMENTS OVERLAP CONSISTS OF PHASES:												
OVLP PHASE	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

LOS ANGELES COUNTY
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2. CONTROLLER SUBMENU (Continued)

6. CONTROLLER START/FLASH DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
POWER START		X				X						
EXTERNAL START		X				X						
ENTRY REM FLASH												
EXIT REM FLASH												
REM FLASH YELLOW												
FL TOGETHER PHS												
FL TOGETHER OVLPS	A			B			C			D		

POWER START	YELLOW
EXTERNAL START	YELLOW
POWER START ALL RED TIME	0
POWER START FLASH TIME	0
REMOTE FLASH OPTIONS:	
OUT OF FLASH YELLOW	
OUT OF FLASH RED	
MINIMUM RECALL	
USE ALTERNATE FLASH	
FLASH THRU LOAD SWITCHES	
CYCLE THROUGH PHASES	
YELLOW FLASH MAIN STREET	

7. NO SERVE PHASE

PHASE	12	11	10	9	8	7	6	5	4	3	2
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											

8. DIMMING

LOAD SWITCH	1	2	3	4	5	6	7	8
DIM GRN/WALK								
DIM YEL/PC								
DIM RED/DW								
LOAD SWITCH	9	10	11	12	13	14	15	16
DIM GRN/WALK								
DIM YEL/PC								
DIM RED/DW								

9. CONTROLLER OPTION DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
GUAR PASSAGE												
NON ACTUATED I												
NON ACTUATED II												
DUAL ENTRY												
COND SERVICE												
COND RESERVICE												
REST IN WALK												
FLASHING WALK												

FIVE SECTION LEFT TURN HEADS
(SPECIAL PROGRAM OPTION FOR STATE OF ILLINOIS)

5 - 2		7 - 4		1 - 6	
3 - 8		11 - 10		9 - 12	

DUAL ENTRY		RESERVED	
COND SERVICE ENABLE		BACKUP PROTECTION GROUP 1	
COND SERVICE DET X SWITCHING		BACKUP PROTECTION GROUP 2	
PED CLEAR PROTECT		BACKUP PROTECTION GROUP 3	
SPEC PREEMPT OVLP FLASH		SIMULTANEOUS GAP GROUP 1	ON
LOCK DETECTORS IN RED ONLY		SIMULTANEOUS GAP GROUP 2	ON
RESERVED		SIMULTANEOUS GAP GROUP 3	

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

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PROGRAM REFERENCE CARD

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T.S. No.: 4028 Date Implemented: By:

3. COORDINATION SUBMENU

TIME OF DAY OPERATION SUMMARY					
PLAN 1	0900 - 1500 M-F 1800 - 2100 M-F	PLAN 4		PLAN 7	
PLAN 2	0600 - 0900 M-F	PLAN 5		PLAN 8	
PLAN 3	1500 - 1800 M-F	PLAN 6		PLAN 9	
FREE	ALL OTHER TIMES				

1. COORDINATOR OPTIONS

SPLIT UNITS	SEC	ACTUATED COORD PHASE(S)	X
OFFSET UNITS	SEC	ACTUATED WALK/REST	
INTERCONNECT FORMAT	STD	INHIBIT MAX	
INTERCONNECT SOURCE	NIC	MAX 2 SELECT	X
RESYNC COUNT	255	MULTISYNC	
TRANSITION	SMOOTH	FLOAT FORCE OFF	
DWELL PERIOD	255		

FREE ALTERNATE SEQUENCE	A	B	C	D	E	F

2. COORD MANUAL AND SPLIT DEMAND

MANUAL ENABLE		MANUAL PATTERN	

SPLIT DEMAND:	DEMAND 1	DEMAND 2
DEMAND CALL TIME	0	0
DEMAND CYCLE COUNT	0	0

DEMAND PHASE	1	2	3	4	5	6	7	8	9	10	11	12
DEMAND 1 PHASE												
DEMAND 2 PHASE												

3. COORD AUTO PERM MIN GREEN

PHASE	AUTO PERM MIN GREEN	PHASE	AUTO PERM MIN GRN
1	7	7	7
2	7	8	7
3	7	9	
4	7	10	
5	7	11	
6	7	12	

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
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INTERSECTION: Carson St. @ Wilmington Ave.

Date Prepared: 8-11-10 Hdt By: PMP

T.S. No.: 4028

Date Implemented: _____ By: _____

3. COORDINATION SUBMENU (Continued)

4. PATTERN DATA

STD FORMAT

COORD PATTERN	1	OFFSET	5
CYCLE LENGTH	120	C/O/S	1/1/1

PLAN FORMAT

COORD PATTERN		OFFSET	
CYCLE LENGTH		PLAN	

TS2 FORMAT

COORD PATTERN		TIMING PLAN	
CYCLE LENGTH		OFFSETS	1 2 3

SPLITS												
PHASE 1	19	PHASE 2	15	PHASE 3	16	PHASE 4	38					
PHASE 5	19	PHASE 6	15	PHASE 7	16	PHASE 8	38					
PHASE 9		PHASE 10		PHASE 11		PHASE 12						
VEH PERMISSIVE	[1]	0		[2]	0							
VEH PERM 2 DISP												
PHASE RESERVICE												
SPLIT EXTENSION/RING	[1]	31		[2]	31							
SPL DMD PATTERN	[1]			[2]								
XARTERY PATTERN												

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES		X				X						
VEHICLE RECALL		X				X						
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

STD FORMAT

COORD PATTERN	2	OFFSET	5
CYCLE LENGTH	120	C/O/S	2/1/1

PLAN FORMAT

COORD PATTERN		OFFSET	
CYCLE LENGTH		PLAN	

TS2 FORMAT

COORD PATTERN		TIMING PLAN	
CYCLE LENGTH		OFFSETS	1 2 3

SPLITS												
PHASE 1	16	PHASE 2	15	PHASE 3	16	PHASE 4	38					
PHASE 5	16	PHASE 6	15	PHASE 7	16	PHASE 8	38					
PHASE 9		PHASE 10		PHASE 11		PHASE 12						
VEH PERMISSIVE	[1]	0		[2]	0							
VEH PERM 2 DISP												
PHASE RESERVICE												
SPLIT EXTENSION/RING	[1]	31		[2]	31							
SPL DMD PATTERN	[1]			[2]								
XARTERY PATTERN												

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES		X				X						
VEHICLE RECALL		X				X						
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

LOS ANGELES COUNTY
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Date Implemented: _____ By: _____

3. COORDINATION SUBMENU (Continued)

4. PATTERN DATA (Continued)

STD FORMAT

COORD PATTERN	3	OFFSET	5
CYCLE LENGTH	120	C/O/S	3/1/1

PLAN FORMAT

COORD PATTERN		OFFSET	
CYCLE LENGTH		PLAN	

TS2 FORMAT

COORD PATTERN		TIMING PLAN						
CYCLE LENGTH		OFFSETS	1		2		3	

SPLITS												
PHASE 1	19	PHASE 2	15	PHASE 3	19	PHASE 4	33					
PHASE 5	19	PHASE 6	15	PHASE 7	19	PHASE 8	33					
PHASE 9		PHASE 10		PHASE 11		PHASE 12						
VEH PERMISSIVE	[1]	0		[2]	0							
VEH PERM 2 DISP												
PHASE RESERVICE												
SPLIT EXTENSION/RING	[1]	33		[2]	33							
SPL DMD PATTERN	[1]			[2]								
XARTERY PATTERN												

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES		X				X						
VEHICLE RECALL		X				X						
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

STD FORMAT

COORD PATTERN		OFFSET	
CYCLE LENGTH		C/O/S	

PLAN FORMAT

COORD PATTERN		OFFSET	
CYCLE LENGTH		PLAN	

TS2 FORMAT

COORD PATTERN		TIMING PLAN						
CYCLE LENGTH		OFFSETS	1		2		3	

SPLITS												
PHASE 1		PHASE 2		PHASE 3		PHASE 4						
PHASE 5		PHASE 6		PHASE 7		PHASE 8						
PHASE 9		PHASE 10		PHASE 11		PHASE 12						
VEH PERMISSIVE	[1]			[2]								
VEH PERM 2 DISP												
PHASE RESERVICE												
SPLIT EXTENSION/RING	[1]			[2]								
SPL DMD PATTERN	[1]			[2]								
XARTERY PATTERN												

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
COORD PHASES												
VEHICLE RECALL												
VEH MAX RECALL												
PED RECALL												
PHASE OMIT												
SPARE												

	A	B	C	D	E	F
ALTERNATE SEQUENCE						

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(NOT USED)

4. PREEMPTOR SUBMENU

1. PRIORITY PREEMPTOR 1

	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	
MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			

2. PRIORITY PREEMPTOR 2

	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	
MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

3. PRIORITY PREEMPTOR 3

	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	
MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

4. PRIORITY PREEMPTOR 4

	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	
MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
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T.S. No.: 4028 Date Implemented: By:

(NOT USED)

4. PREEMPTOR SUBMENU (Continued)

5. PRIORITY PREEMPTOR 5

	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

6. PRIORITY PREEMPTOR 6

	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVLP												
TRK CLR PHASE												
HOLD PHASES												
EXIT PHASES												
EXIT CALLS												
SPARE												
TERM OVERLAP	A			B			C			D		

ACTIVE		PED DARK	
PRIORITY		PED ACTIVE	
DET LOCK		ZERO PC TIME	
HOLD FLASH		PC THRU YELLOW	
TERM OVLP ASAP		TERM PHASES	
DON'T OVERRIDE FLASH		ACTIVE ONLY DURING HOLD	
FLASH ALL OUTPUTS		NO CVM IN FLASH	
YELLOW-RED GOES GREEN		FAST FLASH GRN ON HOLD	
ENABLE MAX PREEMPT TIME		OUT OF FLASH	

MAX TIME		DURATION TIME	
MIN HOLD TIME		DELAY TIME	
MIN PED CLEAR		INHIBIT TIME	
EXIT MAX		HOLD DELAY TIME	

	GREEN	YELLOW	RED
MINIMUM			
TRACK CLEAR			
HOLD			
LINKED PREEMPTOR			

7. BUS PREEMPTORS

	BUS PREEMPTOR 1	2	3	4
PREEMPTOR ACTIVE				
DETECTOR LOCK				
MAXIMUM TIME				
RESERVICE TIME				
DELAY TIME				
INHIBIT TIME				
ENTRANCE GREEN				
ENTRANCE PED CLEAR				
ENTRANCE YELLOW				
ENTRANCE RED				
MIN HOLD TIME				

	HOLD PHASE 1	2	3	4	5	6	7	8	9	10	11	12
PREEMPTOR 1												
PREEMPTOR 2												
PREEMPTOR 3												
PREEMPTOR 4												

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
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T.S. No.: 4028 Date Implemented: _____ By: _____

5. NIC/TOD SUBMENU

1. NIC/TOD CLOCK/CALENDAR DATA

DATE SET	
TIME SET	
MANUAL NIC PROGRAM STEP	0
MANUAL TOD PROGRAM STEP	0
SYNC REFERENCE TIME	★ ★ 0000
SYNC REFERENCE	REFERENCE TIME
WEEK 1 BEGINS ON 1ST SUNDAY	
DISABLE DAYLIGHT SAVINGS	
DST BEGINS LAST SUNDAY	

2. NIC/TOD WEEKLY PROGRAMS

WEEK	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	1	1	1	1	1	2
2							
3							
4							
5							
6							
7							
8							
9							
10							

3. NIC/TOD YEARLY PROGRAMS

WEEK OF YEAR	1	2	3	4	5	6	7	8
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	9	10	11	12	13	14	15	16
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	17	18	19	20	21	22	23	24
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	25	26	27	28	29	30	31	32
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	33	34	35	36	37	38	39	40
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR	41	42	43	44	45	46	47	48
WEEKLY PROGRAM	1	1	1	1	1	1	1	1
WEEK OF YEAR				49	50	51	52	53
WEEKLY PROGRAM				1	1	1	1	1

4. NIC/TOD HOLIDAY PROGRAM

HOLIDAY	FLOAT/FIXED	MON/MON	DOW/DOM	WOM/YEAR	PROG
1	FIXED	1	1	0	2
2	FIXED	7	4	0	2
3	FIXED	11	11	0	2
4	FIXED	12	24	0	2
5	FIXED	12	25	0	2
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

★ ★ NOTE: When using RCTB Unit, in order for the controller clock to be properly updated, the RCTB Unit must be designed for a 03:30 AM Sync Pulse.

LOS ANGELES COUNTY
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5. NIC/TOD SUBMENU (Continued)

5. NIC PROGRAM STEP

STEP	PGM	TIME	PATTERN	OVERRIDE
1	1	0000	0	
2	2	0000	0	
3	1	0600	2	
4	1	0900	1	
5	1	1500	3	
6	1	1800	1	
7	1	2100	0	

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Date Implemented: ______ By: ______

(NOT USED)

5. NIC/TOD SUBMENU (Continued)

6. TOD PROGRAM STEPS

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

LOS ANGELES COUNTY
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(NOT USED)

5. NIC/TOD SUBMENU (Continued)

6. TOD PROGRAM STEPS (CONTINUED)

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

TOD PROGRAM STEP												
DAY PGM NUMBER												
STEP BEGINS												
FLASH					DIM ENABLE							
RED REST					ALT VEH EXTSN							
SPARE 5					DET LOG ENABLE							
SPARE 3					SPARE 4							
TYPE 0 DELAY ENABLE					SPARE 2							
DET DIAG PLAN												
ALTERNATE SEQUENCE	A		B		C		D		E		F	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MAX 2 ENABLE												
MAX 3 ENABLE												
VEH RECALL												
VEH MAX RECALL												
PED RECALL												
COND SERV INHIBIT												
PHASE OMIT												
SPECIAL FUNCTIONS									(1 - 8)			

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2

PROGRAM REFERENCE CARD

INTERSECTION: Carson St. @ Wilmington Ave. Date Prepared: 8-11-10 HCH By: RMP

T.S. No.: 4028 Date Implemented: _____ By: _____

6. DETECTORS SUBMENU

1. DETECTOR TYPE/TIMERS

DETECTOR	TYPE	LOCK	EXTEND	DELAY	NO RESET	LOG ENABLE
1	0					
2	0					
3	0					
4	0					
5	5		2.0			
6	5		2.0			
7	5		2.0			
8	5		2.0			
9	0					
10	0					
11	0					
12	0					
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

2. DETECTOR PHASE ASSIGNMENT

	PHASE ASSIGNMENT											
DETECTOR	1	2	3	4	5	6	7	8	9	10	11	12
1			X									
2							X					
3	X											
4					X							
5				X								
6								X				
7		X										
8						X						
9						X						
10								X				
11		X										
12				X								
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												

3. PED AND SYSTEM DETECTOR LOCAL ASSIGNMENT

DETECTOR LOG INTERVAL				MINUTES		
LOCAL PED DET NUMBER	PHASE PED DETECTOR					
	1	2	3	4	5	6
		2		4		6
	7	8	9	10	11	12
NUMBER		8				
LOCAL PED DET NUMBER	LOCAL SYSTEM DETECTOR NUMBER					
	1	2	3	4	5	6
	7	8	9	10	11	12
NUMBER						

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2

PROGRAM REFERENCE CARD

INTERSECTION: Carson St. @ Wilmington Ave. Date Prepared: 8-11-10HCH By: PMP

T.S. No.: 4028 Date Implemented: _____ By: _____

(NOT USED)

6. DETECTORS SUBMENU (Continued)

4. CROSS SWITCHING

	PHASES											
DETECTOR	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												

6. VEHICLE DETECTOR DIAGNOSTIC PLAN

PLAN	DET NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	DIAG NO																
	SCALING																
2	DIAG NO																
	SCALING																
3	DIAG NO																
	SCALING																
4	DIAG NO																
	SCALING																
5	DIAG NO																
	SCALING																
6	DIAG NO																
	SCALING																
7	DIAG NO																
	SCALING																
8	DIAG NO																
	SCALING																
FINAL ACTION																	

PLAN	DET NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	DIAG NO																
	SCALING																
2	DIAG NO																
	SCALING																
3	DIAG NO																
	SCALING																
4	DIAG NO																
	SCALING																
5	DIAG NO																
	SCALING																
6	DIAG NO																
	SCALING																
7	DIAG NO																
	SCALING																
8	DIAG NO																
	SCALING																
FINAL ACTION																	

5. SPEED DETECTORS

SPEED DETECTOR NUMBERS	1	2	3	4	5	6	7	8
ONE DETECTOR SPEED:								
LOCAL DET NUMBER								
VEHICLE LENGTH								
LOOP LENGTH								
TWO DETECTOR SPEED:								
LOCAL DET NUMBER								
SPEED TRAP								
ENABLE LOG								
UNITS:								

7. PED DETECTOR DIAGNOSTIC PLAN

PLAN	DET NO.	1	2	3	4	5	6	7	8	9	10	11	12
1	DIAG NO.												
	SCALING												
2	DIAG NO.												
	SCALING												
3	DIAG NO.												
	SCALING												
4	DIAG NO.												
	SCALING												
5	DIAG NO.												
	SCALING												
6	DIAG NO.												
	SCALING												
7	DIAG NO.												
	SCALING												
8	DIAG NO.												
	SCALING												

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2

PROGRAM REFERENCE CARD

INTERSECTION: Carson St. @ Wilmington Ave. Date Prepared: 8-11-10 HcH By: pmp

T.S. No.: 4028 Date Implemented: _____ By: _____

(NOT USED)

6. DETECTORS SUBMENU (Continued)

8. DETECTOR DIAGNOSTIC INTERVAL

DETECTOR DIAGNOSTIC INTERVAL			
DIAGNOSTIC NUMBER	NO ACTIVITY	MAX PRESENCE	ERRATIC COUNTS
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
TRAFFIC SIGNAL TIMING

ASC/2

PROGRAM REFERENCE CARD

INTERSECTION: Carson St. @ Wilmington Ave. Date Prepared: 8-11-10 HcH By: PMP

T.S. No.: 4028 Date Implemented: By:

DETECTOR ASSIGNMENT WORK SHEET

LOOP LOCATION	LANE	DET ASSIGN	DET TYP #	PHASE 1	2	3	4	5	6	7	8	9	10	11	12	DET DELAY	DET EXTEND	QUEUE MAX	REMARKS
1-E-Ø1	LT	3	0	X															F
1-W-Ø5	LT	4	0					X											F
1-S-Ø3	LT	1	0			X													F
1-N-Ø7	LT	2	0							X									F
1-W-Ø2	1,2	7	5		X												2.0		Q
1-E-Ø6	1,2	8	5						X								2.0		Q
1-N-Ø4	1,2	5	5				X										2.0		Q
1-S-Ø8	1,2	6	5								X						2.0		Q
2-W-Ø2	1,2	11	0		X														A
2-N-Ø4	1,2	12	0				X												A
2-E-Ø6	1,2	9	0						X										A
2-S-Ø8	1,2	10	0								X								A

DETECTOR ASSIGNMENT DEFINITIONS

CONTROLLER	CONNECTOR'S A,B C								CONNECTOR D								CONNECTOR TELEMETRY								CONNECTOR TYPE 1							
ASC-2	DETECTOR								DETECTOR								DETECTOR								INPUT TYPE 1 ONLY							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

* = DELAY Time or EXTEND Time set on External Sensor

** = When the Detector Input is set to be a TYPE 4 Detector, the EXTEND value set in the Controller becomes the QUEUE MAX value and any Extension Time needed must be set externally on the Sensor. If the Detector Input is set to be a TYPE 5, the EXTEND value becomes a Reset (Gap) Timer value and the Extension Time is set Externally on the Sensor Unit.

