

**VICTORIA GREENS  
DRAFT TRANSPORTATION IMPACT ANALYSIS**

**CITY OF CARSON, CALIFORNIA**

JUNE 2019

PREPARED BY  
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## 1. INTRODUCTION

This report documents the assumptions, methodologies, and findings of a transportation impact study conducted by Fehr & Peers to evaluate the potential traffic impacts of Victoria Greens Project in the City of Carson, California. The project is located on the northeast corner of the intersection of Central Avenue and Victoria Street, south of the State Route 91 (SR-91), in the northern portion of the City.

## 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 undeveloped site. It is located approximately 17 miles south of downtown Los Angeles and approximately 10 miles east of the Pacific Ocean. The Project site is bounded by East Victoria Street to the south, South Central Avenue to the west, and developed land to the north and east. The Project site also surrounds a small parcel fronting South Central Avenue developed with a building, a high-pressure gas pipeline, and electrical equipment. The Project site is located immediately adjacent to the California State University, Dominguez Hills (CSUDH) campus and opposite Dominguez Hills Village, approximately 0.4 miles south of the Gardena Freeway (SR-91), and 0.5 miles east of the Stub Hub Center. The Project proposes to provide 175 residential dwelling units in a low-rise garden-style multifamily setting. Two- and three-bedroom apartments will be offered. Amenities include a club house for residents with a pool and a dog park. Access to the Project will be provided by one driveway off Central Avenue, opposite Aspen Hill Road, which is a private access road to Dominguez Hills Village. Left-turns out of the Project driveway onto Central Avenue would be prohibited at all times; the prohibition will be enforced through signage and a physical barrier constructed at the project driveway. A second, egress-only driveway off Victoria Street will be gated. Figure 1 illustrates the Project site and study area. Figure 2 includes the site plan.

## STUDY SCOPE

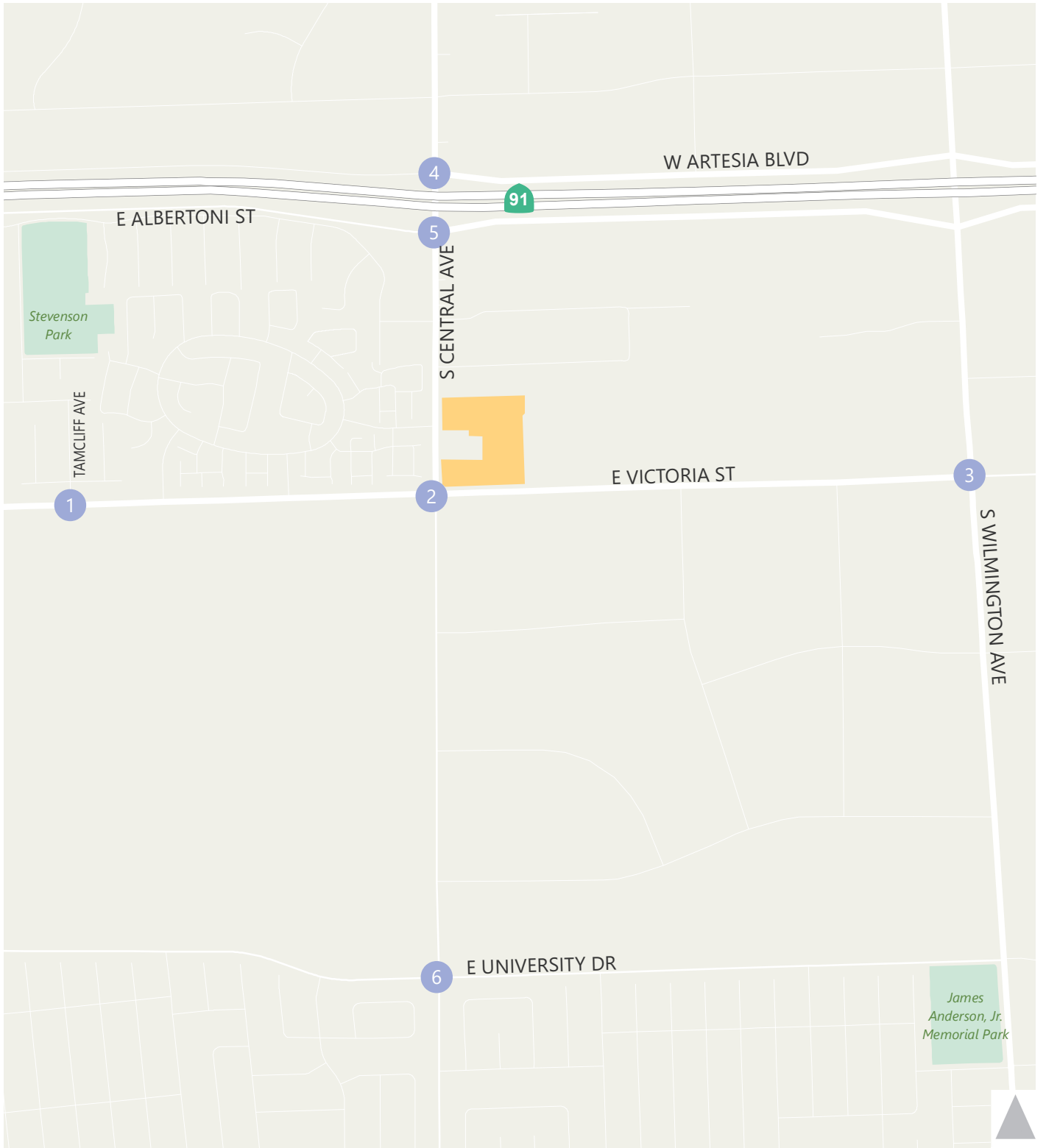
The scope of work for this study was determined in conjunction with the City of Carson's Transportation staff.