Q = QUEUE CLEARING LOOP F = FIRST VEHICLE LOOP

H = HOLDING LOOP A = ADVANCE LOOP

APPENDIX C:
EXISTING TRAFFIC COUNTS

Prepared by National Data & Surveying Services

Avalon Blvd & Carson St

Peak Hour Turning Movement Count

ID: 19-05496-009
City: Carson

Day: Wednesday
Date: 08/28/2019

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

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

SOUTHBOUND — Avalon Blvd

AM	113	646	112	1	1000	AM
NOON	0	0	0	0	0	NOON
PM	180	890	205	4	995	PM
	0	3	1	0		

EASTBOUND — Carson St

AM	NOON	PM	
952	0	965	
1	0	1	0
136	0	179	2
686	0	818	2
71	0	104	0

WESTBOUND — Carson St

	PM	NOON	AM
0	103	0	108
2	685	0	760
2	331	0	313
0	11	0	5
	1517	0	1202

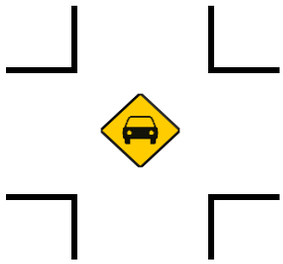
NORTHBOUND — Avalon Blvd

PM	1326	1	99	709	483	PM
NOON	0	0	0	0	0	NOON
AM	1030	0	78	755	399	AM
		0	1	3	0	

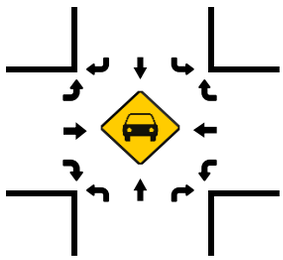
CONTROL: Signalized

TEV	4184 AM	0 NOON	4803 PM
PHF	0.90		0.99

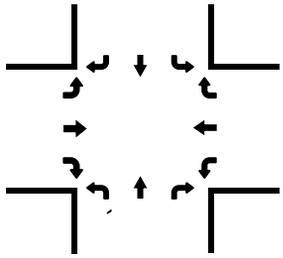
Total Vehicles (AM)



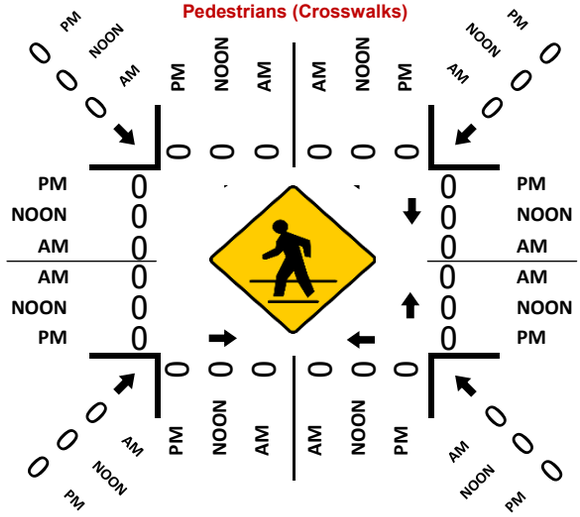
Total Vehicles (NOON)



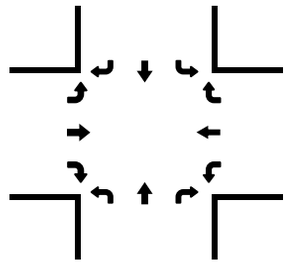
Total Vehicles (PM)



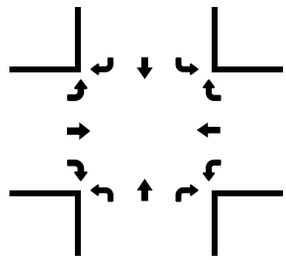
Pedestrians (Crosswalks)



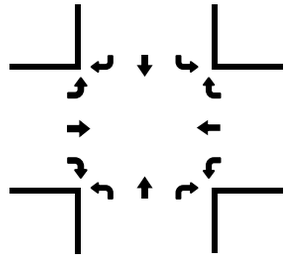
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

I-405 SB Ramps & Carson St

Peak Hour Turning Movement Count

ID: 19-05496-011
City: Carson

Day: Tuesday
Date: 08/27/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

I-405 SB Ramps — SOUTHBOUND

AM	3	0	0	0	25	AM
NOON	0	0	0	0	0	NOON
PM	4	0	0	0	32	PM

EASTBOUND (Carson St)

AM	NOON	PM		
1255	0	1060	⇦	
0	0	3	↶	0
5	0	4	↱	1
674	0	1203	→	2
572	0	907	↴	1
AM	NOON	PM		

WESTBOUND (Carson St)

PM	NOON	AM		
18	0	13	↰	0
1037	0	1210	←	3
69	0	70	↰	1
0	0	0	↶	0
1265	0	870	⇨	
PM	NOON	AM		

NORTHBOUND — I-405 SB Ramps

PM	976	0	16	10	62	PM
NOON	0	0	0	0	0	NOON
AM	642	0	42	7	196	AM

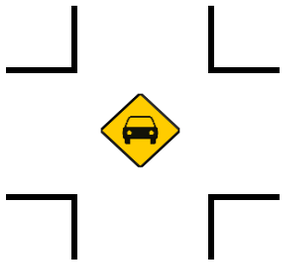
⇩	↶	←	↑	↱
	0	1	0	1

CONTROL

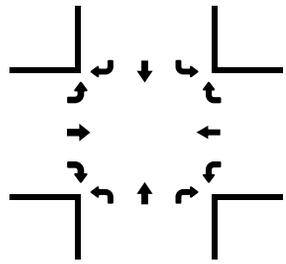
Signalized

TEV	2792 AM	0 NOON	3333 PM
PHF	0.92		0.95

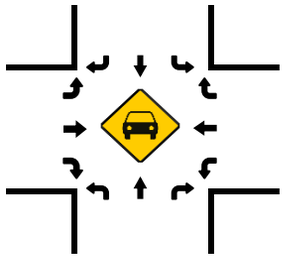
Total Vehicles (AM)



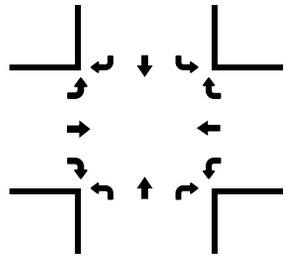
Total Vehicles (AM)



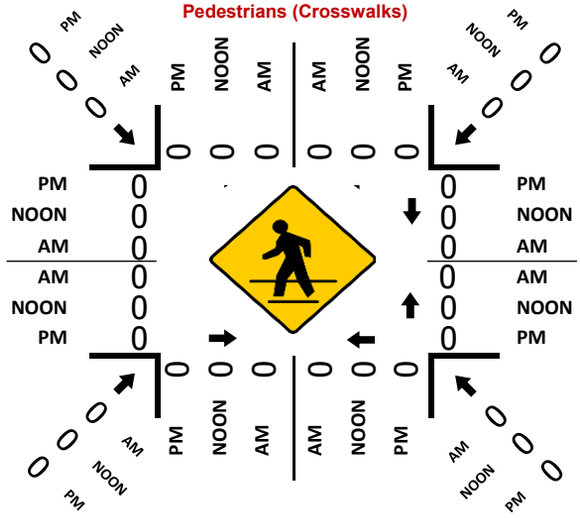
Total Vehicles (NOON)



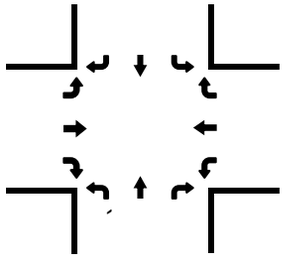
Total Vehicles (NOON)



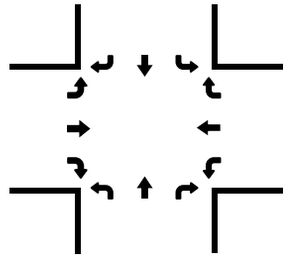
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

I-405 NB Ramps & Carson St

Peak Hour Turning Movement Count

ID: 19-05496-012
City: Carson

Day: Tuesday
Date: 08/27/2019

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

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

I-405 NB Ramps — SOUTHBOUND

AM	465	16	15	1	388	AM
NOON	0	0	0	0	0	NOON
PM	524	12	34	3	425	PM
	1	0.5	0.5	0		

Carson St — EASTBOUND

AM	NOON	PM		
1302	0	1123	⇦	
0	0	0	↩	0
104	0	140	↱	1
732	0	1111	→	2
37	0	29	↳	0
AM	NOON	PM		

CONTROL

Signalized

TEV	2520 AM	0 NOON	2790 PM
PHF	0.91		0.94

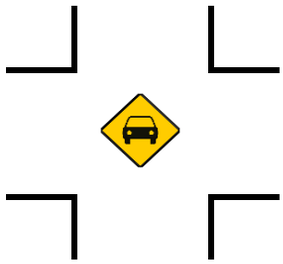
Carson St — WESTBOUND

1	↰	251	0	282
2	←	564	0	827
1	↰	28	0	17
0	↩	1	0	0
	⇨	1173	0	760
		PM	NOON	AM

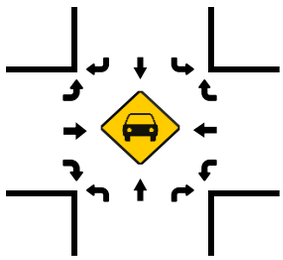
I-405 NB Ramps — NORTHBOUND

PM	69	0	35	31	27	PM
NOON	0	0	0	0	0	NOON
AM	70	0	10	1	13	AM
		0	0	0.5	0.5	

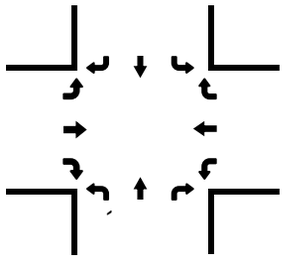
Total Vehicles (AM)



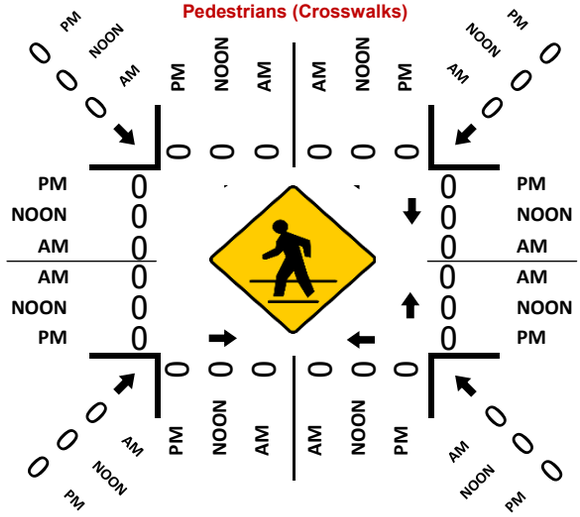
Total Vehicles (NOON)



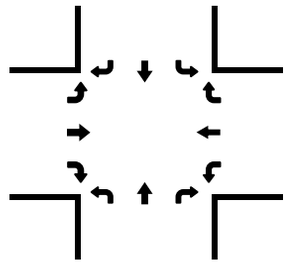
Total Vehicles (PM)



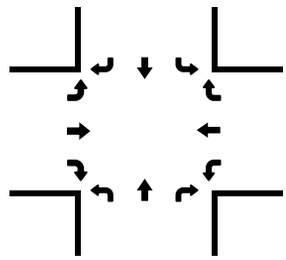
Pedestrians (Crosswalks)



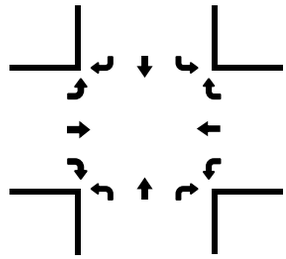
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

S Perry St & E Carson St

Peak Hour Turning Movement Count

ID: 21-020357-001
City: Carson

Day: Thursday
Date: 12/9/2021

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (S Perry St)

AM	80	0	9	0	78	AM
NOON	0	0	0	0	0	NOON
PM	86	0	66	1	85	PM
	0	1	0	0		

EASTBOUND (E Carson St)

AM	NOON	PM	
771	0	817	
2	0	6	0
52	0	62	1
636	0	858	2
9	0	4	0
AM	NOON	PM	

WESTBOUND (E Carson St)

PM	NOON	AM	
22	0	26	0
720	0	685	2
3	0	7	1
1	0	0	0
936	0	649	
PM	NOON	AM	

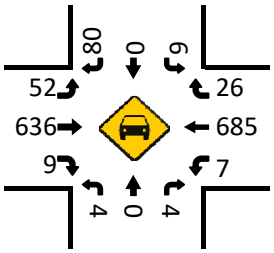
CONTROL: 1-Way Stop(SB)

TEV	1514 AM	0 NOON	1845 PM
PHF	0.87		0.96

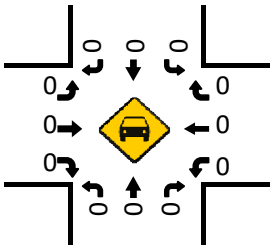
NORTHBOUND (S Perry St)

PM	7	0	5	0	11	PM
NOON	0	0	0	0	0	NOON
AM	16	0	4	0	4	AM
		0	0	1	0	

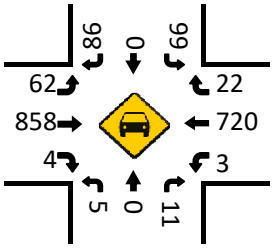
Totals (AM)



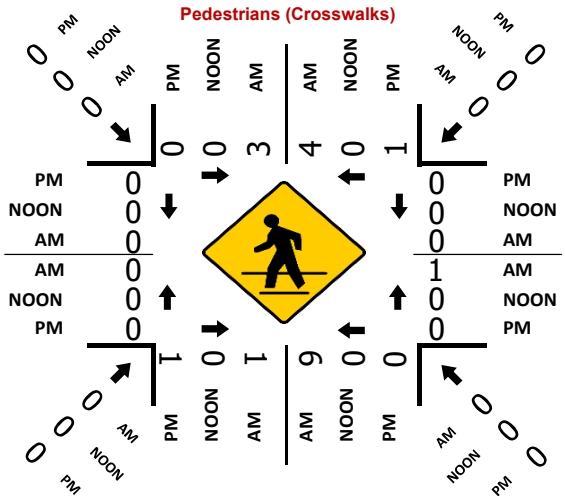
Totals (NOON)



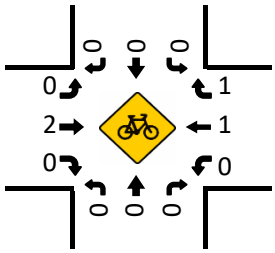
Totals (PM)



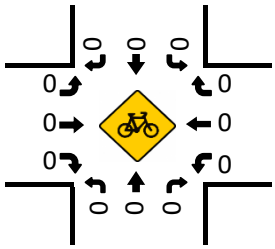
Pedestrians (Crosswalks)



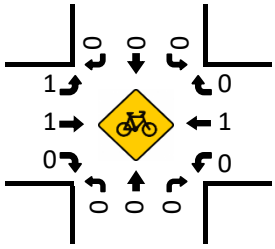
Total Bikes (AM)



Total Bikes (NOON)



Total Bikes (PM)



Prepared by National Data & Surveying Services

Wilmington Ave & Carson St

Peak Hour Turning Movement Count

ID: Historical
City: Carson

Day: Tuesday
Date: 06/04/2019

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

Wilmington Ave — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	109	372	138	2	885
NOON	0	0	0	0	0
PM	222	660	209	3	588
Lanes	0	2	1	0	

Carson St — WESTBOUND

	PM	NOON	AM	Lanes
Right	114	0	254	0
Through	354	0	427	2
Left	49	0	74	1
U-Turn	0	0	1	0
Departing	1049	0	588	

Carson St — EASTBOUND

	AM	NOON	PM	Lanes
Departing	595	0	662	
U-Turn	1	0	3	0
Left	168	0	101	1
Through	372	0	742	2
Right	42	0	61	0

Wilmington Ave — NORTHBOUND

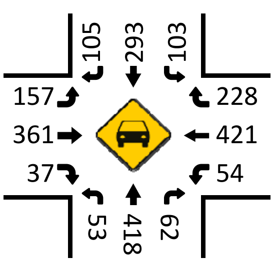
	Departing	U-Turn	Left	Through	Right
Lanes		0	1	2	0
PM	776	6	83	370	98
NOON	0	0	0	0	0
AM	497	9	58	461	77

CONTROL

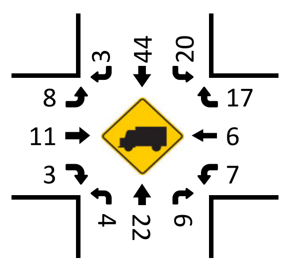
Signalized

	AM	NOON	PM
TEV	2565	0	3075
PHF	0.84		0.94

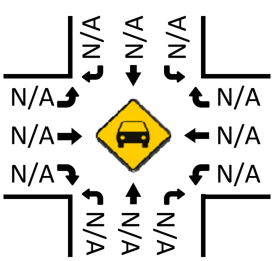
Cars (AM)



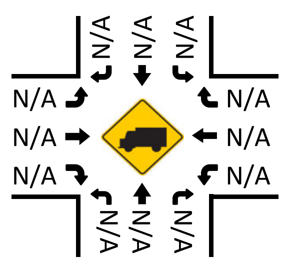
MT (AM)



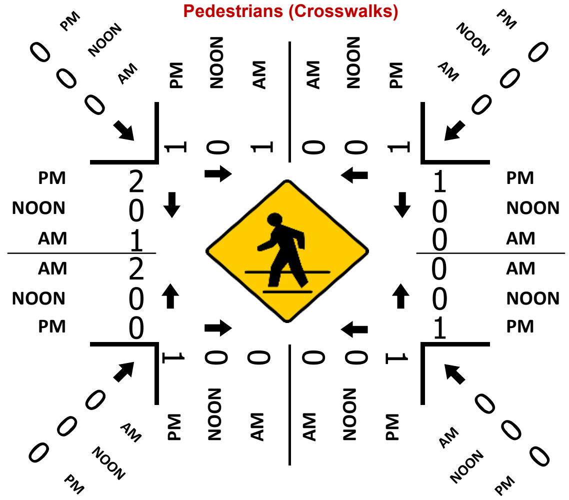
Cars (NOON)



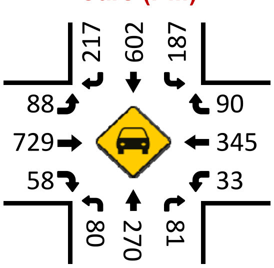
MT (NOON)



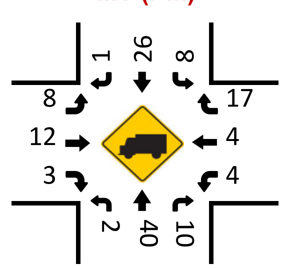
Pedestrians (Crosswalks)



Cars (PM)



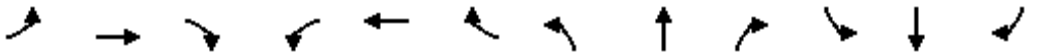
MT (PM)



APPENDIX D:
LOS ANALYSIS SHEETS

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	686	71	318	760	108	78	755	399	112	646	113
Future Volume (veh/h)	136	686	71	318	760	108	78	755	399	112	646	113
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	151	762	79	353	844	120	87	839	443	124	718	126
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	948	98	412	1093	155	110	1182	551	151	1621	282
Arrive On Green	0.06	0.29	0.29	0.12	0.35	0.35	0.06	0.35	0.35	0.08	0.37	0.37
Sat Flow, veh/h	3456	3250	337	3456	3123	444	1781	3404	1585	1781	4377	760
Grp Volume(v), veh/h	151	417	424	353	480	484	87	839	443	124	557	287
Grp Sat Flow(s),veh/h/ln	1728	1777	1810	1728	1777	1790	1781	1702	1585	1781	1702	1733
Q Serve(g_s), s	4.9	24.8	24.9	11.5	27.6	27.6	5.5	24.4	29.0	7.8	14.1	14.3
Cycle Q Clear(g_c), s	4.9	24.8	24.9	11.5	27.6	27.6	5.5	24.4	29.0	7.8	14.1	14.3
Prop In Lane	1.00		0.19	1.00		0.25	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	210	518	528	412	622	627	110	1182	551	151	1260	642
V/C Ratio(X)	0.72	0.80	0.80	0.86	0.77	0.77	0.79	0.71	0.80	0.82	0.44	0.45
Avail Cap(c_a), veh/h	498	690	703	498	690	696	257	1323	616	257	1323	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	37.5	37.5	49.5	33.2	33.2	53.0	32.4	33.9	51.6	27.2	27.2
Incr Delay (d2), s/veh	1.7	6.0	5.9	10.5	5.4	5.4	4.7	1.8	7.6	4.2	0.3	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	2.1	11.3	11.5	5.5	12.3	12.4	2.6	10.1	12.0	3.6	5.7	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	43.5	43.5	60.0	38.5	38.5	57.7	34.2	41.4	55.8	27.5	27.9
LnGrp LOS	D	D	D	E	D	D	E	C	D	E	C	C
Approach Vol, veh/h		992			1317			1369			968	
Approach Delay, s/veh		45.2			44.3			38.0			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	10.5	45.6	13.2	45.3	17.1	38.9	10.6	47.9
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	6.9	29.6	9.8	31.0	13.5	26.9	7.5	16.3
Green Ext Time (p_c), s	0.1	6.9	0.0	8.8	0.2	6.5	0.0	8.5

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	674	572	70	1210	0	42	0	196	0	0	0
Future Volume (veh/h)	5	674	572	70	1210	0	42	0	196	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	5	733	622	76	1315	0	46	0	213			
Peak Hour Factor	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	0	2	0	2			
Cap, veh/h	315	1999	1141	198	3706	0	281	0	250			
Arrive On Green	0.56	0.56	0.56	0.22	1.00	0.00	0.16	0.00	0.16			
Sat Flow, veh/h	418	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	5	733	622	76	1315	0	46	0	213			
Grp Sat Flow(s),veh/h/ln	418	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.5	10.2	16.3	3.3	0.0	0.0	2.0	0.0	11.8			
Cycle Q Clear(g_c), s	0.5	10.2	16.3	3.3	0.0	0.0	2.0	0.0	11.8			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	315	1999	1141	198	3706	0	281	0	250			
V/C Ratio(X)	0.02	0.37	0.55	0.38	0.35	0.00	0.16	0.00	0.85			
Avail Cap(c_a), veh/h	315	1999	1141	303	3706	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	8.7	10.9	5.8	32.4	0.0	0.0	32.8	0.0	36.9			
Incr Delay (d2), s/veh	0.1	0.5	1.9	0.7	0.2	0.0	0.3	0.0	13.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.6	4.8	1.3	0.1	0.0	0.9	0.0	5.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	11.4	7.7	33.1	0.2	0.0	33.1	0.0	50.3			
LnGrp LOS	A	B	A	C	A	A	C	A	D			
Approach Vol, veh/h		1360			1391			259				
Approach Delay, s/veh		9.7			2.0			47.2				
Approach LOS		A			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	56.0				70.7		19.3				
Change Period (Y+Rc), s	4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	15.0	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.3	18.3				2.0		13.8				
Green Ext Time (p_c), s	0.1	10.8				19.2		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	732	37	17	827	282	10	1	13	15	16	465
Future Volume (veh/h)	104	732	37	17	827	282	10	1	13	15	16	465
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	114	804	41	19	909	310	11	1	14	16	18	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	2832	1263	497	2275	1015	192	14	137	107	97	
Arrive On Green	0.21	1.00	1.00	0.64	0.64	0.64	0.09	0.09	0.09	0.09	0.09	0.00
Sat Flow, veh/h	1781	3554	1585	652	3554	1585	1333	165	1585	558	1124	1585
Grp Volume(v), veh/h	114	804	41	19	909	310	12	0	14	34	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	652	1777	1585	1498	0	1585	1682	0	1585
Q Serve(g_s), s	5.2	0.0	0.0	1.0	11.1	7.9	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	0.0	1.0	11.1	7.9	0.5	0.0	0.7	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.92		1.00	0.47		1.00
Lane Grp Cap(c), veh/h	186	2832	1263	497	2275	1015	206	0	137	204	0	
V/C Ratio(X)	0.61	0.28	0.03	0.04	0.40	0.31	0.06	0.00	0.10	0.17	0.00	
Avail Cap(c_a), veh/h	501	2832	1263	497	2275	1015	398	0	350	422	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	0.0	0.0	6.0	7.8	7.2	37.8	0.0	37.9	38.3	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.2	0.0	0.1	0.5	0.8	0.1	0.0	0.3	0.4	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	2.1	0.1	0.0	0.1	3.6	2.4	0.2	0.0	0.3	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	0.2	0.0	6.1	8.4	8.0	37.9	0.0	38.2	38.6	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		959			1238			26			34	A
Approach Delay, s/veh		4.5			8.2			38.1			38.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		77.1		12.9	14.1	63.0		12.9				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		59.6		19.9	* 25	29.6		19.9				
Max Q Clear Time (g_c+I1), s		2.0		3.5	7.2	13.1		2.7				
Green Ext Time (p_c), s		9.8		0.1	0.2	9.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		7.5
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	78	123	0
Future Vol, veh/h	0	0	0	78	123	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	85	134	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	219	134	134	0	-	0
Stage 1	134	-	-	-	-	-
Stage 2	85	-	-	-	-	-
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	769	915	1451	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	769	915	1451	-	-	-
Mov Cap-2 Maneuver	769	-	-	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	938	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1451	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	1.8

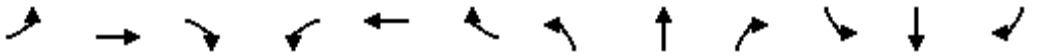
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	636	9	7	979	26	6	0	4	9	0	114
Future Vol, veh/h	52	636	9	7	979	26	6	0	4	9	0	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	731	10	8	1125	30	7	0	5	10	0	131

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1155	0	0	741	0	0	1435	2027	371	1642	2017	578
Stage 1	-	-	-	-	-	-	856	856	-	1156	1156	-
Stage 2	-	-	-	-	-	-	579	1171	-	486	861	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	601	-	-	1173	-	-	159	67	*838	*101	67	459
Stage 1	-	-	-	-	-	-	583	552	-	*209	269	-
Stage 2	-	-	-	-	-	-	468	265	-	*790	549	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	601	-	-	1173	-	-	104	59	*838	*93	60	459
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	59	-	*93	60	-
Stage 1	-	-	-	-	-	-	525	497	-	*188	267	-
Stage 2	-	-	-	-	-	-	332	263	-	*707	494	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	29.2	18.3
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	160	601	-	-	1173	-	-	93	459
HCM Lane V/C Ratio	0.072	0.099	-	-	0.007	-	-	0.111	0.285
HCM Control Delay (s)	29.2	11.7	-	-	8.1	-	-	48.5	15.9
HCM Lane LOS	D	B	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-	0.4	1.2

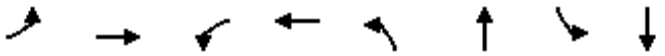
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	372	42	74	427	254	67	461	77	140	372	109
Future Volume (veh/h)	168	372	42	74	427	254	67	461	77	140	372	109
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	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	200	443	50	88	508	302	80	549	92	167	443	130
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	237	1226	547	113	978	436	103	833	371	203	1033	461
Arrive On Green	0.14	0.35	0.35	0.06	0.28	0.28	0.06	0.24	0.24	0.12	0.30	0.30
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	200	443	50	88	508	302	80	549	92	167	443	130
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	9.1	7.7	1.8	4.1	10.1	14.2	3.7	11.6	3.9	7.6	8.4	5.3
Cycle Q Clear(g_c), s	9.1	7.7	1.8	4.1	10.1	14.2	3.7	11.6	3.9	7.6	8.4	5.3
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	237	1226	547	113	978	436	103	833	371	203	1033	461
V/C Ratio(X)	0.84	0.36	0.09	0.78	0.52	0.69	0.78	0.66	0.25	0.82	0.43	0.28
Avail Cap(c_a), veh/h	342	1895	845	342	1895	845	342	1895	845	342	1895	845
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	34.7	19.8	17.9	37.8	24.9	26.4	38.1	28.3	25.3	35.5	23.3	22.2
Incr Delay (d2), s/veh	8.7	0.3	0.1	4.4	0.6	2.8	4.7	1.3	0.5	3.2	0.4	0.5
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	4.3	3.0	0.6	1.8	4.0	5.2	1.7	4.7	1.4	3.3	3.3	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	20.1	18.0	42.2	25.5	29.2	42.9	29.5	25.8	38.7	23.7	22.7
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		693			898			721			740	
Approach Delay, s/veh		26.6			28.4			30.5			26.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	34.3	8.8	29.7	15.1	28.5	13.5	25.0
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	6.1	9.7	5.7	10.4	11.1	16.2	9.6	13.6
Green Ext Time (p_c), s	0.0	4.6	0.0	5.0	0.1	6.8	0.1	5.9

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	151	841	353	964	87	1282	124	844
v/c Ratio	0.57	0.82	0.83	0.81	0.60	0.81	0.70	0.51
Control Delay	67.0	48.1	71.9	43.9	75.8	41.1	78.6	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	48.1	71.9	43.9	75.8	41.1	78.6	33.7
Queue Length 50th (ft)	65	349	154	387	73	335	104	197
Queue Length 95th (ft)	106	444	#250	511	134	431	179	268
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	466	1240	466	1287	240	1770	240	1827
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	0.32	0.68	0.76	0.75	0.36	0.72	0.52	0.46

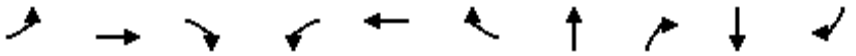
Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	5	733	622	76	1315	46	213
v/c Ratio	0.02	0.34	0.44	0.37	0.35	0.21	0.55
Control Delay	9.6	9.9	1.3	39.6	3.6	36.8	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	9.9	1.3	39.6	3.6	36.8	11.0
Queue Length 50th (ft)	1	99	1	43	66	24	0
Queue Length 95th (ft)	7	169	22	m79	76	53	59
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	228	2126	1478	300	3725	391	515
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.34	0.42	0.25	0.35	0.12	0.41

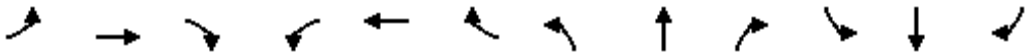
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	114	804	41	19	909	310	12	14	34	511
v/c Ratio	0.50	0.32	0.03	0.05	0.45	0.29	0.06	0.05	0.15	0.77
Control Delay	50.5	2.0	0.4	12.2	13.0	3.1	31.4	0.3	33.5	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	2.0	0.4	12.2	13.0	3.1	31.4	0.3	33.5	11.9
Queue Length 50th (ft)	53	10	0	4	134	5	6	0	18	0
Queue Length 95th (ft)	125	54	1	20	262	54	20	0	40	87
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2540	1186	384	2032	1056	328	417	361	748
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.32	0.03	0.05	0.45	0.29	0.04	0.03	0.09	0.68

Intersection Summary



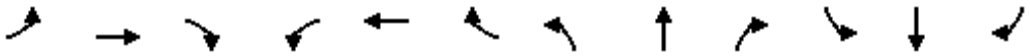
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	200	443	50	88	508	302	80	549	92	167	443	130
v/c Ratio	0.67	0.38	0.09	0.53	0.62	0.50	0.51	0.66	0.21	0.66	0.40	0.22
Control Delay	51.9	27.4	2.5	55.5	36.2	6.9	55.4	37.4	8.0	54.0	28.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	27.4	2.5	55.5	36.2	6.9	55.4	37.4	8.0	54.0	28.3	6.2
Queue Length 50th (ft)	114	110	0	51	144	0	47	157	0	94	110	0
Queue Length 95th (ft)	#233	169	8	103	201	49	96	218	33	176	168	36
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	300	1670	789	300	1670	904	300	1670	794	300	1670	814
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.27	0.06	0.29	0.30	0.33	0.27	0.33	0.12	0.56	0.27	0.16

Intersection Summary

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

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	818	104	342	685	103	99	709	483	209	890	180
Future Volume (veh/h)	179	818	104	342	685	103	99	709	483	209	890	180
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	181	826	105	345	692	104	100	716	488	211	899	182
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	948	121	393	1070	161	123	1119	521	220	1634	329
Arrive On Green	0.07	0.30	0.30	0.11	0.35	0.35	0.07	0.33	0.33	0.12	0.38	0.38
Sat Flow, veh/h	3456	3171	403	3456	3098	465	1781	3404	1585	1781	4261	859
Grp Volume(v), veh/h	181	463	468	345	397	399	100	716	488	211	717	364
Grp Sat Flow(s),veh/h/ln	1728	1777	1798	1728	1777	1787	1781	1702	1585	1781	1702	1716
Q Serve(g_s), s	6.9	33.0	33.0	13.1	25.1	25.2	7.4	23.9	39.9	15.7	22.0	22.1
Cycle Q Clear(g_c), s	6.9	33.0	33.0	13.1	25.1	25.2	7.4	23.9	39.9	15.7	22.0	22.1
Prop In Lane	1.00		0.22	1.00		0.26	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	233	531	537	393	614	617	123	1119	521	220	1305	658
V/C Ratio(X)	0.78	0.87	0.87	0.88	0.65	0.65	0.81	0.64	0.94	0.96	0.55	0.55
Avail Cap(c_a), veh/h	427	592	599	427	614	617	220	1134	528	220	1305	658
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	61.3	44.4	44.4	58.2	36.8	36.8	61.3	38.1	43.5	58.2	32.2	32.2
Incr Delay (d2), s/veh	2.1	13.0	12.9	16.3	2.7	2.7	4.9	1.4	24.5	48.5	0.6	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	3.1	16.1	16.3	6.5	11.1	11.2	3.5	10.1	18.9	10.0	9.1	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	57.4	57.3	74.5	39.5	39.5	66.2	39.5	68.0	106.7	32.8	33.5
LnGrp LOS	E	E	E	E	D	D	E	D	E	F	C	C
Approach Vol, veh/h		1112			1141			1304			1292	
Approach Delay, s/veh		58.3			50.1			52.2			45.1	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	51.6	20.0	49.4	18.7	45.4	12.7	56.7
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	8.9	27.2	17.7	41.9	15.1	35.0	9.4	24.1
Green Ext Time (p_c), s	0.1	6.1	0.0	2.0	0.1	5.0	0.0	9.7

Intersection Summary	
HCM 6th Ctrl Delay	51.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1203	907	69	1037	0	16	0	62	0	0	0
Future Volume (veh/h)	7	1203	907	69	1037	0	16	0	62	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	7	1266	955	73	1092	0	17	0	65			
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	2	0	2			
Cap, veh/h	402	2215	1141	198	4016	0	172	0	153			
Arrive On Green	0.62	0.62	0.62	0.22	1.00	0.00	0.10	0.00	0.10			
Sat Flow, veh/h	516	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	7	1266	955	73	1092	0	17	0	65			
Grp Sat Flow(s),veh/h/ln	516	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.5	18.8	38.2	3.1	0.0	0.0	0.8	0.0	3.5			
Cycle Q Clear(g_c), s	0.5	18.8	38.2	3.1	0.0	0.0	0.8	0.0	3.5			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	402	2215	1141	198	4016	0	172	0	153			
V/C Ratio(X)	0.02	0.57	0.84	0.37	0.27	0.00	0.10	0.00	0.42			
Avail Cap(c_a), veh/h	402	2215	1141	303	4016	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.5	9.9	8.9	32.3	0.0	0.0	37.1	0.0	38.3			
Incr Delay (d2), s/veh	0.1	1.1	7.4	0.7	0.1	0.0	0.2	0.0	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	6.3	12.2	1.3	0.1	0.0	0.3	0.0	1.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	11.0	16.2	33.0	0.1	0.0	37.3	0.0	40.1			
LnGrp LOS	A	B	B	C	A	A	D	A	D			
Approach Vol, veh/h		2228			1165			82				
Approach Delay, s/veh		13.2			2.2			39.5				
Approach LOS		B			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	61.5				76.2		13.8				
Change Period (Y+Rc), s	4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	15.0	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.1	40.2				2.0		5.5				
Green Ext Time (p_c), s	0.1	0.0				14.4		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1111	29	28	564	251	35	31	27	37	12	524
Future Volume (veh/h)	140	1111	29	28	564	251	35	31	27	37	12	524
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	149	1182	31	30	600	267	37	33	29	39	13	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	2753	1228	363	2182	973	141	107	172	149	40	
Arrive On Green	0.22	1.00	1.00	0.61	0.61	0.61	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1781	3554	1585	460	3554	1585	736	990	1585	732	372	1585
Grp Volume(v), veh/h	149	1182	31	30	600	267	70	0	29	52	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	460	1777	1585	1726	0	1585	1104	0	1585
Q Serve(g_s), s	7.1	0.0	0.0	2.4	7.1	7.0	0.0	0.0	1.5	2.2	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	2.4	7.1	7.0	3.2	0.0	1.5	5.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.53		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	193	2753	1228	363	2182	973	249	0	172	190	0	
V/C Ratio(X)	0.77	0.43	0.03	0.08	0.27	0.27	0.28	0.00	0.17	0.27	0.00	
Avail Cap(c_a), veh/h	501	2753	1228	363	2182	973	427	0	350	352	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.2	0.0	0.0	7.2	8.1	8.1	37.2	0.0	36.4	38.6	0.0	0.0
Incr Delay (d2), s/veh	3.8	0.4	0.0	0.4	0.3	0.7	0.6	0.0	0.5	0.8	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	2.9	0.1	0.0	0.2	2.4	2.2	1.5	0.0	0.6	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	0.4	0.0	7.6	8.4	8.8	37.8	0.0	36.9	39.4	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		1362			897			99			52	A
Approach Delay, s/veh		4.5			8.5			37.5			39.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.1		14.9	14.5	60.7		14.9				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		59.6		19.9	* 25	29.6		19.9				
Max Q Clear Time (g_c+I1), s		2.0		7.4	9.1	9.1		5.2				
Green Ext Time (p_c), s		17.4		0.1	0.2	7.2		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		8.1
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	102	152	0
Future Vol, veh/h	0	0	0	102	152	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	111	165	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	276	165	165	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	111	-	-	-	-	-
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	714	879	1413	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	714	879	1413	-	-	-
Mov Cap-2 Maneuver	714	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	914	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1413	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	1.9

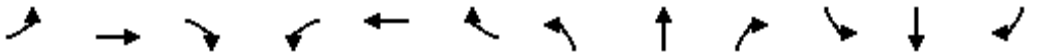
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	1073	5	3	720	22	5	0	11	66	0	86
Future Vol, veh/h	85	1073	5	3	720	22	5	0	11	66	0	86
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	1118	5	3	750	23	5	0	11	69	0	90

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	773	0	0	1123	0	0	1680	2078	562	1505	2069	387
Stage 1	-	-	-	-	-	-	1299	1299	-	768	768	-
Stage 2	-	-	-	-	-	-	381	779	-	737	1301	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	838	-	-	*999	-	-	154	74	*668	*247	76	611
Stage 1	-	-	-	-	-	-	457	435	-	*360	409	-
Stage 2	-	-	-	-	-	-	613	404	-	*629	433	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	838	-	-	*999	-	-	121	66	*668	*223	68	611
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	66	-	*223	68	-
Stage 1	-	-	-	-	-	-	409	388	-	*322	408	-
Stage 2	-	-	-	-	-	-	522	403	-	*553	387	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	18.8	19
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	277	838	-	-	* 999	-	-	223	611
HCM Lane V/C Ratio	0.06	0.106	-	-	0.003	-	-	0.308	0.147
HCM Control Delay (s)	18.8	9.8	-	-	8.6	-	-	28.2	11.9
HCM Lane LOS	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	0.4	-	-	0	-	-	1.3	0.5

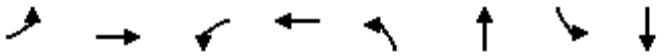
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	742	61	49	354	114	89	370	98	212	660	222
Future Volume (veh/h)	104	742	61	49	354	114	89	370	98	212	660	222
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	111	789	65	52	377	121	95	394	104	226	702	236
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	141	1151	513	65	1000	446	121	799	357	265	1087	485
Arrive On Green	0.08	0.33	0.33	0.04	0.29	0.29	0.07	0.23	0.23	0.15	0.31	0.31
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	111	789	65	52	377	121	95	394	104	226	702	236
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	4.8	15.1	2.2	2.3	6.7	4.6	4.1	7.6	4.3	9.7	13.4	9.5
Cycle Q Clear(g_c), s	4.8	15.1	2.2	2.3	6.7	4.6	4.1	7.6	4.3	9.7	13.4	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1151	513	65	1000	446	121	799	357	265	1087	485
V/C Ratio(X)	0.79	0.69	0.13	0.80	0.38	0.27	0.78	0.49	0.29	0.85	0.65	0.49
Avail Cap(c_a), veh/h	363	2013	898	363	2013	898	363	2013	898	363	2013	898
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	34.6	22.2	17.9	36.6	21.8	21.1	35.1	25.6	24.3	31.7	22.7	21.3
Incr Delay (d2), s/veh	3.7	1.0	0.2	8.0	0.3	0.5	4.1	0.7	0.6	10.4	0.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.7	0.8	1.1	2.5	1.6	1.8	3.0	1.5	4.6	5.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.3	23.2	18.0	44.6	22.1	21.5	39.2	26.3	25.0	42.0	23.6	22.4
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		965			550			593			1164	
Approach Delay, s/veh		24.6			24.1			28.1			26.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	30.9	9.3	29.5	10.2	27.6	15.7	23.2
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	4.3	17.1	6.1	15.4	6.8	8.7	11.7	9.6
Green Ext Time (p_c), s	0.0	8.4	0.0	8.7	0.0	4.3	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	181	931	345	796	100	1204	211	1081
v/c Ratio	0.64	0.88	0.86	0.68	0.66	0.88dr	0.94	0.64
Control Delay	70.0	53.6	78.2	40.3	79.9	42.4	105.1	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.0	53.6	78.2	40.3	79.9	42.4	105.1	38.2
Queue Length 50th (ft)	82	411	159	311	89	328	~194	291
Queue Length 95th (ft)	122	506	#241	406	148	387	#368	362
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	435	1155	435	1215	224	1662	224	1707
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	0.42	0.81	0.79	0.66	0.45	0.72	0.94	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

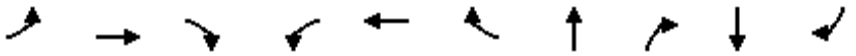
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1266	955	73	1092	17	65
v/c Ratio	0.02	0.61	0.68	0.36	0.30	0.07	0.22
Control Delay	10.7	14.2	4.1	47.6	3.3	32.2	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	14.2	4.1	47.6	3.3	32.2	6.2
Queue Length 50th (ft)	1	215	40	43	32	9	0
Queue Length 95th (ft)	10	388	114	m75	93	25	22
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	283	2091	1470	300	3669	391	417
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.61	0.65	0.24	0.30	0.04	0.16