## TRAFFIC SCENARIOS

The study assumes that the Project would be completed by year 2021 and is directed at analyzing the potential project-generated traffic impacts on 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 analysis of existing traffic conditions is intended to provide a basis for the remainder of the study. 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 Project Conditions – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under existing conditions with the addition of project-





- Study Intersections
- Project Site



Figure 1  
Project Location and Study Intersections



Figure 2  
Site Plan





generated traffic. The impacts of the proposed Project on existing traffic operating conditions were then identified. This scenario is described in detail in Chapter 4.

- **Future Base (Year 2021) Conditions** – Future traffic projections without the proposed Project were developed for the year 2021. The objective of this analysis was to project future traffic growth and operating conditions that could be expected to result from regional growth, cumulative projects, and transportation network changes in the vicinity of the Project site by the year 2021. This scenario is described in detail in Chapter 3.
- **Future (Year 2021) 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 impacts of the proposed Project on future traffic operating conditions were then identified. This scenario is described in detail in Chapter 4.

## STUDY INTERSECTIONS

A total of six intersections were selected for the analysis of the Project in consultation with the City of Carson. All six intersections are signalized (Figure 1). Three of the study intersections are located in the City of Carson, two are located in the City of Compton, and one is located in the Dominguez Hills area in unincorporated Los Angeles County.

### 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. Tamcliff Avenue & East Victoria Street (City of Carson)
2. South Central Avenue & East Victoria Street (City of Carson)
3. South Wilmington Avenue & East Victoria Street (Los Angeles County)
4. South Central Avenue & East Artesia Boulevard/SR 91 westbound ramps (City of Compton, operated by Los Angeles County)
5. South Central Avenue & East Albertoni Street/SR 91 eastbound ramps (City of Compton, operated by Los Angeles County)
6. South Central Avenue & East University Drive (City of Carson)

### Regional Transportation Impact Analysis

Regional access to the Project site is provided by the Gardena Freeway located approximately 0.4 miles north of the Project site, the Harbor Freeway located approximately 2.3 miles west of the Project site, the San Diego Freeway located approximately 2.6 miles southwest of the Project site, and Long Beach Freeway located approximately 4 miles east of the project site.

Chapter 5 discusses the regional transportation impact analysis conducted according to the *2010 Congestion Management Program (CMP)* (Metro, 2010), including a discussion of CMP arterial monitoring stations, freeway impact analysis, and regional transit impact analysis.



## ORGANIZATION OF REPORT

This report is divided into six 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 Project, Future Base, and Future plus Project scenarios and the forecasts themselves are included in Chapter 3. Chapter 4 presents an assessment of potential intersection traffic impacts of the proposed Project under both existing and future conditions, including an analysis of whether the addition of the Project driveway warrants a traffic signal. Chapter 5 provides a regional transportation impact analysis. Chapter 6 provides the summary and conclusions.



## 2. EXISTING CONDITIONS

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the study area. The assessment of conditions relevant to this study includes a description of the study area, an inventory of the local street system in the vicinity of the Project site, a review of traffic volumes on these facilities, an assessment of the resulting operating conditions, and the current transit service in the study area. A detailed description of these elements is presented in this chapter.

### STUDY AREA

The Project site is within the City of Carson. The study area selected for analysis extends to include Tamcliff Avenue/Perimeter Road to the west, South Wilmington Avenue to the east, Artesia Boulevard to the north, and East University Drive to the south. The streets in the study area are under the jurisdiction of the City of Carson, City of Compton, and Los Angeles County.

### EXISTING STREET SYSTEM

As illustrated in Figure 1, the Project site is located at the northeast corner of South Central Avenue and East Victoria Street. I-405, I-710, SR-91, and the Harbor Freeway (I-110) provide regional access to the Project site.

Major arterials serving the study area include Central Avenue and Wilmington Avenue in the north/south direction, and Victoria Street and University Drive in the east/west direction.

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

#### FREEWAYS

- **State Route 91** runs in the east/west direction, extending from I-110, west of the study area, east through Anaheim. In the vicinity of the study area, the freeway provides four lanes and one carpool lane in each direction plus auxiliary lanes. Ramps are provided at Avalon Boulevard, Central Avenue, and Wilmington Avenue.

#### NORTH/SOUTH STREETS

- **Central Avenue** runs in the north/south direction adjacent to the Project site in the City of Carson and north into the City of Compton. Central Avenue has two travel lanes in each direction with left-turn pockets present at major intersections. Parking is not permitted on either side of the street within the study area.
- **Wilmington Avenue** runs in the north/south direction east of the Project site in unincorporated Los Angeles County. Wilmington Avenue has three travel lanes in each direction with left-turn pockets present at major intersections.



## EAST/WEST STREETS

- **Victoria Street** runs in the east/west direction adjacent to the Project site in the City of Carson west of Wilmington Avenue and in unincorporated Los Angeles County east of Wilmington Avenue. Victoria Street has two travel lanes in each direction with left-turn pockets present at major intersections and a center turn lane east of Bishop Avenue. Parking is permitted on one or both sides of the street west of Central Avenue and east of Bishop Avenue.
- **University Drive** runs in the east/west direction south of the Project site with two travel lanes and a bike lane in each direction, separated by a landscaped median through the majority of the study area and left-turn pockets at major intersections. Parking is not permitted on either side of the street.

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

## EXISTING PUBLIC TRANSIT SERVICE

The Project site is served by public transit. The Project is directly served by Los Angeles County Metropolitan Transportation Authority (Metro) Local Route 53 (north-south service from Downtown LA to CSUDH) and Route 130 (east-west service from Artesia to Redondo Beach), Carson Circuit Route A, and Torrance Transit Route 6, which all stop at a bus stop on Central Avenue just south of the project driveway. The proposed Project will work with Metro to improve the existing bus stop.

Additional transit service is available on Long Beach Transit (Route 1) and Compton Renaissance Transit (Route 5) via a stop at CSUDH, and on Metro Local Route 205 which runs north-south along Wilmington Avenue within the vicinity of the proposed Project.