Intersection Summary

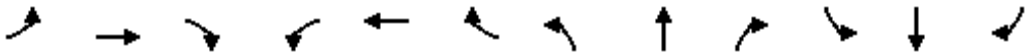
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	149	1182	31	30	600	267	70	29	52	557
v/c Ratio	0.59	0.47	0.03	0.12	0.32	0.27	0.32	0.10	0.26	0.79
Control Delay	54.5	3.5	1.1	15.1	13.3	2.9	37.0	0.6	35.8	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	3.5	1.1	15.1	13.3	2.9	37.0	0.6	35.8	12.2
Queue Length 50th (ft)	92	63	0	7	84	0	38	0	28	1
Queue Length 95th (ft)	m154	74	m1	31	171	45	68	0	55	94
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2535	1181	241	1859	982	339	420	308	784
Starvation Cap Reductn	0	147	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.49	0.03	0.12	0.32	0.27	0.21	0.07	0.17	0.71

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



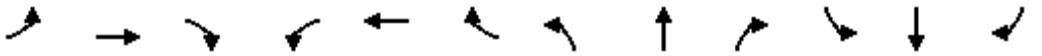
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	111	789	65	52	377	121	95	394	104	226	702	236
v/c Ratio	0.59	0.71	0.12	0.40	0.41	0.24	0.55	0.47	0.23	0.76	0.59	0.37
Control Delay	60.7	34.8	4.6	60.0	32.3	7.4	60.1	33.9	7.6	61.2	32.4	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	34.8	4.6	60.0	32.3	7.4	60.1	33.9	7.6	61.2	32.4	13.2
Queue Length 50th (ft)	66	223	0	31	97	0	56	108	0	135	196	37
Queue Length 95th (ft)	158	388	23	88	183	47	138	185	42	#393	343	124
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	299	1662	786	299	1662	806	299	1662	797	299	1662	823
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.47	0.08	0.17	0.23	0.15	0.32	0.24	0.13	0.76	0.42	0.29

Intersection Summary

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

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	705	72	327	780	112	80	770	409	117	659	115
Future Volume (veh/h)	139	705	72	327	780	112	80	770	409	117	659	115
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	154	783	80	363	867	124	89	856	454	130	732	128
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	958	98	419	1105	158	112	1175	547	156	1621	281
Arrive On Green	0.06	0.29	0.29	0.12	0.35	0.35	0.06	0.35	0.35	0.09	0.37	0.37
Sat Flow, veh/h	3456	3255	332	3456	3121	446	1781	3404	1585	1781	4379	758
Grp Volume(v), veh/h	154	427	436	363	494	497	89	856	454	130	567	293
Grp Sat Flow(s),veh/h/ln	1728	1777	1811	1728	1777	1790	1781	1702	1585	1781	1702	1734
Q Serve(g_s), s	5.2	26.5	26.6	12.2	29.5	29.5	5.9	26.1	31.2	8.5	15.0	15.2
Cycle Q Clear(g_c), s	5.2	26.5	26.6	12.2	29.5	29.5	5.9	26.1	31.2	8.5	15.0	15.2
Prop In Lane	1.00		0.18	1.00		0.25	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	211	523	533	419	629	634	112	1175	547	156	1260	642
V/C Ratio(X)	0.73	0.82	0.82	0.87	0.78	0.78	0.79	0.73	0.83	0.83	0.45	0.46
Avail Cap(c_a), veh/h	480	666	679	480	666	671	248	1276	594	248	1276	650
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	54.8	38.9	38.9	51.2	34.3	34.3	54.9	34.0	35.7	53.3	28.3	28.3
Incr Delay (d2), s/veh	1.8	7.1	7.0	12.8	6.3	6.2	4.7	2.2	9.6	6.6	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	2.3	12.2	12.5	5.9	13.4	13.4	2.8	10.9	13.2	4.1	6.1	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	46.1	46.0	64.0	40.6	40.5	59.6	36.2	45.3	59.9	28.6	29.1
LnGrp LOS	E	D	D	E	D	D	E	D	D	E	C	C
Approach Vol, veh/h		1017			1354			1399			990	
Approach Delay, s/veh		47.6			46.8			40.6			32.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	47.6	13.9	46.5	17.9	40.4	11.0	49.4
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	7.2	31.5	10.5	33.2	14.2	28.6	7.9	17.2
Green Ext Time (p_c), s	0.1	6.5	0.0	7.8	0.1	6.4	0.0	8.6

Intersection Summary	
HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	700	583	78	1245	0	43	0	212	0	0	0
Future Volume (veh/h)	5	700	583	78	1245	0	43	0	212	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	5	761	634	85	1353	0	47	0	230			
Peak Hour Factor	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	0	2	0	2			
Cap, veh/h	302	1962	1141	198	3653	0	299	0	266			
Arrive On Green	0.55	0.55	0.55	0.22	1.00	0.00	0.17	0.00	0.17			
Sat Flow, veh/h	403	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	5	761	634	85	1353	0	47	0	230			
Grp Sat Flow(s),veh/h/ln	403	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.5	11.0	16.8	3.7	0.0	0.0	2.0	0.0	12.7			
Cycle Q Clear(g_c), s	0.5	11.0	16.8	3.7	0.0	0.0	2.0	0.0	12.7			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	302	1962	1141	198	3653	0	299	0	266			
V/C Ratio(X)	0.02	0.39	0.56	0.43	0.37	0.00	0.16	0.00	0.86			
Avail Cap(c_a), veh/h	302	1962	1141	303	3653	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	9.1	11.5	5.9	32.5	0.0	0.0	32.0	0.0	36.4			
Incr Delay (d2), s/veh	0.1	0.6	2.0	0.9	0.2	0.0	0.2	0.0	15.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.0	5.0	1.5	0.1	0.0	0.9	0.0	6.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.2	12.1	7.8	33.4	0.2	0.0	32.2	0.0	52.2			
LnGrp LOS	A	B	A	C	A	A	C	A	D			
Approach Vol, veh/h		1400			1438			277				
Approach Delay, s/veh		10.1			2.2			48.8				
Approach LOS		B			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	55.1				69.8		20.2				
Change Period (Y+Rc), s	* 4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	* 15	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.7	18.8				2.0		14.7				
Green Ext Time (p_c), s	0.1	11.0				20.1		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	771	38	17	861	299	10	1	13	23	16	474
Future Volume (veh/h)	106	771	38	17	861	299	10	1	13	23	16	474
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	116	847	42	19	946	329	11	1	14	25	18	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	2815	1255	477	2256	1006	200	15	145	132	79	
Arrive On Green	0.21	1.00	1.00	0.63	0.63	0.63	0.09	0.09	0.09	0.09	0.09	0.00
Sat Flow, veh/h	1781	3554	1585	625	3554	1585	1352	164	1585	754	862	1585
Grp Volume(v), veh/h	116	847	42	19	946	329	12	0	14	43	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	625	1777	1585	1516	0	1585	1616	0	1585
Q Serve(g_s), s	5.3	0.0	0.0	1.0	11.9	8.6	0.0	0.0	0.7	0.6	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.0	1.0	11.9	8.6	0.5	0.0	0.7	2.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.92		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	187	2815	1255	477	2256	1006	215	0	145	211	0	
V/C Ratio(X)	0.62	0.30	0.03	0.04	0.42	0.33	0.06	0.00	0.10	0.20	0.00	
Avail Cap(c_a), veh/h	501	2815	1255	477	2256	1006	400	0	350	414	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	0.0	0.0	6.2	8.2	7.6	37.4	0.0	37.5	38.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.3	0.0	0.2	0.6	0.9	0.1	0.0	0.3	0.5	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	2.2	0.1	0.0	0.1	3.9	2.6	0.2	0.0	0.3	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	0.3	0.0	6.3	8.8	8.4	37.5	0.0	37.8	38.5	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		1005			1294			26			43	A
Approach Delay, s/veh		4.4			8.6			37.7			38.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		76.7		13.3	14.1	62.5		13.3				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		59.6		19.9	* 25	29.6		19.9				
Max Q Clear Time (g_c+I1), s		2.0		4.0	7.3	13.9		2.7				
Green Ext Time (p_c), s		10.6		0.1	0.2	9.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		7.7
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	37	42	80	126	7
Future Vol, veh/h	7	37	42	80	126	7
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	8	40	46	87	137	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	141	145	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	179	-	-	-	-	-
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	673	907	1437	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	650	907	1437	-	-	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	2.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1437	-	853	-	-
HCM Lane V/C Ratio	0.032	-	0.056	-	-
HCM Control Delay (s)	7.6	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.8

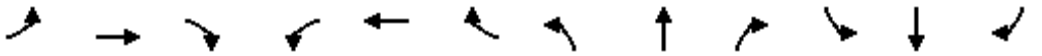
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	649	9	7	998	36	6	0	4	18	0	145
Future Vol, veh/h	85	649	9	7	998	36	6	0	4	18	0	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	746	10	8	1147	41	7	0	5	21	0	167

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1188	0	0	756	0	0	1537	2151	378	1753	2136	594
Stage 1	-	-	-	-	-	-	947	947	-	1184	1184	-
Stage 2	-	-	-	-	-	-	590	1204	-	569	952	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	583	-	-	1155	-	-	127	53	*838	*79	54	448
Stage 1	-	-	-	-	-	-	498	490	-	*201	261	-
Stage 2	-	-	-	-	-	-	461	255	-	*790	487	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	583	-	-	1155	-	-	69	43	*838	*68	45	448
Mov Cap-2 Maneuver	-	-	-	-	-	-	69	43	-	*68	45	-
Stage 1	-	-	-	-	-	-	414	408	-	*167	259	-
Stage 2	-	-	-	-	-	-	287	253	-	*653	405	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.1	41.9	24.5
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	109	583	-	-	1155	-	-	68	448
HCM Lane V/C Ratio	0.105	0.168	-	-	0.007	-	-	0.304	0.372
HCM Control Delay (s)	41.9	12.4	-	-	8.1	-	-	79.6	17.7
HCM Lane LOS	E	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.3	0.6	-	-	0	-	-	1.1	1.7

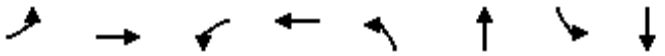
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	382	45	75	438	259	71	470	79	143	379	116
Future Volume (veh/h)	176	382	45	75	438	259	71	470	79	143	379	116
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	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	210	455	54	89	521	308	85	560	94	170	451	138
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	246	1247	556	114	983	438	109	836	373	205	1028	458
Arrive On Green	0.14	0.36	0.36	0.06	0.28	0.28	0.06	0.24	0.24	0.12	0.29	0.29
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	210	455	54	89	521	308	85	560	94	170	451	138
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	10.0	8.2	2.0	4.3	10.7	15.1	4.1	12.4	4.2	8.1	8.9	5.8
Cycle Q Clear(g_c), s	10.0	8.2	2.0	4.3	10.7	15.1	4.1	12.4	4.2	8.1	8.9	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	246	1247	556	114	983	438	109	836	373	205	1028	458
V/C Ratio(X)	0.85	0.36	0.10	0.78	0.53	0.70	0.78	0.67	0.25	0.83	0.44	0.30
Avail Cap(c_a), veh/h	329	1824	814	329	1824	814	329	1824	814	329	1824	814
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	35.8	20.3	18.3	39.3	25.9	27.5	39.4	29.4	26.3	36.8	24.4	23.3
Incr Delay (d2), s/veh	12.1	0.3	0.1	4.3	0.6	2.9	4.5	1.3	0.5	4.5	0.4	0.5
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	4.9	3.2	0.7	1.9	4.3	5.6	1.8	5.1	1.5	3.6	3.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	20.6	18.4	43.6	26.5	30.4	43.9	30.7	26.8	41.3	24.8	23.9
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		719			918			739			759	
Approach Delay, s/veh		28.4			29.5			31.8			28.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	35.9	9.3	30.6	16.0	29.5	14.0	25.9
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	6.3	10.2	6.1	10.9	12.0	17.1	10.1	14.4
Green Ext Time (p_c), s	0.0	4.7	0.0	5.2	0.1	6.9	0.1	6.0

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	863	363	991	89	1310	130	860
v/c Ratio	0.58	0.84	0.85	0.83	0.61	0.83	0.73	0.52
Control Delay	67.9	49.6	74.4	45.4	76.7	42.7	80.6	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.9	49.6	74.4	45.4	76.7	42.7	80.6	34.3
Queue Length 50th (ft)	68	364	161	406	76	353	111	206
Queue Length 95th (ft)	107	458	#260	531	136	444	187	275
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	456	1216	456	1265	235	1737	235	1794
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	0.34	0.71	0.80	0.78	0.38	0.75	0.55	0.48

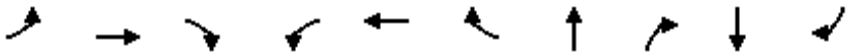
Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	5	761	634	85	1353	47	230
v/c Ratio	0.02	0.36	0.45	0.40	0.36	0.21	0.57
Control Delay	10.0	10.3	1.6	40.1	3.6	36.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	10.3	1.6	40.1	3.6	36.7	11.0
Queue Length 50th (ft)	1	104	6	47	68	25	0
Queue Length 95th (ft)	7	182	32	m86	79	53	61
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	217	2114	1470	300	3721	391	529
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.36	0.43	0.28	0.36	0.12	0.43

Intersection Summary

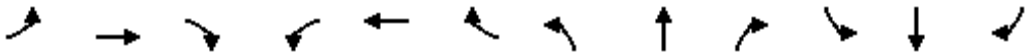
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	116	847	42	19	946	329	12	14	43	521
v/c Ratio	0.51	0.33	0.04	0.05	0.47	0.31	0.06	0.05	0.19	0.78
Control Delay	49.3	2.0	0.4	12.4	13.4	3.4	31.3	0.3	34.4	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	2.0	0.4	12.4	13.4	3.4	31.3	0.3	34.4	12.5
Queue Length 50th (ft)	50	11	0	4	143	8	6	0	23	3
Queue Length 95th (ft)	126	57	m1	20	276	61	20	0	48	93
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2535	1184	368	2024	1055	327	417	345	751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.33	0.04	0.05	0.47	0.31	0.04	0.03	0.12	0.69

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



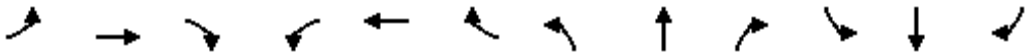
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	210	455	54	89	521	308	85	560	94	170	451	138
v/c Ratio	0.71	0.39	0.09	0.54	0.62	0.51	0.53	0.67	0.21	0.67	0.41	0.23
Control Delay	55.4	27.9	3.0	56.3	36.7	6.9	56.4	37.8	7.9	55.1	28.8	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	27.9	3.0	56.3	36.7	6.9	56.4	37.8	7.9	55.1	28.8	6.1
Queue Length 50th (ft)	122	115	0	53	151	0	50	163	0	97	114	0
Queue Length 95th (ft)	#253	176	10	105	208	49	102	224	34	180	174	37
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	294	1638	776	294	1638	895	294	1638	782	294	1638	805
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.28	0.07	0.30	0.32	0.34	0.29	0.34	0.12	0.58	0.28	0.17

Intersection Summary

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

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	837	106	350	701	106	101	723	494	214	908	184
Future Volume (veh/h)	183	837	106	350	701	106	101	723	494	214	908	184
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	185	845	107	354	708	107	102	730	499	216	917	186
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	957	121	401	1081	163	125	1115	519	217	1616	327
Arrive On Green	0.07	0.30	0.30	0.12	0.35	0.35	0.07	0.33	0.33	0.12	0.38	0.38
Sat Flow, veh/h	3456	3173	402	3456	3096	468	1781	3404	1585	1781	4259	860
Grp Volume(v), veh/h	185	473	479	354	406	409	102	730	499	216	732	371
Grp Sat Flow(s),veh/h/ln	1728	1777	1798	1728	1777	1786	1781	1702	1585	1781	1702	1715
Q Serve(g_s), s	7.1	34.3	34.3	13.7	26.1	26.2	7.7	24.9	41.8	16.4	23.0	23.2
Cycle Q Clear(g_c), s	7.1	34.3	34.3	13.7	26.1	26.2	7.7	24.9	41.8	16.4	23.0	23.2
Prop In Lane	1.00		0.22	1.00		0.26	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	236	536	542	401	621	624	125	1115	519	217	1292	651
V/C Ratio(X)	0.78	0.88	0.88	0.88	0.65	0.66	0.82	0.65	0.96	1.00	0.57	0.57
Avail Cap(c_a), veh/h	421	584	591	421	621	624	217	1118	521	217	1292	651
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	62.1	45.0	45.0	59.0	37.2	37.2	62.1	39.0	44.7	59.4	33.2	33.3
Incr Delay (d2), s/veh	2.2	14.6	14.5	17.9	2.8	2.8	4.9	1.6	29.8	59.6	0.7	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	3.2	17.0	17.1	6.9	11.6	11.7	3.6	10.6	20.5	11.0	9.6	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	59.7	59.5	76.8	40.0	40.0	67.0	40.5	74.4	119.1	33.9	34.7
LnGrp LOS	E	E	E	E	D	D	E	D	E	F	C	C
Approach Vol, veh/h		1137			1169			1331			1319	
Approach Delay, s/veh		60.4			51.1			55.3			48.1	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	52.8	20.0	49.9	19.2	46.3	13.0	56.9
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	9.1	28.2	18.4	43.8	15.7	36.3	9.7	25.2
Green Ext Time (p_c), s	0.1	6.1	0.0	0.5	0.1	4.5	0.0	9.6

Intersection Summary	
HCM 6th Ctrl Delay	53.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1233	925	74	1063	0	16	0	69	0	0	0
Future Volume (veh/h)	7	1233	925	74	1063	0	16	0	69	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	7	1298	974	78	1119	0	17	0	73			
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	2	0	2			
Cap, veh/h	392	2205	1141	198	4003	0	177	0	158			
Arrive On Green	0.62	0.62	0.62	0.22	1.00	0.00	0.10	0.00	0.10			
Sat Flow, veh/h	503	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	7	1298	974	78	1119	0	17	0	73			
Grp Sat Flow(s),veh/h/ln	503	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.5	19.6	40.2	3.4	0.0	0.0	0.8	0.0	3.9			
Cycle Q Clear(g_c), s	0.5	19.6	40.2	3.4	0.0	0.0	0.8	0.0	3.9			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	392	2205	1141	198	4003	0	177	0	158			
V/C Ratio(X)	0.02	0.59	0.85	0.39	0.28	0.00	0.10	0.00	0.46			
Avail Cap(c_a), veh/h	392	2205	1141	303	4003	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.6	10.2	9.2	32.4	0.0	0.0	36.9	0.0	38.3			
Incr Delay (d2), s/veh	0.1	1.2	8.2	0.8	0.1	0.0	0.2	0.0	2.1			
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	0.1	6.6	13.0	1.4	0.1	0.0	0.3	0.0	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	11.4	17.3	33.2	0.1	0.0	37.1	0.0	40.4			
LnGrp LOS	A	B	B	C	A	A	D	A	D			
Approach Vol, veh/h		2279			1197			90				
Approach Delay, s/veh		13.9			2.3			39.8				
Approach LOS		B			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	61.3				76.0		14.0				
Change Period (Y+Rc), s*	4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	15.0	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.4	42.2				2.0		5.9				
Green Ext Time (p_c), s	0.1	0.0				14.9		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	1144	30	29	584	262	36	32	28	41	12	534
Future Volume (veh/h)	143	1144	30	29	584	262	36	32	28	41	12	534
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	152	1217	32	31	621	279	38	34	30	44	13	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	2752	1227	353	2180	972	142	108	173	151	36	
Arrive On Green	0.22	1.00	1.00	0.61	0.61	0.61	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1781	3554	1585	445	3554	1585	739	994	1585	737	330	1585
Grp Volume(v), veh/h	152	1217	32	31	621	279	72	0	30	57	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	445	1777	1585	1734	0	1585	1068	0	1585
Q Serve(g_s), s	7.2	0.0	0.0	2.6	7.4	7.4	0.0	0.0	1.5	2.7	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	2.6	7.4	7.4	3.3	0.0	1.5	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.53		1.00	0.77		1.00
Lane Grp Cap(c), veh/h	193	2752	1227	353	2180	972	250	0	173	187	0	
V/C Ratio(X)	0.79	0.44	0.03	0.09	0.28	0.29	0.29	0.00	0.17	0.30	0.00	
Avail Cap(c_a), veh/h	501	2752	1227	353	2180	972	428	0	350	348	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.2	0.0	0.0	7.2	8.1	8.2	37.2	0.0	36.4	39.0	0.0	0.0
Incr Delay (d2), s/veh	4.0	0.4	0.0	0.5	0.3	0.7	0.6	0.0	0.5	0.9	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	2.9	0.2	0.0	0.3	2.5	2.3	1.5	0.0	0.6	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.4	0.0	7.7	8.5	8.9	37.8	0.0	36.9	39.9	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		1401			931			102			57	A
Approach Delay, s/veh		4.5			8.6			37.5			39.9	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.1		14.9	14.5	60.6		14.9				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		59.6		19.9	* 25	29.6		19.9				
Max Q Clear Time (g_c+I1), s		2.0		7.9	9.2	9.4		5.3				
Green Ext Time (p_c), s		18.3		0.1	0.2	7.5		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		8.2
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	20	19	104	155	3
Future Vol, veh/h	3	20	19	104	155	3
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	3	22	21	113	168	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	325	170	171	0	-	0
Stage 1	170	-	-	-	-	-
Stage 2	155	-	-	-	-	-
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	669	874	1406	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	658	874	1406	-	-	-
Mov Cap-2 Maneuver	658	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1406	-	838	-	-
HCM Lane V/C Ratio	0.015	-	0.03	-	-
HCM Control Delay (s)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

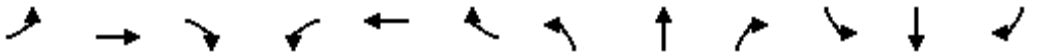
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	101	1094	5	3	734	27	5	0	11	72	0	103
Future Vol, veh/h	101	1094	5	3	734	27	5	0	11	72	0	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	105	1140	5	3	765	28	5	0	11	75	0	107

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	793	0	0	1145	0	0	1742	2152	573	1565	2140	397
Stage 1	-	-	-	-	-	-	1353	1353	-	785	785	-
Stage 2	-	-	-	-	-	-	389	799	-	780	1355	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	824	-	-	*948	-	-	149	66	*634	*246	68	602
Stage 1	-	-	-	-	-	-	467	436	-	*352	402	-
Stage 2	-	-	-	-	-	-	606	396	-	*597	435	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	824	-	-	*948	-	-	110	58	*634	*217	59	602
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	58	-	*217	59	-
Stage 1	-	-	-	-	-	-	408	381	-	*307	401	-
Stage 2	-	-	-	-	-	-	496	395	-	*512	379	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	20.1	19.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	255	824	-	-	* 948	-	-	217	602
HCM Lane V/C Ratio	0.065	0.128	-	-	0.003	-	-	0.346	0.178
HCM Control Delay (s)	20.1	10	-	-	8.8	-	-	30.1	12.3
HCM Lane LOS	C	B	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	0.4	-	-	0	-	-	1.5	0.6

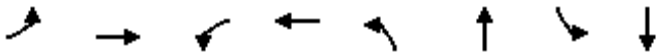
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	758	63	50	362	116	92	377	100	216	673	229
Future Volume (veh/h)	108	758	63	50	362	116	92	377	100	216	673	229
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	115	806	67	53	385	123	98	401	106	230	716	244
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	145	1160	517	67	1003	447	125	807	360	268	1093	488
Arrive On Green	0.08	0.33	0.33	0.04	0.29	0.29	0.07	0.23	0.23	0.15	0.32	0.32
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	115	806	67	53	385	123	98	401	106	230	716	244
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	5.1	15.9	2.4	2.4	7.0	4.9	4.4	7.9	4.5	10.2	14.1	10.1
Cycle Q Clear(g_c), s	5.1	15.9	2.4	2.4	7.0	4.9	4.4	7.9	4.5	10.2	14.1	10.1
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	145	1160	517	67	1003	447	125	807	360	268	1093	488
V/C Ratio(X)	0.79	0.70	0.13	0.79	0.38	0.28	0.78	0.50	0.29	0.86	0.65	0.50
Avail Cap(c_a), veh/h	352	1954	872	352	1954	872	352	1954	872	352	1954	872
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	35.5	22.8	18.3	37.7	22.5	21.7	36.1	26.3	25.0	32.6	23.3	22.0
Incr Delay (d2), s/veh	3.6	1.1	0.2	7.7	0.3	0.5	4.0	0.7	0.6	12.3	1.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	6.1	0.8	1.1	2.7	1.7	1.9	3.1	1.6	4.9	5.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	23.9	18.5	45.4	22.8	22.2	40.1	27.0	25.6	44.8	24.3	23.1
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		988			561			605			1190	
Approach Delay, s/veh		25.3			24.8			28.9			28.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	31.9	9.7	30.4	10.6	28.3	16.2	23.9
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	4.4	17.9	6.4	16.1	7.1	9.0	12.2	9.9
Green Ext Time (p_c), s	0.0	8.5	0.0	8.8	0.0	4.4	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	952	354	815	102	1229	216	1103
v/c Ratio	0.64	0.90	0.87	0.69	0.67	0.89dr	0.98	0.66
Control Delay	70.7	55.6	80.2	41.1	80.9	43.3	114.4	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.7	55.6	80.2	41.1	80.9	43.3	114.4	38.9
Queue Length 50th (ft)	85	428	165	325	92	338	~210	299
Queue Length 95th (ft)	123	#530	#251	418	150	398	#379	371
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	428	1139	428	1207	220	1641	220	1696
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	0.43	0.84	0.83	0.68	0.46	0.75	0.98	0.65

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

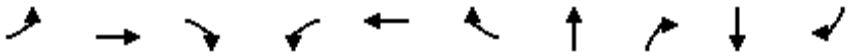
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1298	974	78	1119	17	73
v/c Ratio	0.03	0.62	0.69	0.38	0.31	0.07	0.25
Control Delay	11.0	14.8	4.6	47.6	3.4	31.9	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	14.8	4.6	47.6	3.4	31.9	7.8
Queue Length 50th (ft)	1	227	46	46	34	9	0
Queue Length 95th (ft)	10	408	148	m78	98	25	28
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	274	2078	1463	300	3658	391	417
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.62	0.67	0.26	0.31	0.04	0.18

Intersection Summary

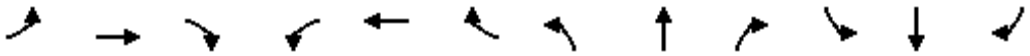
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	152	1217	32	31	621	279	72	30	57	568
v/c Ratio	0.59	0.48	0.03	0.13	0.34	0.28	0.33	0.10	0.29	0.81
Control Delay	54.1	3.7	1.3	15.5	13.6	2.9	37.1	0.6	36.5	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	3.7	1.3	15.5	13.6	2.9	37.1	0.6	36.5	13.8
Queue Length 50th (ft)	94	70	0	7	88	0	39	0	31	9
Queue Length 95th (ft)	m151	83	m1	32	176	46	71	0	60	109
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2525	1176	232	1849	983	334	417	301	779
Starvation Cap Reductn	0	146	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.51	0.03	0.13	0.34	0.28	0.22	0.07	0.19	0.73

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



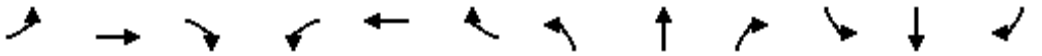
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	115	806	67	53	385	123	98	401	106	230	716	244
v/c Ratio	0.61	0.72	0.12	0.41	0.42	0.25	0.56	0.47	0.23	0.78	0.60	0.38
Control Delay	62.3	35.6	5.0	61.2	32.9	7.3	61.3	34.0	7.4	64.3	32.9	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	35.6	5.0	61.2	32.9	7.3	61.3	34.0	7.4	64.3	32.9	13.6
Queue Length 50th (ft)	70	234	0	32	102	0	60	113	0	141	205	40
Queue Length 95th (ft)	163	403	24	90	188	47	143	188	42	#405	351	130
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	294	1636	775	294	1636	796	294	1636	787	294	1636	813
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.49	0.09	0.18	0.24	0.15	0.33	0.25	0.13	0.78	0.44	0.30

Intersection Summary

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

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	713	72	324	804	194	85	849	407	239	802	255
Future Volume (veh/h)	199	713	72	324	804	194	85	849	407	239	802	255
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	221	792	80	360	893	216	94	943	452	266	891	283
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	959	97	408	946	229	116	1108	516	223	1480	468
Arrive On Green	0.08	0.29	0.29	0.12	0.33	0.33	0.07	0.33	0.33	0.13	0.39	0.39
Sat Flow, veh/h	3456	3259	329	3456	2838	686	1781	3404	1585	1781	3841	1215
Grp Volume(v), veh/h	221	432	440	360	559	550	94	943	452	266	789	385
Grp Sat Flow(s),veh/h/ln	1728	1777	1811	1728	1777	1747	1781	1702	1585	1781	1702	1652
Q Serve(g_s), s	8.3	29.8	29.9	13.5	40.3	40.4	6.9	34.1	35.5	16.5	24.4	24.6
Cycle Q Clear(g_c), s	8.3	29.8	29.9	13.5	40.3	40.4	6.9	34.1	35.5	16.5	24.4	24.6
Prop In Lane	1.00		0.18	1.00		0.39	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	273	523	533	408	593	583	116	1108	516	223	1312	637
V/C Ratio(X)	0.81	0.83	0.83	0.88	0.94	0.94	0.81	0.85	0.88	1.19	0.60	0.60
Avail Cap(c_a), veh/h	433	600	612	433	600	590	223	1150	535	223	1312	637
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	59.7	43.3	43.3	57.2	42.7	42.7	60.8	41.4	41.9	57.6	32.4	32.4
Incr Delay (d2), s/veh	2.7	8.9	8.8	17.1	23.7	24.2	4.9	6.4	15.2	122.1	0.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	14.1	14.4	6.8	21.1	20.8	3.2	15.0	15.8	14.9	10.1	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	52.3	52.1	74.3	66.4	66.9	65.7	47.8	57.1	179.7	33.3	34.4
LnGrp LOS	E	D	D	E	E	E	E	D	E	F	C	C
Approach Vol, veh/h		1093			1469			1489			1440	
Approach Delay, s/veh		54.3			68.5			51.8			60.6	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	49.4	20.0	48.4	19.1	44.3	12.1	56.3
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	10.3	42.4	18.5	37.5	15.5	31.9	8.9	26.6
Green Ext Time (p_c), s	0.1	1.6	0.0	5.5	0.1	5.6	0.0	9.8

Intersection Summary	
HCM 6th Ctrl Delay	59.1
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	801	607	71	1341	0	48	0	200	0	0	0
Future Volume (veh/h)	5	801	607	71	1341	0	48	0	200	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	5	871	660	77	1458	0	52	0	217			
Peak Hour Factor	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	0	2	0	2			
Cap, veh/h	284	1990	1141	198	3693	0	285	0	254			
Arrive On Green	0.56	0.56	0.56	0.22	1.00	0.00	0.16	0.00	0.16			
Sat Flow, veh/h	364	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	5	871	660	77	1458	0	52	0	217			
Grp Sat Flow(s),veh/h/ln	364	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.6	12.9	18.0	3.3	0.0	0.0	2.3	0.0	12.0			
Cycle Q Clear(g_c), s	0.6	12.9	18.0	3.3	0.0	0.0	2.3	0.0	12.0			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	284	1990	1141	198	3693	0	285	0	254			
V/C Ratio(X)	0.02	0.44	0.58	0.39	0.39	0.00	0.18	0.00	0.85			
Avail Cap(c_a), veh/h	284	1990	1141	303	3693	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	8.8	11.5	6.0	32.4	0.0	0.0	32.7	0.0	36.8			
Incr Delay (d2), s/veh	0.1	0.7	2.1	0.7	0.2	0.0	0.3	0.0	13.9			
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	0.0	4.6	5.3	1.4	0.1	0.0	1.0	0.0	5.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	12.2	8.2	33.1	0.2	0.0	33.0	0.0	50.7			
LnGrp LOS	A	B	A	C	A	A	C	A	D			
Approach Vol, veh/h		1536			1535			269				
Approach Delay, s/veh		10.5			1.9			47.3				
Approach LOS		B			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	55.8				70.5		19.5				
Change Period (Y+Rc), s	* 4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	* 15	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.3	20.0				2.0		14.0				
Green Ext Time (p_c), s	0.1	11.8				22.6		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	845	38	17	942	288	10	1	13	15	16	482
Future Volume (veh/h)	122	845	38	17	942	288	10	1	13	15	16	482
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	134	929	42	19	1035	316	11	1	14	16	18	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	2832	1263	449	2266	1011	192	14	137	107	97	
Arrive On Green	0.21	1.00	1.00	0.64	0.64	0.64	0.09	0.09	0.09	0.09	0.09	0.00
Sat Flow, veh/h	1781	3554	1585	579	3554	1585	1333	165	1585	558	1124	1585
Grp Volume(v), veh/h	134	929	42	19	1035	316	12	0	14	34	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	579	1777	1585	1498	0	1585	1682	0	1585
Q Serve(g_s), s	6.3	0.0	0.0	1.1	13.4	8.1	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	1.1	13.4	8.1	0.5	0.0	0.7	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.92		1.00	0.47		1.00
Lane Grp Cap(c), veh/h	191	2832	1263	449	2266	1011	206	0	137	204	0	
V/C Ratio(X)	0.70	0.33	0.03	0.04	0.46	0.31	0.06	0.00	0.10	0.17	0.00	
Avail Cap(c_a), veh/h	501	2832	1263	449	2266	1011	398	0	350	422	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.0	0.0	0.0	6.1	8.3	7.4	37.8	0.0	37.9	38.3	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.3	0.0	0.2	0.7	0.8	0.1	0.0	0.3	0.4	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	2.6	0.1	0.0	0.1	4.4	2.5	0.2	0.0	0.3	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.3	0.0	6.3	9.0	8.2	37.9	0.0	38.2	38.6	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		1105			1370			26			34	A
Approach Delay, s/veh		4.7			8.8			38.1			38.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2		4	5	6		8					
Phs Duration (G+Y+Rc), s	77.1		12.9	14.3	62.8		12.9					
Change Period (Y+Rc), s	5.4		5.1	* 4.7	5.4		5.1					
Max Green Setting (Gmax), s	59.6		19.9	* 25	29.6		19.9					
Max Q Clear Time (g_c+I1), s	2.0		3.5	8.3	15.4		2.7					
Green Ext Time (p_c), s	12.1		0.1	0.2	9.0		0.0					

Intersection Summary												
HCM 6th Ctrl Delay		7.7										
HCM 6th LOS		A										

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	80	126	0
Future Vol, veh/h	0	0	0	80	126	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	87	137	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	224	137	137	0	-	0
Stage 1	137	-	-	-	-	-
Stage 2	87	-	-	-	-	-
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	764	911	1447	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	764	911	1447	-	-	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	936	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1447	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	1.9

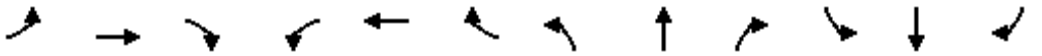
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	747	9	7	1097	27	6	0	4	9	0	117
Future Vol, veh/h	53	747	9	7	1097	27	6	0	4	9	0	117
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	859	10	8	1261	31	7	0	5	10	0	134

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1292	0	0	869	0	0	1633	2294	435	1845	2284	646
Stage 1	-	-	-	-	-	-	986	986	-	1293	1293	-
Stage 2	-	-	-	-	-	-	647	1308	-	552	991	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	532	-	-	1080	-	-	112	41	*804	*69	42	414
Stage 1	-	-	-	-	-	-	518	500	-	*172	231	-
Stage 2	-	-	-	-	-	-	426	228	-	*758	496	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	532	-	-	1080	-	-	69	36	*804	*62	37	414
Mov Cap-2 Maneuver	-	-	-	-	-	-	69	36	-	*62	37	-
Stage 1	-	-	-	-	-	-	458	443	-	*152	229	-
Stage 2	-	-	-	-	-	-	285	226	-	*667	439	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	41.9	21.8
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	109	532	-	-	1080	-	-	62	414
HCM Lane V/C Ratio	0.105	0.115	-	-	0.007	-	-	0.167	0.325
HCM Control Delay (s)	41.9	12.6	-	-	8.4	-	-	74.4	17.8
HCM Lane LOS	E	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0	-	-	0.6	1.4

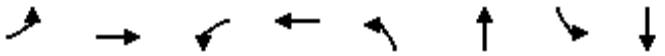
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	475	46	75	534	259	69	470	79	143	379	111
Future Volume (veh/h)	171	475	46	75	534	259	69	470	79	143	379	111
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	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	204	565	55	89	636	308	82	560	94	170	451	132
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	239	1270	567	114	1020	455	105	829	370	204	1028	458
Arrive On Green	0.14	0.36	0.36	0.06	0.29	0.29	0.06	0.24	0.24	0.12	0.29	0.29
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	204	565	55	89	636	308	82	560	94	170	451	132
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	9.9	10.7	2.0	4.4	13.7	15.2	4.0	12.7	4.3	8.3	9.1	5.7
Cycle Q Clear(g_c), s	9.9	10.7	2.0	4.4	13.7	15.2	4.0	12.7	4.3	8.3	9.1	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	1270	567	114	1020	455	105	829	370	204	1028	458
V/C Ratio(X)	0.85	0.44	0.10	0.78	0.62	0.68	0.78	0.68	0.25	0.83	0.44	0.29
Avail Cap(c_a), veh/h	322	1787	797	322	1787	797	322	1787	797	322	1787	797
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	36.8	21.1	18.3	40.1	26.7	27.2	40.4	30.2	27.0	37.6	24.9	23.7
Incr Delay (d2), s/veh	12.0	0.3	0.1	4.4	0.9	2.5	4.7	1.4	0.5	5.3	0.4	0.5
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	4.8	4.1	0.7	1.9	5.5	5.6	1.8	5.2	1.6	3.7	3.6	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	21.4	18.4	44.5	27.6	29.7	45.0	31.6	27.5	43.0	25.4	24.2
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		824			1033			736			753	
Approach Delay, s/veh		28.0			29.7			32.5			29.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	37.1	9.2	31.1	15.9	30.9	14.2	26.2
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	6.4	12.7	6.0	11.1	11.9	17.2	10.3	14.7
Green Ext Time (p_c), s	0.0	5.9	0.0	5.1	0.1	8.2	0.1	6.0

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	221	872	360	1109	94	1395	266	1174
v/c Ratio	0.70	0.84	0.89	0.99	0.65	0.90	1.24	0.67
Control Delay	72.0	51.8	84.1	68.8	81.3	49.8	189.1	37.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	51.8	84.1	68.8	81.3	49.8	189.1	37.9
Queue Length 50th (ft)	100	381	165	510	83	410	~298	307
Queue Length 95th (ft)	143	465	#256	#703	142	487	#487	392
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	417	1111	417	1121	215	1594	215	1743
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	0.53	0.78	0.86	0.99	0.44	0.88	1.24	0.67

Intersection Summary

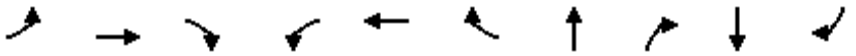
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	5	871	660	77	1458	52	217
v/c Ratio	0.03	0.41	0.47	0.37	0.39	0.23	0.56
Control Delay	9.8	10.6	1.6	38.2	4.1	37.2	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	9.8	10.6	1.6	38.2	4.2	37.2	11.0
Queue Length 50th (ft)	1	124	5	43	75	28	0
Queue Length 95th (ft)	7	209	29	m75	108	58	59
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	196	2123	1476	300	3721	391	519
Starvation Cap Reductn	0	0	0	0	794	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.41	0.45	0.26	0.50	0.13	0.42

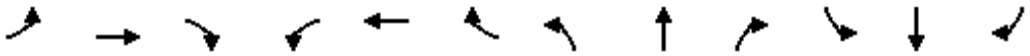
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	134	929	42	19	1035	316	12	14	34	530
v/c Ratio	0.55	0.37	0.04	0.06	0.55	0.32	0.06	0.05	0.14	0.80
Control Delay	51.8	2.3	0.3	13.3	15.8	4.3	30.9	0.3	33.0	13.7
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	2.3	0.3	13.3	15.8	4.3	30.9	0.3	33.0	13.7
Queue Length 50th (ft)	57	11	0	4	167	13	6	0	18	10
Queue Length 95th (ft)	141	56	0	20	321	71	20	0	40	107
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2528	1180	315	1881	985	329	417	361	748
Starvation Cap Reductn	0	429	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.44	0.04	0.06	0.55	0.32	0.04	0.03	0.09	0.71

Intersection Summary



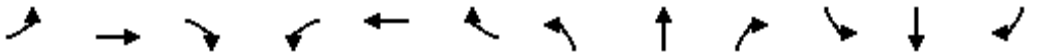
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	565	55	89	636	308	82	560	94	170	451	132
v/c Ratio	0.73	0.45	0.09	0.55	0.68	0.48	0.54	0.68	0.21	0.70	0.42	0.23
Control Delay	60.4	28.6	2.9	60.3	37.6	6.2	60.4	40.4	8.2	60.6	31.0	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	28.6	2.9	60.3	37.6	6.2	60.4	40.4	8.2	60.6	31.0	6.5
Queue Length 50th (ft)	129	153	0	57	195	0	52	176	0	105	123	0
Queue Length 95th (ft)	#269	225	11	111	260	47	105	240	35	#207	187	38
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	278	1548	738	278	1548	863	278	1548	744	278	1548	765
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.36	0.07	0.32	0.41	0.36	0.29	0.36	0.13	0.61	0.29	0.17