## EXISTING BICYCLE AND PEDESTRIAN FACILITIES

The study area has a limited existing bikeway network which includes a Class I shared use path that runs north-south along the west side of Central Avenue between Aspen Hill Road and University Drive, and a marked Class II bicycle lane that runs east-west along either side of University Drive. The Class I path that runs along the west side of Central Avenue varies in width from 8 feet to 12 feet to 16 feet, depending on intermittent landscaping dividing the pathway in two or the presence of a parkway buffering users from the adjacent roadway. There is no identifying or wayfinding signage provided along the pathway. From south to north, the pathway begins at University Drive. From University Drive to Glen Curtiss Street, the pathway runs 615 feet uninterrupted. Widths vary from 12 feet to 16 feet. A planted parkway is present intermittently. At the signalized intersection with Glen Curtiss Street, a standard crosswalk is provided. From Glen Curtiss Street north to the side-street stop-controlled intersection with Gate G Stub Hub Center entrance/Charles Willard Street, the pathway runs uninterrupted for 1,785 feet. Widths vary from 8 feet to 12 feet, depending on variable landscaping that divides the path into two 8-foot lanes in some sections. From Gate G Stub Hub Center entrance/Charles Willard Street north to Victoria Street, the pathway runs 950 feet and is interrupted by two driveways into a light industrial park. The driveway intersections are uncontrolled. At the signalized intersection with Victoria Street, a standard crosswalk is provided. The pathway terminates approximately 405 feet north of Victoria Street at the side-street stop-controlled T-intersection with Aspen Hill Road,





opposite the planned Project driveway. The pathway along this section is evenly divided into two 8-foot lanes by a 2-foot planted median; however, the pathway adjacent to the roadway competes for space with street trees, utility boxes, streetlights, and sidewalk furniture. . No marked crossing is provided across Aspen Hill Road to connect the pathway to the sidewalk on the north side of the intersection

A robust network of additional facilities and improvements are planned as part of the City of Carson *Master Plan of Bikeways* (2013), including a colored buffered bike lane on Central Avenue from the Gardena Freeway to University Drive, a colored bicycle lane along University Drive from Wilmington Avenue to Avalon Boulevard, and a buffered bicycle lane along Victoria Street from Wilmington Avenue to the western edge of the CSUDH campus.

Pedestrian facilities in the study area are limited. Sidewalks are not uniformly provided. There is no sidewalk along the east side of Central Avenue, adjacent to the proposed Project site. The proposed Project has been conditioned by the City to construct missing segments of sidewalk along the project's frontage on Central Avenue. This will result in the removal of on-street parking along this section of roadway.

## EXISTING TRAFFIC VOLUMES AND LEVEL OF SERVICE

This section presents existing base peak hour traffic volumes, describes the methodology used to assess the traffic conditions at each intersection, and analyzes the resulting operating conditions at each, indicating volume-to-capacity (V/C) ratios and levels of service (LOS).

### EXISTING TRAFFIC VOLUMES

Weekday AM and PM peak hour turning movement counts were collected at the study intersections in March 2018. The existing weekday morning and afternoon peak hour volumes at the study intersections are provided in Appendix A. Traffic count worksheets for these intersections are contained in Appendix B.

### LEVEL OF SERVICE (LOS) METHODOLOGY

All three study area jurisdictions utilize the Intersection Capacity Utilization (ICU) methodology to determine LOS. The ICU method estimates the V/C ratio for an intersection based on the individual V/C ratios for the conflicting traffic movements. The ICU value represents the percent signal green time of capacity of the intersection movements. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. The overall intersection V/C ratio is subsequently assigned an LOS value to describe intersection operations in Table 1. LOS ranges from LOS A (free flow) to LOS F (jammed condition). The standard LOS methodology varies by jurisdiction. Study intersections are analyzed according to the methodology of the appropriate jurisdiction.

### EXISTING 2018 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 results of the analysis of the existing weekday morning and evening peak hour V/C ratio and corresponding LOS at each of the analyzed intersections. Existing LOS were analyzed with the current lane configurations



observed in the field. Four of the six signalized intersections currently operate at LOS A or B during both peak periods. The intersections of Central Avenue & Artesia Boulevard and Central Avenue & Albertoni Street, both in the City of Compton, currently operate at LOS C during both peak periods. Detailed LOS analysis sheets for the Project are provided in Appendix C.

**TABLE 1 - LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS  
CITY OF CARSON, CITY OF COMPTON, AND LA COUNTY  
ICU METHODOLOGY**

<b>Level of Service</b>	<b>Volume/Capacity Ratio</b>	<b>Definition</b>
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat what restricted within groups of vehicles.
C	>0.700 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths
<p>Source: <i>Transportation Research Circular No. 212, Interim Materials on Highway Capacity</i>, Transportation Research Board, 1980.</p>		



**TABLE 2  
VICTORIA GREENS PROJECT  
EXISTING CONDITIONS INTERSECTION LEVELS OF SERVICE**

ID	N/S Street Name	E/W Street Name	Intersection Control	Jurisdiction [1]	Analyzed Period	Existing	
						V/C or Delay (s)	LOS
1	Tamcliff Ave	E Victoria St	Signalized	City of Carson	AM	0.438	A
					PM	0.524	A
2	S Central Ave	E Victoria St	Signalized	City of Carson	AM	0.594	A
					PM	0.699	B
3	S Wilmington Ave	W Victoria St	Signalized	Los Angeles County	AM	0.539	A
					PM	0.614	B
4	S Central Ave	E Artesia Blvd	Signalized	City of Compton	AM	0.765	C
					PM	0.713	C
5	S Central Ave	E Albertoni St	Signalized	City of Compton	AM	0.790	C
					PM	0.764	C
6	S Central Ave	E University Dr	Signalized	City of Carson	AM	0.540	A
					PM	0.504	A

Notes

[1] Methodologies and impact thresholds vary by Jurisdiction.

## 3. TRAFFIC PROJECTIONS

### PROJECT TRAFFIC

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

#### PROJECT TRIP GENERATION

As indicated in Chapter 1, the proposed Project would include the construction of 175 residential units.

Trip generation rates from *Trip Generation, 10<sup>th</sup> Edition* (Institute of Transportation Engineers [ITE], 2017) were used to estimate the number of trips associated with the Project. As shown in Table 3, the Project is projected to generate an estimated net increase of 1,281 daily trips, including 81 trips (19 inbound/62 outbound) during the AM peak hour and 98 trips (62 inbound/36 outbound) during the PM peak hour.

#### 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 use, the locations of employment and commercial centers to which residents of the Projects may be drawn, and the location of the Project's access points in relation to the surrounding street system. Considering those factors, a trip distribution pattern was developed for the Project and the corresponding percentage of traffic likely to be regionally oriented and using the freeway as opposed to the local street system. Figure 3 illustrates the Project's trip distribution pattern.

#### PROJECT TRAFFIC ASSIGNMENT

The traffic expected to be generated by the proposed Project was assigned to the street network using the distribution patterns described in Figure 3. Appendix A shows the assignment of Project-only traffic volumes for the morning and afternoon peak hours at the six analyzed intersection locations.

### EXISTING PLUS PROJECT TRAFFIC CONDITIONS

The Project traffic estimated and assigned to the study intersections was added to the existing traffic volumes to estimate Existing plus Project traffic volumes. Turning movement traffic volumes for the Existing plus Project scenario are provided in Appendix A. Analysis sheets are provided in Appendix C.

### FUTURE YEAR 2021 TRAFFIC CONDITIONS

To evaluate the potential impacts of the proposed Project on future (Year 2021) conditions, it was necessary to develop estimates of future traffic conditions in the area both without and with 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 as a result of both regional ambient traffic growth and



**TABLE 3  
VICTORIA GREENS PROJECT  
PROJECT TRIP GENERATION ESTIMATE**

Land Use	ITE Land Use Code	Size	Trip Generation Rates [1]							Estimated Trip Generation						
			Daily Rate	AM Peak Hour			PM Peak Hour			Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				Rate	% In	% Out	Rate	% In	% Out		In	Out	Total	In	Out	Total
<b>PROPOSED PROJECT</b> Low-Rise Residential	220	175 du	7.32	0.46	23%	77%	0.56	63%	37%	1,281	19	62	81	62	36	98
<b>Project Total Trips</b>										<b>1,281</b>	<b>19</b>	<b>62</b>	<b>81</b>	<b>62</b>	<b>36</b>	<b>98</b>

Notes:

[1] Source: Institute of Transportation Engineers (ITE), Trip Generation, 10th Edition, 2017.