Intersection Summary

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

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	849	106	349	771	204	121	867	493	372	1037	364
Future Volume (veh/h)	297	849	106	349	771	204	121	867	493	372	1037	364
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	300	858	107	353	779	206	122	876	498	376	1047	368
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	965	120	400	885	234	146	1113	518	216	1367	480
Arrive On Green	0.10	0.30	0.30	0.12	0.32	0.32	0.08	0.33	0.33	0.12	0.37	0.37
Sat Flow, veh/h	3456	3179	396	3456	2780	735	1781	3404	1585	1781	3728	1310
Grp Volume(v), veh/h	300	480	485	353	498	487	122	876	498	376	956	459
Grp Sat Flow(s),veh/h/ln	1728	1777	1799	1728	1777	1738	1781	1702	1585	1781	1702	1635
Q Serve(g_s), s	11.6	35.0	35.0	13.7	36.1	36.1	9.2	31.7	41.9	16.5	33.6	33.6
Cycle Q Clear(g_c), s	11.6	35.0	35.0	13.7	36.1	36.1	9.2	31.7	41.9	16.5	33.6	33.6
Prop In Lane	1.00		0.22	1.00		0.42	1.00		1.00	1.00		0.80
Lane Grp Cap(c), veh/h	349	539	546	400	565	553	146	1113	518	216	1248	599
V/C Ratio(X)	0.86	0.89	0.89	0.88	0.88	0.88	0.84	0.79	0.96	1.74	0.77	0.77
Avail Cap(c_a), veh/h	420	582	589	420	582	569	216	1115	519	216	1248	599
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	60.1	45.1	45.1	59.2	43.9	43.9	61.5	41.5	44.9	59.7	37.9	37.9
Incr Delay (d2), s/veh	12.5	15.4	15.3	17.9	14.7	15.0	11.0	4.0	30.0	350.9	3.1	6.3
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	5.6	17.4	17.6	6.9	17.8	17.5	4.6	13.8	20.5	28.5	14.4	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	60.6	60.4	77.1	58.6	58.9	72.5	45.5	74.8	410.6	41.0	44.2
LnGrp LOS	E	E	E	E	E	E	E	D	E	F	D	D
Approach Vol, veh/h		1265			1338			1496			1791	
Approach Delay, s/veh		63.4			63.6			57.5			119.4	
Approach LOS		E			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.2	48.7	20.0	49.9	19.2	46.8	14.6	55.3
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	13.6	38.1	18.5	43.9	15.7	37.0	11.2	35.6
Green Ext Time (p_c), s	0.1	3.9	0.0	0.5	0.1	4.3	0.0	6.7

Intersection Summary	
HCM 6th Ctrl Delay	79.0
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1381	946	70	1210	0	36	0	63	0	0	0
Future Volume (veh/h)	7	1381	946	70	1210	0	36	0	63	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	7	1454	996	74	1274	0	38	0	66			
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	2	0	2			
Cap, veh/h	348	2193	1141	198	3985	0	183	0	163			
Arrive On Green	0.62	0.62	0.62	0.22	1.00	0.00	0.10	0.00	0.10			
Sat Flow, veh/h	434	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	7	1454	996	74	1274	0	38	0	66			
Grp Sat Flow(s),veh/h/ln	434	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.6	23.9	42.6	3.2	0.0	0.0	1.8	0.0	3.5			
Cycle Q Clear(g_c), s	0.6	23.9	42.6	3.2	0.0	0.0	1.8	0.0	3.5			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	348	2193	1141	198	3985	0	183	0	163			
V/C Ratio(X)	0.02	0.66	0.87	0.37	0.32	0.00	0.21	0.00	0.40			
Avail Cap(c_a), veh/h	348	2193	1141	303	3985	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.7	11.2	9.5	32.3	0.0	0.0	37.0	0.0	37.8			
Incr Delay (d2), s/veh	0.1	1.6	9.3	0.7	0.2	0.0	0.6	0.0	1.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	8.1	14.0	1.3	0.1	0.0	0.8	0.0	1.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	12.8	18.8	33.0	0.2	0.0	37.6	0.0	39.4			
LnGrp LOS	A	B	B	C	A	A	D	A	D			
Approach Vol, veh/h		2457			1348			104				
Approach Delay, s/veh		15.2			2.0			38.7				
Approach LOS		B			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	60.9				75.6		14.4				
Change Period (Y+Rc), s	4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	15.0	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.2	44.6				2.0		5.5				
Green Ext Time (p_c), s	0.1	0.0				18.2		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	1273	30	29	697	256	36	32	28	38	12	564
Future Volume (veh/h)	156	1273	30	29	697	256	36	32	28	38	12	564
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	166	1354	32	31	741	272	38	34	30	40	13	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	2752	1228	318	2168	967	141	108	172	149	39	
Arrive On Green	0.22	1.00	1.00	0.61	0.61	0.61	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1781	3554	1585	390	3554	1585	737	993	1585	725	360	1585
Grp Volume(v), veh/h	166	1354	32	31	741	272	72	0	30	53	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	390	1777	1585	1730	0	1585	1085	0	1585
Q Serve(g_s), s	8.0	0.0	0.0	3.0	9.2	7.3	0.0	0.0	1.5	2.3	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	0.0	3.0	9.2	7.3	3.3	0.0	1.5	5.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.53		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	200	2752	1228	318	2168	967	249	0	172	188	0	
V/C Ratio(X)	0.83	0.49	0.03	0.10	0.34	0.28	0.29	0.00	0.17	0.28	0.00	
Avail Cap(c_a), veh/h	501	2752	1228	318	2168	967	428	0	350	350	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.1	0.0	0.0	7.4	8.6	8.3	37.2	0.0	36.4	38.7	0.0	0.0
Incr Delay (d2), s/veh	4.5	0.4	0.0	0.6	0.4	0.7	0.6	0.0	0.5	0.8	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	3.2	0.2	0.0	0.3	3.1	2.3	1.5	0.0	0.6	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.4	0.0	8.0	9.1	9.0	37.8	0.0	36.9	39.5	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		1552			1044			102			53	A
Approach Delay, s/veh		4.5			9.0			37.5			39.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.1		14.9	14.8	60.3		14.9				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		59.6		19.9	* 25	29.6		19.9				
Max Q Clear Time (g_c+I1), s		2.0		7.6	10.0	11.2		5.3				
Green Ext Time (p_c), s		21.8		0.1	0.3	8.2		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		8.1
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	104	155	0
Future Vol, veh/h	0	0	0	104	155	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	113	168	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	281	168	168	0	-	0
Stage 1	168	-	-	-	-	-
Stage 2	113	-	-	-	-	-
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	709	876	1410	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	709	876	1410	-	-	-
Mov Cap-2 Maneuver	709	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	912	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1410	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	2.3

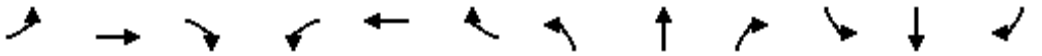
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	1234	5	3	857	22	5	0	11	67	0	88
Future Vol, veh/h	87	1234	5	3	857	22	5	0	11	67	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	1285	5	3	893	23	5	0	11	70	0	92

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	916	0	0	1290	0	0	1923	2392	645	1736	2383	458
Stage 1	-	-	-	-	-	-	1470	1470	-	911	911	-
Stage 2	-	-	-	-	-	-	453	922	-	825	1472	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	740	-	-	*897	-	-	100	38	*600	*175	39	550
Stage 1	-	-	-	-	-	-	413	392	-	*295	351	-
Stage 2	-	-	-	-	-	-	556	347	-	*565	391	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	740	-	-	*897	-	-	75	33	*600	*155	34	550
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	33	-	*155	34	-
Stage 1	-	-	-	-	-	-	362	344	-	*259	350	-
Stage 2	-	-	-	-	-	-	462	346	-	*486	343	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	26	27.2
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	188	740	-	-	* 897	-	-	155	550
HCM Lane V/C Ratio	0.089	0.122	-	-	0.003	-	-	0.45	0.167
HCM Control Delay (s)	26	10.5	-	-	9	-	-	46	12.9
HCM Lane LOS	D	B	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0	-	-	2.1	0.6

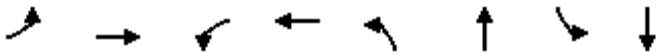
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	896	63	50	480	116	94	377	100	216	673	226
Future Volume (veh/h)	106	896	63	50	480	116	94	377	100	216	673	226
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	113	953	67	53	511	123	100	401	106	230	716	240
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	142	1279	571	67	1130	504	127	774	345	265	1050	468
Arrive On Green	0.08	0.37	0.37	0.04	0.33	0.33	0.07	0.22	0.22	0.15	0.30	0.30
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	113	953	67	53	511	123	100	401	106	230	716	240
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	5.6	20.9	2.5	2.6	10.2	5.1	4.9	8.9	5.0	11.3	15.9	11.2
Cycle Q Clear(g_c), s	5.6	20.9	2.5	2.6	10.2	5.1	4.9	8.9	5.0	11.3	15.9	11.2
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	142	1279	571	67	1130	504	127	774	345	265	1050	468
V/C Ratio(X)	0.80	0.75	0.12	0.79	0.45	0.24	0.79	0.52	0.31	0.87	0.68	0.51
Avail Cap(c_a), veh/h	318	1765	787	318	1765	787	318	1765	787	318	1765	787
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	39.4	24.0	18.2	41.7	23.3	21.6	39.9	29.8	28.3	36.2	26.8	25.2
Incr Delay (d2), s/veh	3.8	1.5	0.1	7.5	0.4	0.4	4.1	0.8	0.7	17.1	1.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.1	0.9	1.2	4.0	1.8	2.2	3.6	1.8	5.8	6.3	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	25.5	18.3	49.2	23.7	22.0	44.0	30.6	29.0	53.4	27.9	26.4
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1133			687			607			1186	
Approach Delay, s/veh		26.8			25.4			32.5			32.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	37.7	10.4	32.0	11.1	34.0	17.3	25.0
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	4.6	22.9	6.9	17.9	7.6	12.2	13.3	10.9
Green Ext Time (p_c), s	0.0	9.3	0.0	8.6	0.0	5.7	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	300	965	353	985	122	1374	376	1415
v/c Ratio	0.81	0.91	0.89	0.91	0.74	0.89	1.76	0.85
Control Delay	76.8	57.8	84.0	56.7	86.0	49.2	393.2	46.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	57.8	84.0	56.7	86.0	49.2	393.2	46.0
Queue Length 50th (ft)	138	437	165	444	110	407	~513	422
Queue Length 95th (ft)	190	#557	#250	#575	177	472	#718	#509
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	416	1106	416	1112	214	1593	214	1669
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	0.72	0.87	0.85	0.89	0.57	0.86	1.76	0.85

Intersection Summary

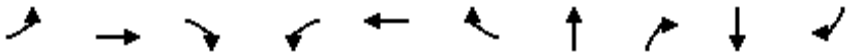
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1454	996	74	1274	38	66
v/c Ratio	0.03	0.70	0.71	0.36	0.35	0.15	0.22
Control Delay	11.3	16.9	4.8	45.1	3.5	33.3	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	16.9	4.8	45.1	3.5	33.3	6.3
Queue Length 50th (ft)	1	276	47	44	49	20	0
Queue Length 95th (ft)	10	#536	151	m72	106	43	23
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	232	2071	1464	300	3642	391	417
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.70	0.68	0.25	0.35	0.10	0.16

Intersection Summary

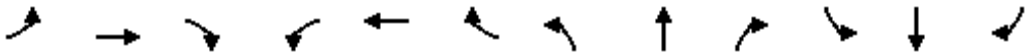
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	166	1354	32	31	741	272	72	30	53	600
v/c Ratio	0.62	0.55	0.03	0.16	0.42	0.29	0.29	0.09	0.23	0.85
Control Delay	57.1	4.1	1.2	18.2	16.1	3.1	34.1	0.5	33.1	18.3
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	4.2	1.2	18.2	16.1	3.1	34.1	0.5	33.1	18.3
Queue Length 50th (ft)	103	73	0	9	125	0	37	0	27	35
Queue Length 95th (ft)	m149	94	m0	34	219	46	71	0	56	#173
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2462	1148	192	1760	946	341	419	312	764
Starvation Cap Reductn	0	132	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.58	0.03	0.16	0.42	0.29	0.21	0.07	0.17	0.79

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



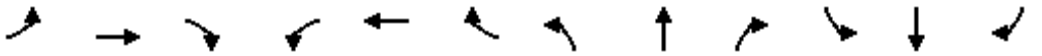
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	953	67	53	511	123	100	401	106	230	716	240
v/c Ratio	0.63	0.78	0.11	0.43	0.50	0.23	0.59	0.47	0.23	0.84	0.67	0.41
Control Delay	66.6	37.8	4.9	65.0	33.7	7.0	65.7	36.2	7.5	73.7	37.5	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	37.8	4.9	65.0	33.7	7.0	65.7	36.2	7.5	73.7	37.5	14.7
Queue Length 50th (ft)	78	304	0	37	147	0	69	127	0	162	237	46
Queue Length 95th (ft)	162	498	24	90	253	47	146	188	42	#405	351	128
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	275	1532	731	275	1532	753	275	1532	744	275	1532	771
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.62	0.09	0.19	0.33	0.16	0.36	0.26	0.14	0.84	0.47	0.31

Intersection Summary

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

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	717	72	327	808	196	85	849	409	241	802	255
Future Volume (veh/h)	199	717	72	327	808	196	85	849	409	241	802	255
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	221	797	80	363	898	218	94	943	454	268	891	283
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	959	96	411	947	230	116	1109	516	223	1480	468
Arrive On Green	0.08	0.29	0.29	0.12	0.33	0.33	0.07	0.33	0.33	0.12	0.39	0.39
Sat Flow, veh/h	3456	3261	327	3456	2836	688	1781	3404	1585	1781	3841	1215
Grp Volume(v), veh/h	221	434	443	363	562	554	94	943	454	268	789	385
Grp Sat Flow(s),veh/h/ln	1728	1777	1811	1728	1777	1747	1781	1702	1585	1781	1702	1652
Q Serve(g_s), s	8.3	30.1	30.2	13.7	40.7	40.8	6.9	34.1	35.7	16.5	24.5	24.6
Cycle Q Clear(g_c), s	8.3	30.1	30.2	13.7	40.7	40.8	6.9	34.1	35.7	16.5	24.5	24.6
Prop In Lane	1.00		0.18	1.00		0.39	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	273	522	533	411	593	583	116	1109	516	223	1312	636
V/C Ratio(X)	0.81	0.83	0.83	0.88	0.95	0.95	0.81	0.85	0.88	1.20	0.60	0.60
Avail Cap(c_a), veh/h	432	599	611	432	599	589	223	1147	534	223	1312	636
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	59.8	43.5	43.5	57.2	42.9	42.9	60.9	41.5	42.1	57.8	32.5	32.5
Incr Delay (d2), s/veh	2.7	9.4	9.2	17.5	24.7	25.2	4.9	6.4	15.6	126.3	0.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	14.3	14.6	6.9	21.4	21.2	3.3	15.1	16.0	15.2	10.2	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.5	52.9	52.8	74.7	67.5	68.1	65.8	47.9	57.7	184.1	33.4	34.4
LnGrp LOS	E	D	D	E	E	E	E	D	E	F	C	C
Approach Vol, veh/h		1098			1479			1491			1442	
Approach Delay, s/veh		54.8			69.5			52.0			61.7	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	49.6	20.0	48.5	19.2	44.3	12.1	56.4
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	10.3	42.8	18.5	37.7	15.7	32.2	8.9	26.6
Green Ext Time (p_c), s	0.1	1.3	0.0	5.3	0.1	5.6	0.0	9.8

Intersection Summary	
HCM 6th Ctrl Delay	59.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	813	607	78	1352	0	48	0	212	0	0	0
Future Volume (veh/h)	5	813	607	78	1352	0	48	0	212	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	5	884	660	85	1470	0	52	0	230			
Peak Hour Factor	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	0	2	0	2			
Cap, veh/h	279	1962	1141	198	3652	0	299	0	266			
Arrive On Green	0.55	0.55	0.55	0.22	1.00	0.00	0.17	0.00	0.17			
Sat Flow, veh/h	360	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	5	884	660	85	1470	0	52	0	230			
Grp Sat Flow(s),veh/h/ln	360	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.6	13.4	18.0	3.7	0.0	0.0	2.3	0.0	12.7			
Cycle Q Clear(g_c), s	0.6	13.4	18.0	3.7	0.0	0.0	2.3	0.0	12.7			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	279	1962	1141	198	3652	0	299	0	266			
V/C Ratio(X)	0.02	0.45	0.58	0.43	0.40	0.00	0.17	0.00	0.86			
Avail Cap(c_a), veh/h	279	1962	1141	303	3652	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.72	0.72	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	9.2	12.0	6.0	32.5	0.0	0.0	32.1	0.0	36.4			
Incr Delay (d2), s/veh	0.1	0.8	2.1	0.8	0.2	0.0	0.3	0.0	15.7			
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	0.0	4.8	5.3	1.5	0.1	0.0	1.0	0.0	6.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	12.8	8.2	33.3	0.2	0.0	32.4	0.0	52.1			
LnGrp LOS	A	B	A	C	A	A	C	A	D			
Approach Vol, veh/h		1549			1555			282				
Approach Delay, s/veh		10.8			2.0			48.5				
Approach LOS		B			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	55.1				69.8		20.2				
Change Period (Y+Rc), s	* 4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	* 15	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.7	20.0				2.0		14.7				
Green Ext Time (p_c), s	0.1	11.9				22.9		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		9.9	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	869	38	17	960	299	10	1	13	23	16	482
Future Volume (veh/h)	122	869	38	17	960	299	10	1	13	23	16	482
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	134	955	42	19	1055	329	11	1	14	25	18	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	2815	1255	437	2248	1003	200	15	145	132	79	
Arrive On Green	0.21	1.00	1.00	0.63	0.63	0.63	0.09	0.09	0.09	0.09	0.09	0.00
Sat Flow, veh/h	1781	3554	1585	565	3554	1585	1352	164	1585	754	862	1585
Grp Volume(v), veh/h	134	955	42	19	1055	329	12	0	14	43	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	565	1777	1585	1516	0	1585	1616	0	1585
Q Serve(g_s), s	6.3	0.0	0.0	1.2	14.0	8.7	0.0	0.0	0.7	0.6	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	1.2	14.0	8.7	0.5	0.0	0.7	2.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.92		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	191	2815	1255	437	2248	1003	215	0	145	211	0	
V/C Ratio(X)	0.70	0.34	0.03	0.04	0.47	0.33	0.06	0.00	0.10	0.20	0.00	
Avail Cap(c_a), veh/h	501	2815	1255	437	2248	1003	400	0	350	414	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.0	0.0	0.0	6.3	8.6	7.7	37.4	0.0	37.5	38.0	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.3	0.0	0.2	0.7	0.9	0.1	0.0	0.3	0.5	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	2.6	0.1	0.0	0.1	4.6	2.7	0.2	0.0	0.3	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.3	0.0	6.5	9.3	8.5	37.5	0.0	37.8	38.5	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		1131			1403			26			43	A
Approach Delay, s/veh		4.6			9.1			37.7			38.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	76.7	13.3	14.3	62.3	13.3
Change Period (Y+Rc), s	5.4	5.1	* 4.7	5.4	5.1
Max Green Setting (Gmax), s	59.6	19.9	* 25	29.6	19.9
Max Q Clear Time (g_c+I1), s	2.0	4.0	8.3	16.0	2.7
Green Ext Time (p_c), s	12.6	0.1	0.2	8.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	37	42	80	126	7
Future Vol, veh/h	7	37	42	80	126	7
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	8	40	46	87	137	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	141	145	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	179	-	-	-	-	-
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	673	907	1437	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	650	907	1437	-	-	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	2.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1437	-	853	-	-
HCM Lane V/C Ratio	0.032	-	0.056	-	-
HCM Control Delay (s)	7.6	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.3

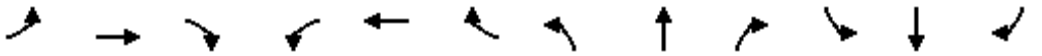
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	747	9	7	1097	36	6	0	4	18	0	145
Future Vol, veh/h	85	747	9	7	1097	36	6	0	4	18	0	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	859	10	8	1261	41	7	0	5	21	0	167

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1302	0	0	869	0	0	1707	2378	435	1924	2363	651
Stage 1	-	-	-	-	-	-	1060	1060	-	1298	1298	-
Stage 2	-	-	-	-	-	-	647	1318	-	626	1065	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	528	-	-	1080	-	-	95	35	*804	*57	36	411
Stage 1	-	-	-	-	-	-	453	452	-	*171	230	-
Stage 2	-	-	-	-	-	-	426	225	-	*758	449	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	528	-	-	1080	-	-	48	28	*804	*48	29	411
Mov Cap-2 Maneuver	-	-	-	-	-	-	48	28	-	*48	29	-
Stage 1	-	-	-	-	-	-	368	368	-	*139	228	-
Stage 2	-	-	-	-	-	-	251	223	-	*613	365	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.1	59.8	31.6
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	77	528	-	-	1080	-	-	48	411
HCM Lane V/C Ratio	0.149	0.185	-	-	0.007	-	-	0.431	0.406
HCM Control Delay (s)	59.8	13.4	-	-	8.4	-	-	127.9	19.6
HCM Lane LOS	F	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.5	0.7	-	-	0	-	-	1.6	1.9

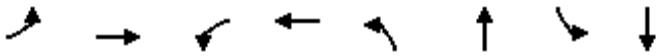
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	477	48	75	536	259	72	470	79	143	379	116
Future Volume (veh/h)	176	477	48	75	536	259	72	470	79	143	379	116
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	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	210	568	57	89	638	308	86	560	94	170	451	138
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	245	1279	571	114	1017	454	110	827	369	204	1015	453
Arrive On Green	0.14	0.37	0.37	0.06	0.29	0.29	0.06	0.24	0.24	0.12	0.29	0.29
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	210	568	57	89	638	308	86	560	94	170	451	138
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	10.3	10.8	2.1	4.4	13.9	15.3	4.2	12.8	4.3	8.3	9.2	6.0
Cycle Q Clear(g_c), s	10.3	10.8	2.1	4.4	13.9	15.3	4.2	12.8	4.3	8.3	9.2	6.0
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	245	1279	571	114	1017	454	110	827	369	204	1015	453
V/C Ratio(X)	0.86	0.44	0.10	0.78	0.63	0.68	0.78	0.68	0.25	0.83	0.44	0.30
Avail Cap(c_a), veh/h	319	1772	790	319	1772	790	319	1772	790	319	1772	790
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	36.9	21.1	18.3	40.5	27.0	27.5	40.6	30.5	27.2	38.0	25.4	24.3
Incr Delay (d2), s/veh	13.5	0.3	0.1	4.4	0.9	2.5	4.5	1.4	0.5	5.7	0.4	0.5
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	5.1	4.2	0.7	2.0	5.6	5.7	1.9	5.3	1.6	3.7	3.7	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	21.4	18.4	44.8	27.9	30.0	45.1	31.9	27.8	43.6	25.8	24.8
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		835			1035			740			759	
Approach Delay, s/veh		28.5			30.0			32.9			29.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	37.6	9.5	31.0	16.3	31.0	14.2	26.3
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	6.4	12.8	6.2	11.2	12.3	17.3	10.3	14.8
Green Ext Time (p_c), s	0.0	5.9	0.0	5.2	0.1	8.2	0.1	6.0

Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	221	877	363	1116	94	1397	268	1174
v/c Ratio	0.69	0.84	0.90	1.00	0.65	0.90	1.25	0.67
Control Delay	71.9	52.1	84.8	70.2	81.4	50.0	192.3	37.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	52.1	84.8	70.2	81.4	50.0	192.3	37.9
Queue Length 50th (ft)	101	384	168	516	83	413	~302	308
Queue Length 95th (ft)	143	469	#260	#711	142	489	#493	392
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	417	1110	417	1121	215	1593	215	1743
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	0.53	0.79	0.87	1.00	0.44	0.88	1.25	0.67

Intersection Summary

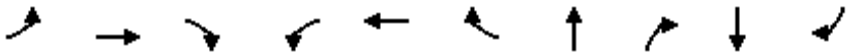
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	5	884	660	85	1470	52	230
v/c Ratio	0.03	0.42	0.47	0.40	0.40	0.23	0.57
Control Delay	10.2	11.0	1.7	38.6	4.2	37.0	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	10.2	11.0	1.7	38.6	4.3	37.0	11.0
Queue Length 50th (ft)	1	127	9	48	76	28	0
Queue Length 95th (ft)	7	218	36	m82	115	57	61
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	192	2112	1469	300	3717	391	529
Starvation Cap Reductn	0	0	0	0	763	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.42	0.45	0.28	0.50	0.13	0.43

Intersection Summary

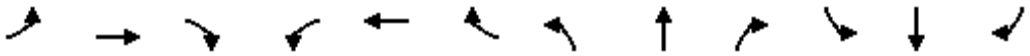
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	134	955	42	19	1055	329	12	14	43	530
v/c Ratio	0.55	0.38	0.04	0.06	0.56	0.33	0.06	0.05	0.19	0.80
Control Delay	52.4	2.4	0.3	13.4	16.0	4.5	30.9	0.3	34.0	13.8
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	2.5	0.3	13.4	16.0	4.5	30.9	0.3	34.0	13.8
Queue Length 50th (ft)	61	11	0	4	172	15	6	0	23	10
Queue Length 95th (ft)	141	58	m1	20	330	76	20	0	48	108
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2527	1180	307	1880	987	327	417	345	747
Starvation Cap Reductn	0	397	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.45	0.04	0.06	0.56	0.33	0.04	0.03	0.12	0.71

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



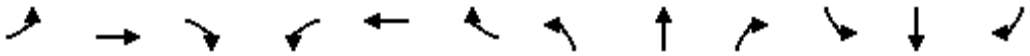
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	210	568	57	89	638	308	86	560	94	170	451	138
v/c Ratio	0.76	0.45	0.09	0.56	0.68	0.48	0.54	0.68	0.21	0.70	0.42	0.24
Control Delay	62.1	28.6	3.2	60.4	37.6	6.1	60.3	40.4	8.2	60.6	31.3	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	28.6	3.2	60.4	37.6	6.1	60.3	40.4	8.2	60.6	31.3	6.5
Queue Length 50th (ft)	133	154	0	57	196	0	55	176	0	105	124	0
Queue Length 95th (ft)	#281	226	12	111	261	47	109	240	35	#207	188	39
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	278	1547	737	278	1547	862	278	1547	744	278	1547	768
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.37	0.08	0.32	0.41	0.36	0.31	0.36	0.13	0.61	0.29	0.18

Intersection Summary

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

HCM 6th Signalized Intersection Summary
1: Carson Street & Avalon Boulevard

01/13/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	852	106	350	774	205	121	867	494	373	1037	364
Future Volume (veh/h)	297	852	106	350	774	205	121	867	494	373	1037	364
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	300	861	107	354	782	207	122	876	499	377	1047	368
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	967	120	401	886	235	146	1112	518	216	1365	480
Arrive On Green	0.10	0.30	0.30	0.12	0.32	0.32	0.08	0.33	0.33	0.12	0.37	0.37
Sat Flow, veh/h	3456	3181	395	3456	2779	736	1781	3404	1585	1781	3728	1310
Grp Volume(v), veh/h	300	481	487	354	500	489	122	876	499	377	956	459
Grp Sat Flow(s),veh/h/ln	1728	1777	1799	1728	1777	1738	1781	1702	1585	1781	1702	1635
Q Serve(g_s), s	11.6	35.2	35.2	13.7	36.3	36.3	9.2	31.8	42.1	16.5	33.7	33.7
Cycle Q Clear(g_c), s	11.6	35.2	35.2	13.7	36.3	36.3	9.2	31.8	42.1	16.5	33.7	33.7
Prop In Lane	1.00		0.22	1.00		0.42	1.00		1.00	1.00		0.80
Lane Grp Cap(c), veh/h	349	540	547	401	567	554	146	1112	518	216	1246	598
V/C Ratio(X)	0.86	0.89	0.89	0.88	0.88	0.88	0.84	0.79	0.96	1.75	0.77	0.77
Avail Cap(c_a), veh/h	419	581	588	419	581	568	216	1113	518	216	1246	598
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	60.2	45.2	45.2	59.3	43.9	43.9	61.6	41.6	45.0	59.8	38.0	38.0
Incr Delay (d2), s/veh	12.5	15.7	15.5	18.1	15.0	15.3	11.1	4.1	30.6	354.0	3.1	6.3
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	5.6	17.5	17.7	6.9	17.9	17.6	4.6	13.8	20.7	28.6	14.4	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	60.9	60.7	77.3	58.9	59.2	72.7	45.6	75.6	413.8	41.1	44.3
LnGrp LOS	E	E	E	E	E	E	E	D	E	F	D	D
Approach Vol, veh/h		1268			1343			1497			1792	
Approach Delay, s/veh		63.6			63.9			57.8			120.4	
Approach LOS		E			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	48.9	20.0	49.9	19.3	46.9	14.6	55.3
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5
Max Green Setting (Gmax), s	16.5	44.5	16.5	44.5	16.5	44.5	16.5	44.5
Max Q Clear Time (g_c+I1), s	13.6	38.3	18.5	44.1	15.7	37.2	11.2	35.7
Green Ext Time (p_c), s	0.1	3.8	0.0	0.3	0.0	4.2	0.0	6.7

Intersection Summary	
HCM 6th Ctrl Delay	79.4
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1386	946	74	1215	0	36	0	69	0	0	0
Future Volume (veh/h)	7	1386	946	74	1215	0	36	0	69	0	0	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	1870	1870	0	1870	0	1870			
Adj Flow Rate, veh/h	7	1459	996	78	1279	0	38	0	73			
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	2	0	2			
Cap, veh/h	346	2188	1141	198	3978	0	186	0	165			
Arrive On Green	0.62	0.62	0.62	0.22	1.00	0.00	0.10	0.00	0.10			
Sat Flow, veh/h	432	3554	1585	1781	5274	0	1781	0	1585			
Grp Volume(v), veh/h	7	1459	996	78	1279	0	38	0	73			
Grp Sat Flow(s),veh/h/ln	432	1777	1585	1781	1702	0	1781	0	1585			
Q Serve(g_s), s	0.6	24.1	42.6	3.4	0.0	0.0	1.8	0.0	3.9			
Cycle Q Clear(g_c), s	0.6	24.1	42.6	3.4	0.0	0.0	1.8	0.0	3.9			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	346	2188	1141	198	3978	0	186	0	165			
V/C Ratio(X)	0.02	0.67	0.87	0.39	0.32	0.00	0.20	0.00	0.44			
Avail Cap(c_a), veh/h	346	2188	1141	303	3978	0	394	0	350			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.8	11.3	9.5	32.4	0.0	0.0	36.9	0.0	37.9			
Incr Delay (d2), s/veh	0.1	1.6	9.3	0.7	0.2	0.0	0.5	0.0	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	0.1	8.2	14.0	1.4	0.1	0.0	0.8	0.0	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	12.9	18.8	33.1	0.2	0.0	37.4	0.0	39.7			
LnGrp LOS	A	B	B	C	A	A	D	A	D			
Approach Vol, veh/h		2462			1357			111				
Approach Delay, s/veh		15.3			2.1			38.9				
Approach LOS		B			A			D				

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	14.7	60.8				75.5		14.5				
Change Period (Y+Rc), s	4.7	5.4				5.4		5.1				
Max Green Setting (Gmax), s	15.0	39.6				59.6		19.9				
Max Q Clear Time (g_c+I1), s	5.4	44.6				2.0		5.9				
Green Ext Time (p_c), s	0.1	0.0				18.4		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	1284	30	29	707	262	36	32	28	41	12	564
Future Volume (veh/h)	156	1284	30	29	707	262	36	32	28	41	12	564
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	166	1366	32	31	752	279	38	34	30	44	13	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	2752	1227	315	2167	967	142	108	173	151	36	
Arrive On Green	0.22	1.00	1.00	0.61	0.61	0.61	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1781	3554	1585	386	3554	1585	739	994	1585	737	330	1585
Grp Volume(v), veh/h	166	1366	32	31	752	279	72	0	30	57	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	386	1777	1585	1734	0	1585	1068	0	1585
Q Serve(g_s), s	8.0	0.0	0.0	3.1	9.4	7.5	0.0	0.0	1.5	2.7	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	0.0	3.1	9.4	7.5	3.3	0.0	1.5	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.53		1.00	0.77		1.00
Lane Grp Cap(c), veh/h	200	2752	1227	315	2167	967	250	0	173	187	0	
V/C Ratio(X)	0.83	0.50	0.03	0.10	0.35	0.29	0.29	0.00	0.17	0.30	0.00	
Avail Cap(c_a), veh/h	501	2752	1227	315	2167	967	428	0	350	348	0	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.1	0.0	0.0	7.4	8.7	8.3	37.2	0.0	36.4	39.0	0.0	0.0
Incr Delay (d2), s/veh	4.5	0.4	0.0	0.6	0.4	0.8	0.6	0.0	0.5	0.9	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	3.2	0.2	0.0	0.3	3.2	2.4	1.5	0.0	0.6	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.4	0.0	8.1	9.1	9.1	37.8	0.0	36.9	39.9	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	A	
Approach Vol, veh/h		1564			1062			102			57	A
Approach Delay, s/veh		4.5			9.1			37.5			39.9	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.1		14.9	14.8	60.3		14.9				
Change Period (Y+Rc), s		5.4		5.1	* 4.7	5.4		5.1				
Max Green Setting (Gmax), s		59.6		19.9	* 25	29.6		19.9				
Max Q Clear Time (g_c+I1), s		2.0		7.9	10.0	11.4		5.3				
Green Ext Time (p_c), s		22.1		0.1	0.3	8.3		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	20	19	104	155	3
Future Vol, veh/h	3	20	19	104	155	3
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	3	22	21	113	168	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	325	170	171	0	-	0
Stage 1	170	-	-	-	-	-
Stage 2	155	-	-	-	-	-
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	669	874	1406	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	658	874	1406	-	-	-
Mov Cap-2 Maneuver	658	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1406	-	838	-	-
HCM Lane V/C Ratio	0.015	-	0.03	-	-
HCM Control Delay (s)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

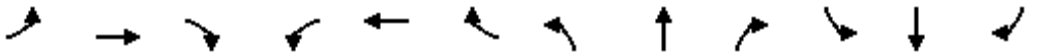
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	101	1234	5	3	857	27	5	0	11	72	0	103
Future Vol, veh/h	101	1234	5	3	857	27	5	0	11	72	0	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	75	-	-	-	-	-	-	-	30
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	105	1285	5	3	893	28	5	0	11	75	0	107

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	921	0	0	1290	0	0	1951	2425	645	1766	2413	461
Stage 1	-	-	-	-	-	-	1498	1498	-	913	913	-
Stage 2	-	-	-	-	-	-	453	927	-	853	1500	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	737	-	-	*897	-	-	91	35	*600	*161	36	547
Stage 1	-	-	-	-	-	-	385	373	-	*294	350	-
Stage 2	-	-	-	-	-	-	556	345	-	*565	371	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	737	-	-	*897	-	-	65	30	*600	*140	31	547
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	30	-	*140	31	-
Stage 1	-	-	-	-	-	-	331	320	-	*252	349	-
Stage 2	-	-	-	-	-	-	445	344	-	*475	319	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	28.8	31.3
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	168	737	-	-	* 897	-	-	140	547
HCM Lane V/C Ratio	0.099	0.143	-	-	0.003	-	-	0.536	0.196
HCM Control Delay (s)	28.8	10.7	-	-	9	-	-	57.1	13.2
HCM Lane LOS	D	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	0.5	-	-	0	-	-	2.6	0.7

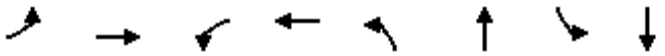
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	897	64	50	482	116	95	377	100	216	673	229
Future Volume (veh/h)	108	897	64	50	482	116	95	377	100	216	673	229
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	115	954	68	53	513	123	101	401	106	230	716	244
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	144	1279	570	67	1125	502	128	777	346	265	1049	468
Arrive On Green	0.08	0.37	0.37	0.04	0.32	0.32	0.07	0.22	0.22	0.15	0.30	0.30
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	115	954	68	53	513	123	101	401	106	230	716	244
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	5.7	21.0	2.5	2.7	10.3	5.1	5.0	8.9	5.0	11.3	15.9	11.4
Cycle Q Clear(g_c), s	5.7	21.0	2.5	2.7	10.3	5.1	5.0	8.9	5.0	11.3	15.9	11.4
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	144	1279	570	67	1125	502	128	777	346	265	1049	468
V/C Ratio(X)	0.80	0.75	0.12	0.79	0.46	0.25	0.79	0.52	0.31	0.87	0.68	0.52
Avail Cap(c_a), veh/h	317	1761	785	317	1761	785	317	1761	785	317	1761	785
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	39.5	24.1	18.3	41.8	23.5	21.7	40.0	29.9	28.4	36.3	26.9	25.3
Incr Delay (d2), s/veh	3.8	1.5	0.1	7.5	0.4	0.4	4.1	0.8	0.7	17.3	1.1	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	2.5	8.2	0.9	1.2	4.0	1.8	2.2	3.6	1.8	5.9	6.3	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	25.6	18.4	49.3	23.9	22.1	44.0	30.6	29.1	53.6	28.0	26.6
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1137			689			608			1190	
Approach Delay, s/veh		27.0			25.5			32.6			32.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	37.8	10.4	32.0	11.3	33.9	17.3	25.1
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	44.5	16.0	44.5	16.0	44.5
Max Q Clear Time (g_c+I1), s	4.7	23.0	7.0	17.9	7.7	12.3	13.3	10.9
Green Ext Time (p_c), s	0.0	9.3	0.0	8.6	0.0	5.7	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	300	968	354	989	122	1375	377	1415
v/c Ratio	0.81	0.91	0.89	0.91	0.74	0.89	1.76	0.85
Control Delay	76.9	58.1	84.2	57.0	86.1	49.3	395.2	46.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.9	58.1	84.2	57.0	86.1	49.3	395.2	46.0
Queue Length 50th (ft)	138	440	165	447	110	407	~515	422
Queue Length 95th (ft)	190	#561	#251	#579	177	473	#719	#509
Internal Link Dist (ft)		543		632		486		619
Turn Bay Length (ft)	225		210		140		145	
Base Capacity (vph)	416	1105	416	1112	214	1592	214	1668
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	0.72	0.88	0.85	0.89	0.57	0.86	1.76	0.85

Intersection Summary

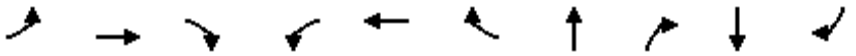
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	1459	996	78	1279	38	73
v/c Ratio	0.03	0.71	0.71	0.38	0.35	0.15	0.24
Control Delay	11.4	17.2	5.0	45.2	3.5	33.2	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	17.2	5.0	45.2	3.5	33.2	7.6
Queue Length 50th (ft)	2	278	50	46	49	20	0
Queue Length 95th (ft)	10	#542	167	m76	106	43	28
Internal Link Dist (ft)		349			384		
Turn Bay Length (ft)	45			55			
Base Capacity (vph)	230	2064	1459	300	3639	391	417
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.71	0.68	0.26	0.35	0.10	0.18

Intersection Summary

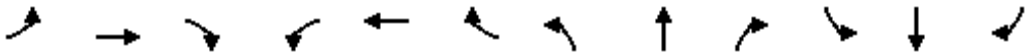
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	166	1366	32	31	752	279	72	30	57	600
v/c Ratio	0.62	0.56	0.03	0.16	0.43	0.29	0.29	0.09	0.25	0.85
Control Delay	57.1	4.2	1.2	18.3	16.2	3.1	34.1	0.5	33.5	18.3
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	4.2	1.2	18.3	16.2	3.1	34.1	0.5	33.5	18.3
Queue Length 50th (ft)	103	73	0	9	128	0	37	0	29	36
Queue Length 95th (ft)	m148	96	m0	34	223	46	71	0	60	#175
Internal Link Dist (ft)		384			608		543		472	
Turn Bay Length (ft)	70			100		160		20		225
Base Capacity (vph)	497	2461	1148	190	1758	949	340	419	308	763
Starvation Cap Reductn	0	130	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.59	0.03	0.16	0.43	0.29	0.21	0.07	0.19	0.79

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	115	954	68	53	513	123	101	401	106	230	716	244
v/c Ratio	0.64	0.78	0.11	0.43	0.51	0.23	0.59	0.47	0.23	0.84	0.67	0.42
Control Delay	66.8	37.8	5.0	65.1	33.8	7.0	65.7	36.2	7.5	73.9	37.6	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	37.8	5.0	65.1	33.8	7.0	65.7	36.2	7.5	73.9	37.6	14.8
Queue Length 50th (ft)	79	305	0	37	148	0	69	127	0	162	237	47
Queue Length 95th (ft)	163	498	26	90	254	47	146	188	42	#405	351	130
Internal Link Dist (ft)		337			604			581			494	
Turn Bay Length (ft)	195		180	195		445	295		220	210		135
Base Capacity (vph)	275	1530	730	275	1530	752	275	1530	743	275	1530	771
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.62	0.09	0.19	0.34	0.16	0.37	0.26	0.14	0.84	0.47	0.32

Intersection Summary

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

APPENDIX E:
MEMORANDUM OF UNDERSTANDING

FEHR PEERS

Memorandum

Date: December 13, 2021

To: Ryan Kim and Nick Lowe, City of Carson
CC: Stefanie Edmondson, City of Carson
Darren Embry, Faring

From: Drew Heckathorn and Michael Kennedy, Fehr & Peers

Subject: 21611 South Perry Street Self-Storage/Mixed-Use Project Traffic Study Methodology and Assumptions

LB21-0049

This document summarizes the methodology and assumptions for the study to address transportation analysis requirements and potential improvements for the 21611 South Perry Street Self-Storage/Mixed-Use project in the City of Carson.

Overall Methodology

The assessment of the proposed project will involve evaluating intersection level of service (LOS) and queueing for the following scenarios during weekday AM and PM peak hour conditions:

- Existing
- Existing plus Ambient Growth with Project
- Future Base
- Future with Project

Any adverse project traffic effects will be defined by comparing Existing LOS to Existing plus Ambient Growth with Project LOS and Future Base LOS to Future with Project LOS for weekday AM and PM peak periods. Specific LOS methodology and thresholds are defined below.