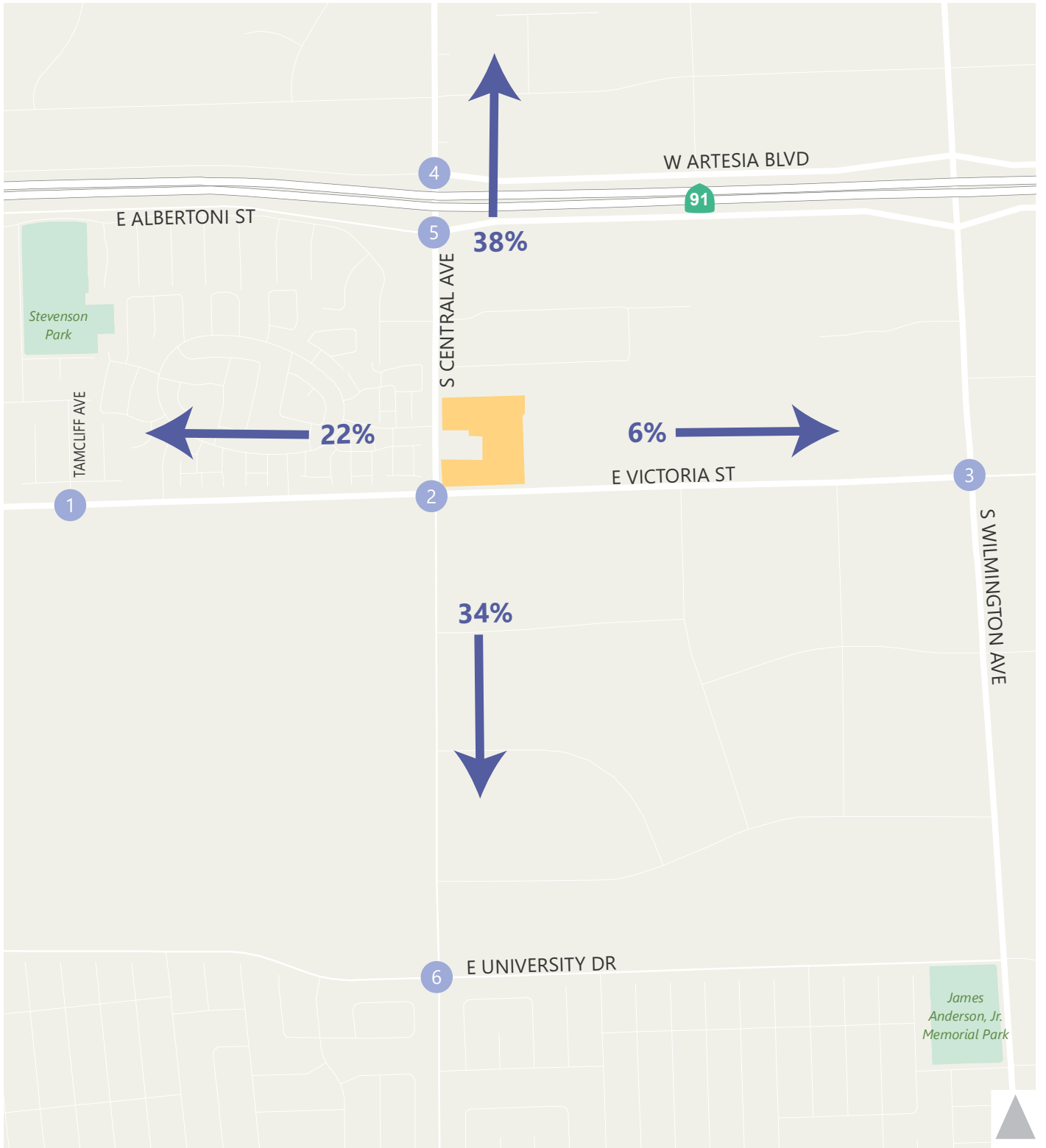


Figure 3  
Regional Project Trip Distribution

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.

## BACKGROUND OR AMBIENT GROWTH

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 2021. This growth factor was developed based on regional growth patterns, the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan Model, the *2010 Congestion Management Program*, and at the direction of the City of Carson. This growth factor was applied to the 2018 traffic volume data to reflect the effect of ambient growth by the year 2021.

## 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 site prior to the buildout date of the proposed Project. The list of related projects was prepared based on data from the City of Carson, the City of Compton, and the County of Los Angeles. A total of 12 related projects were identified in the study area; these projects are listed in Table 4 and illustrated in Figure 4. One of the related projects included in this analysis is the expected buildout of the California State University, Dominguez Hills campus Master Plan Alternative 2. As the first phase of the Master Plan development is not expected to be complete until the year 2025, growth resulting from implementation of Master Plan elements was interpolated for the year 2021, when the proposed Project is expected to be complete.

### Trip Generation

Trip generation estimates for the related projects were calculated using a combination of publicly available environmental documentation, and trip generation rates contained in *Trip Generation, 10<sup>th</sup> Edition*. 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 non-motorized travel modes (transit, walking, etc.). Traffic mitigation measures associated with the related projects are also not in every case accounted for in the analysis.

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

## TRANSPORTATION INFRASTRUCTURE PROJECTS

No transportation infrastructure projects are currently planned or occurring in the vicinity of the Project site.

## FUTURE YEAR 2021 BASE TRAFFIC VOLUMES

Future year 2021 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 ambient background growth and related projects traffic.

## FUTURE PLUS PROJECT TRAFFIC PROJECTIONS

The proposed Project traffic volumes were added to the year 2021 Future Base traffic projections, resulting in Future (year 2021) plus Project AM and PM peak hour traffic volumes. The Future (year 2021) plus Project scenario presents 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.





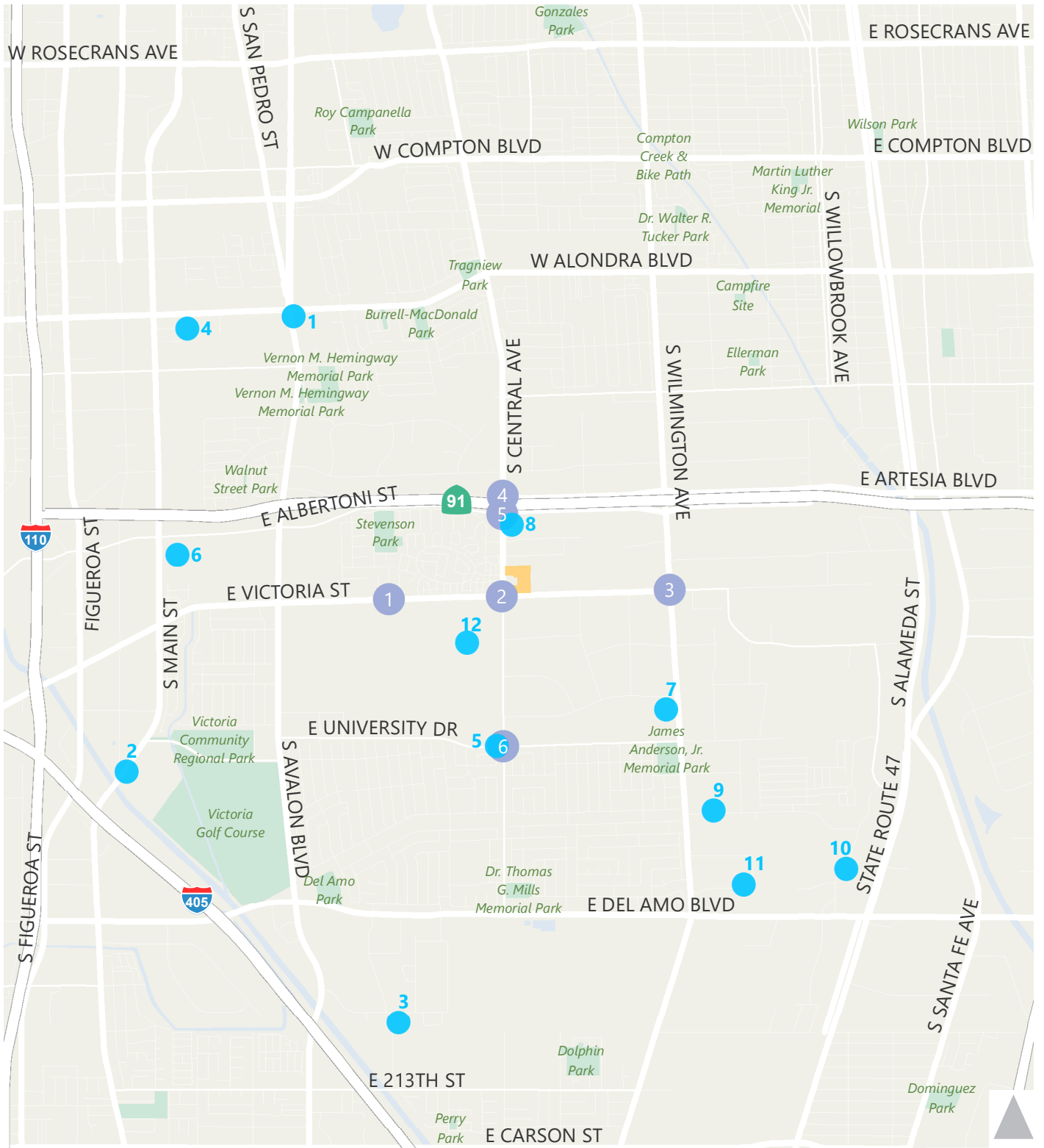
**TABLE 4  
RELATED PROJECTS TRIP GENERATION ESTIMATES**