LOS Methodology

All study intersections will be analyzed using the Highway Capacity Manual (HCM), 6th Edition method.

Project Traffic Threshold

Study intersections will be considered adversely affected if the project's traffic would contribute to unacceptable queuing, defined as:

- Spill over from turn pockets into through lanes
- Spill over into intersections

Existing Conditions

Existing Transportation Network

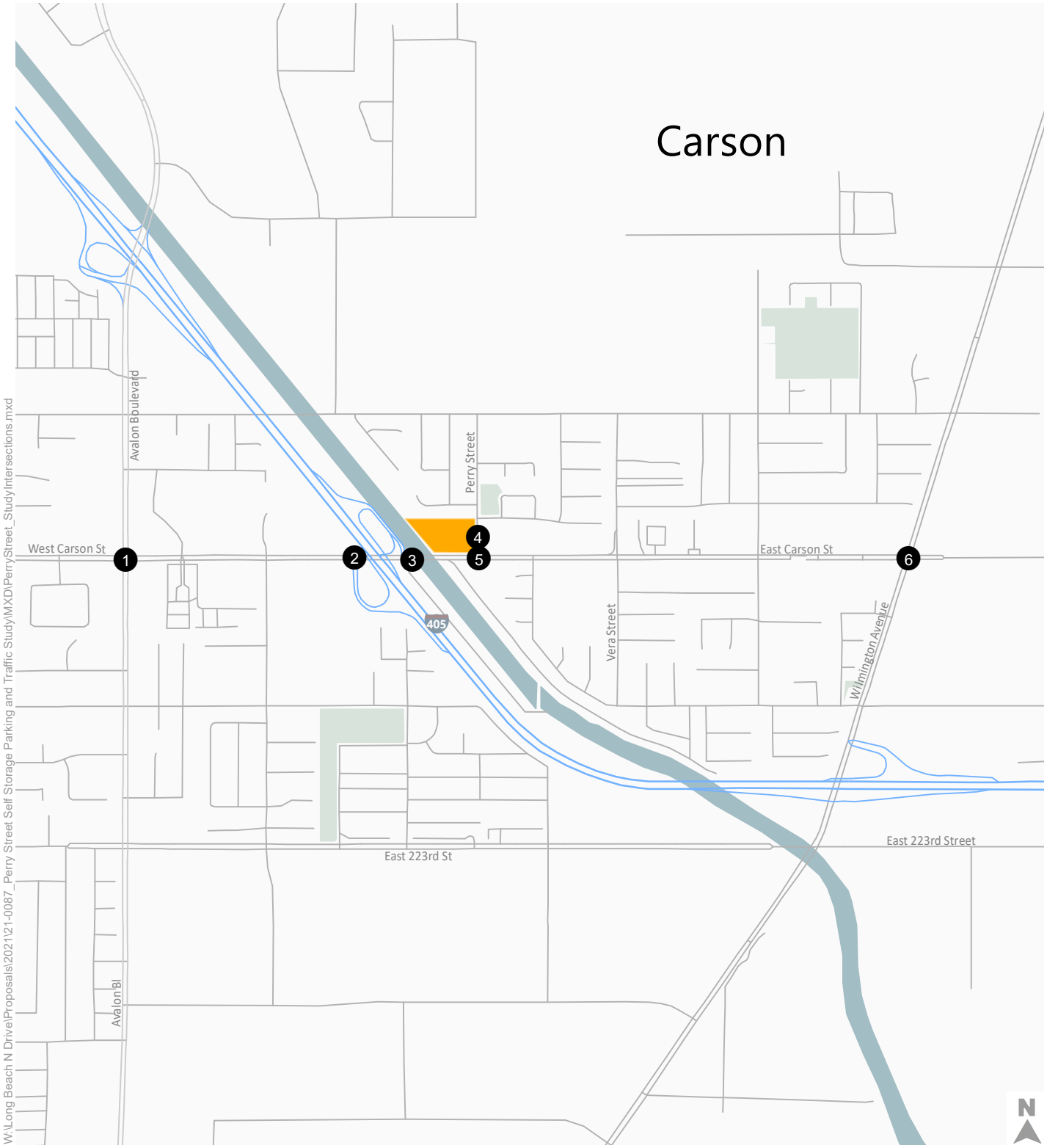
The study report will include a description of the following existing transportation network elements:

- Freeway and street characteristics within the study area
- Pedestrian infrastructure within ¼ mile of the project site
- Bicycle infrastructure within 2 miles of the project site
- Transit available within ¼ mile of the project site

Existing Traffic Volumes

Recent traffic studies in the City of Carson will be reviewed to determine if there are available turning movement count data at any of the proposed study intersections. Due to significant changes in travel behavior caused by the COVID-19 pandemic, this study will utilize AM and PM peak hour traffic counts collected in the year prior to the start of the pandemic (March 2019-March 2020). If pre-pandemic counts are not available at any location, new AM and PM peak hour traffic counts will be collected. If appropriate, an adjustment factor will be applied to the new counts to estimate pre-pandemic traffic levels. The list of study intersections is shown below and in **Figure 1**:

1. Avalon Boulevard & Carson Street
2. I-405 Southbound Ramps & Carson Street
3. I-405 Northbound Ramps & Carson Street
4. Perry Street & Proposed Project Driveway (Future Intersection)
5. Perry Street & Carson Street
6. Wilmington Avenue & Carson Street



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Study Intersections

Proposed Project Site

Figure 1

Study Intersections

Existing Plus Ambient Growth Conditions

Existing plus Ambient Growth volumes will account for ambient growth in the study area up to the project buildout year. Specific assumptions are listed below:

- Project Buildout Year – 2023
- Ambient linear growth factor – 0.5% per year (for a total of 2% over 4 years)

Future Base Conditions

The Future Base volumes will account for the Existing plus Ambient Growth volumes and trips associated with known related projects and any planned network changes. Related projects are shown in **Table 1** and **Figure 2** (list of projects provided by the City of Carson).

Project Description

The project as analyzed will include:

- Self-Storage Warehouse 109,039 square feet (725 storage units)
    - Self-Storage Office 2,425 square feet
- Retail Space 700 square feet
- Restaurant Space 1,550 square feet

Project Trip Generation

The total trip generation for the project is based on ITE rates with credits for internal capture and pass-by informed by NCHRP internal capture guidelines and ITE data for pass-by credits. Trip generation rates and credits are shown in **Table 2**.

Trip Distribution

The geographic trip distribution of the project trips is based on several factors including the type and density of the proposed land uses, the geographic distribution of population and activity centers in the surrounding area, and the location of the project access points in relation to the surrounding street and freeway system.

Figure 3 illustrates the trip distribution pattern of the project trips.

Other Traffic and Parking Study Components

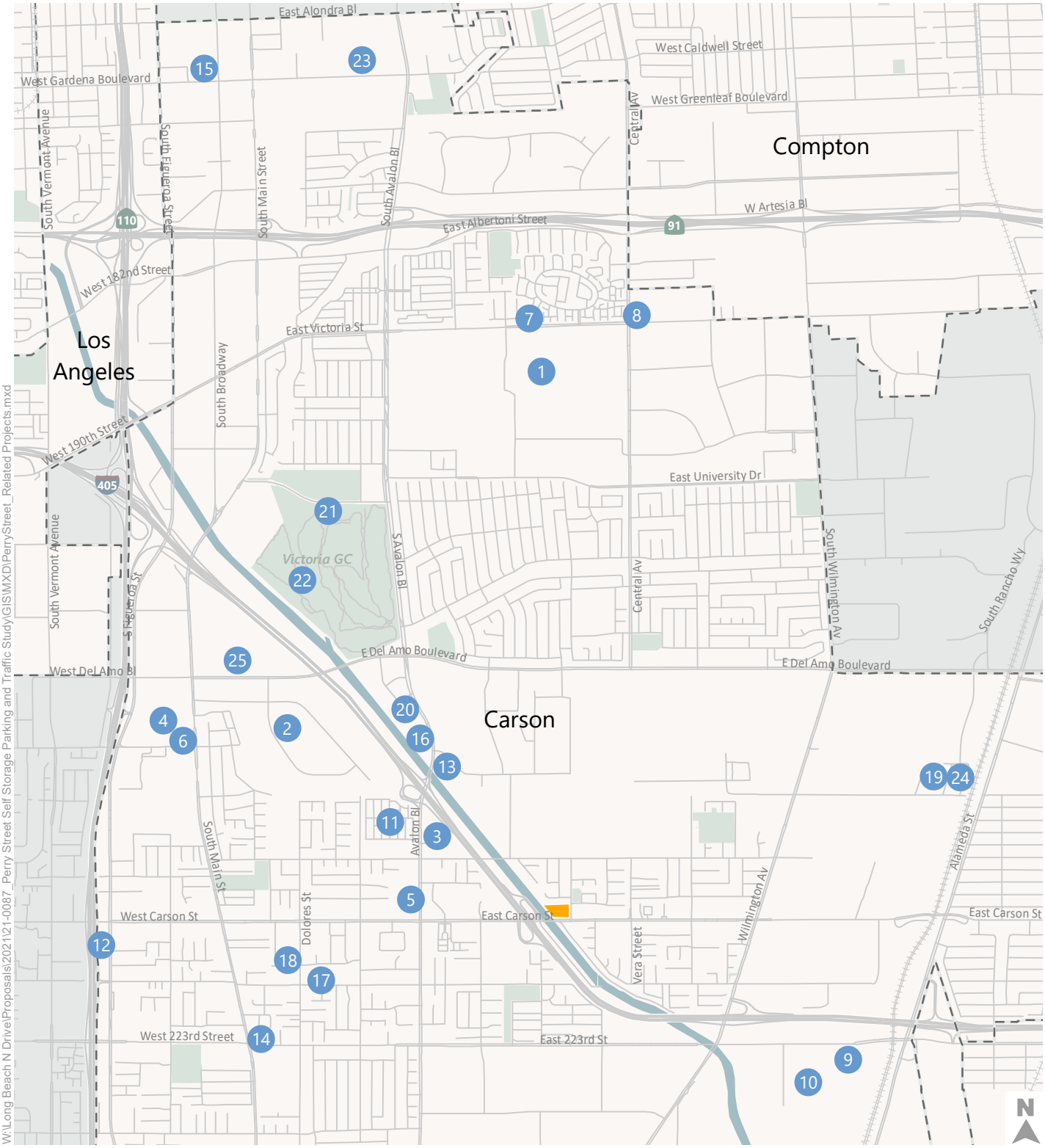
Site Access Analysis

This analysis will involve a review of the project's proposed access including an analysis of driveways and pedestrian entry points.

TABLE 1
PERRY STREET SELF STORAGE PROJECT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
					Daily	AM			PM		
						IN	OUT	TOTAL	IN	OUT	TOTAL
1	CSUDH Master Plan	Mixed Use	[1]	[1]	N/A	2,299	1,415	3,714	1,940	2,286	4,226
2	The District at South Bay	Mixed Use	[1]	[1]	42,791	1,490	1,349	2,838	1,809	1,997	3,805
3	21212 Avalon Blvd	Mixed Use	[1]	[1]	9,779	171	347	518	391	268	659
4	20601 S Main St	Industrial Park	267	ksf	900	87	20	107	22	85	107
5	Union South Bay (21521 S Avalon Blvd)	Multifamily	357	du	3,685	54	156	210	199	137	335
		Shopping	31	ksf							
6	225 W Torrance Blvd	Multifamily	356	du	1,937	33	95	128	96	61	157
7	1007 E Victoria St	Multifamily	35	du	278	4	13	17	13	8	21
8	NEC Victoria and Central	Multifamily	175	du	1,281	19	62	81	62	36	98
9	2254 E 223rd St	Warehousing	121	ksf	429	29	8	36	10	29	39
10	2112 E 223rd St	Warehousing	292	ksf	507	38	12	50	14	41	55
11	21207 Avalon Blvd	Mixed Use	[1]	[1]	5,586	125	277	402	283	174	457
12	21809-21811 S Figueroa St	Multifamily	32	du	234	3	11	14	11	7	18
13	888 E Dominguez St	Hotel	118	keys	905	32	22	54	36	35	71
14	123 E 223rd st	Multifamily	10	du	36	2	1	3	1	2	3
15	333 W Gardena Blvd	Warehousing	146	ksf	276	19	6	25	7	21	28
16	20707 Avalon Blvd	Retail	3	ksf	608	26	26	52	22	20	42
17	345/349 E 220th St	Multifamily	35	du	256	4	12	16	12	7	19
18	21915 S Dolores St	Multifamily	5	du	37	1	2	3	2	2	4
19	2315 E Dominguez St	Warehousing	14	ksf	68	1	1	2	1	2	3
20	20501 Avalon Blvd	Retail	5	ksf	1,013	44	43	86	37	34	70
21	Carol Kimmelman Campus	Mixed Use	[1]	[1]	3,808	105	83	188	244	192	436
22	Creek Dominguez Hills	Mixed Use	[1]	[1]	16,132	580	384	964	727	669	1,396
23	439 E Gardena Blvd	Warehousing	4	ksf	52	1	0	1	0	1	1
24	20950 Brant Ave	Retail	4	ksf	151	2	2	4	7	8	15
25	20330 S Main St	Multifamily	300	du	1,580	27	109	136	84	45	129
				Total	92,329	5,196	4,456	9,649	6,030	6,167	12,194

Notes:
du = dwelling unit
ksf = one thousand square feet
[1] Mixed Use developments contain more than one independent variable to calculate trip generation.
Related projects list is based on information provided by the City of Carson, the County of Los Angeles, publicly available environmental documentation, and trip generation rates contained in ITE Trip Generation, 10th Edition.



Proposed Project Site

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Related Projects

Figure 2

Related Projects

TABLE 2
PERRY STREET SELF-STORAGE PROJECT
ESTIMATED PROJECT TRIP GENERATION

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
Mini-Warehouse	151	7 Units (100s)	17.96	1.21	51%	49%	1.68	50%	50%	130	5	4	9	6	6	12
Less: Internal capture			*0%*		*0%*	*0%*		*0%*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Less: Walk/Bike/Transit Credit [b]			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net External Vehicle Trips										130	5	4	9	6	6	12
Coffee/Donut Shop without Drive-Through Window [c]	936	1.55 KSF	450.49	93.08	51%	49%	32.29	50%	50%	698	73	71	144	25	25	50
Less: Internal capture			*0%*		*0%*	*0%*		*0%*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Less: Walk/Bike/Transit Credit [b]			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total Driveway Trips										698	73	71	144	25	25	50
Less: Pass-by			*43%*	*43%*			*43%*			*(300)*	*(31)*	*(31)*	*(62)*	*(11)*	*(11)*	*(22)*
Net External Vehicle Trips										398	42	40	82	14	14	28
Copy, Print, and Express Ship Store [d]	920	0.7 KSF	74.2	2.78	75%	25%	7.42	44%	56%	52	2	0	2	2	3	5
Less: Internal capture			*0%*		*0%*	*0%*		*0%*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Less: Walk/Bike/Transit Credit [b]			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total Driveway Trips										52	2	0	2	2	3	5
Less: Pass-by			*0%*	*0%*			*0%*			*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net External Vehicle Trips										52	2	0	2	2	3	5
TOTAL DRIVEWAY TRIPS										880	80	75	155	33	34	67
TOTAL PROJECT EXTERNAL VEHICLE TRIPS										580	49	44	93	22	23	45
EXISTING USE CREDIT																
Vacant Lot	-		-	-	-	-	-	-	-	0	0	0	0	0	0	0
TOTAL EXISTING DRIVEWAY TRIPS										0	0	0	0	0	0	0
NET INCREMENTAL EXTERNAL TRIPS										580	49	44	93	22	23	45

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021

[b] A 0% Walk/Bike/Transit Credit was used based on the site's general suburban context.

[c] ITE use 933 - Fast-Food Restaurant without Drive-Through Window used for daily rate due to lack of daily rate data for ITE use 936 - Coffee/Donut Shop without Drive-Through Window.

[d] ITE use 920 does not have a daily rate. The daily rate is estimated to be 10 times greater than the PM peak hour traffic volume for the use.

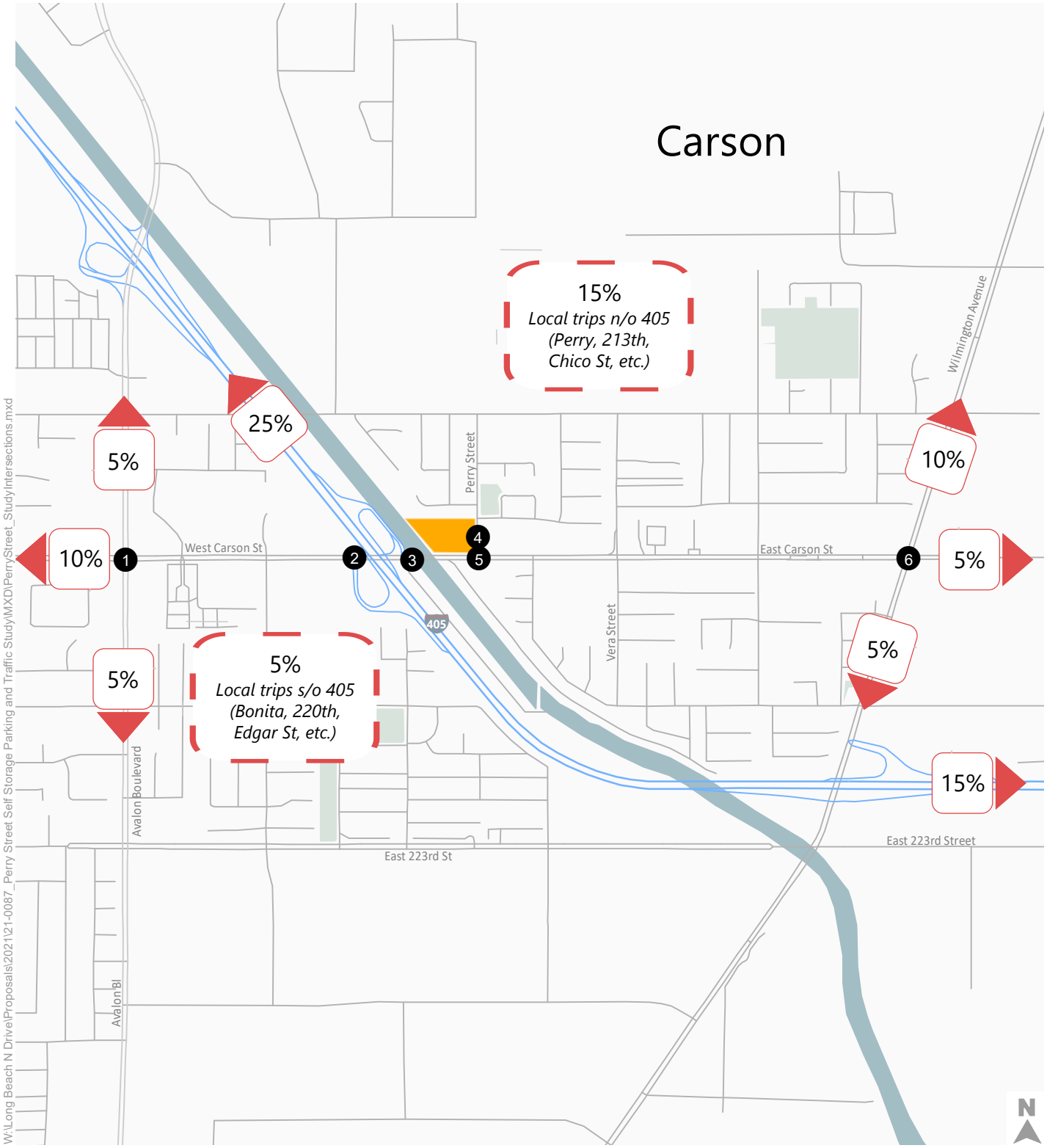

Figure 3

Trip Distribution

Parking Demand Analysis

This analysis will assess if the proposed on-site parking supply is adequate to accommodate peak parking demand. In addition to estimating peak parking demand, the analysis will consider potential spillover effects into adjacent residential neighborhoods, shared parking efficiencies, and TDM strategies.

The parking demand analysis will include a summary of minimum parking requirements for the project based on the Carson Municipal Code. The analysis will then consider national best practice standards, such as the ITE *Parking Generation* manual and ULI *Shared Parking* manual, to see if lower parking ratios can be justified given the project's land use types and local context. The ULI *Shared Parking* methodology will also be utilized to determine shared parking efficiencies through complementary on-site land uses (i.e., land uses with peak parking demand occurring at different times of day or season).

Potential Improvements

Any adverse effects of project traffic on the study intersections will be identified. If the project traffic creates adverse effects (according to the City of Carson guidelines described in the Project Traffic Threshold section of this memorandum), physical and/or operational improvements necessary to accommodate project trips will be investigated and defined at a conceptual level.

VMT Analysis

The proposed project can be classified as local-serving retail, and therefore based on standard OPR guidance can screen out from conducting VMT analysis for CEQA purposes. As described in the OPR technical advisory: "By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT." This approach will be described qualitatively in any environmental documents necessary for the project.