No.	Project Location	Jurisdiction	Land Use	ITE Code	Size	Trip Generation							
						Daily	AM			PM			
							IN	OUT	TOTAL	IN	OUT	TOTAL	
1	16100 S Avalon Blvd	City of Carson	Mini-Warehouse (Self-Storage)	151	44,000	ksf	66	2	2	4	3	4	7
2	19200 S Main St	City of Carson	Warehousing (Hangar)	150	44,500	ksf	77	6	2	8	2	6	8
3	20920 Chico St	City of Carson	Medical Office	720	11,500	ksf	400	25	7	32	11	29	40
4	200 E Alondra Blvd	City of Carson	Warehousing	150	137,000	ksf	238	18	5	23	7	19	26
5	1281 E University Dr	City of Carson	Shopping Center	820	47,000	ksf	1,774	27	17	44	86	93	179
6	17706 S Main St	City of Carson	Warehousing	150	94,731	ksf	165	12	4	16	5	13	18
7	18701 S Wilmington Ave	City of Carson	Warehousing	150	443,000	ksf	771	58	17	75	23	61	84
8	2200 W Artesia Blvd	City of Compton	Fast-Food Restaurant w/ Drive-Through	934	9,867	ksf	4,647	202	195	397	167	155	322
			Shopping Center	820	10,528	ksf	397	6	4	10	19	21	40
9	1957 East Gladwick St	Los Angeles County	Warehousing (to be removed)	150	45,325	ksf	(79)	(6)	(2)	(8)	(2)	(7)	(9)
			Light Industrial	110	45,325	ksf	225	28	4	32	4	25	29
			Small Office	712	2,793	ksf	45	4	1	5	2	5	7
10	19840 South Rancho Way	Los Angeles County	Warehousing (to be removed)	150	5,016	ksf	(9)	(1)	0	(1)	0	(1)	(1)
			Manufacturing	140	5,016	ksf	20	2	1	3	1	2	3
11	2101 E Via Arado	Los Angeles County	Warehousing	150	11,344	ksf	20	2	0	2	1	1	2
12	California State University, Dominguez Hills	Los Angeles County	University Village	-	-	-	-	1,483	635	2,118	950	1,295	2,245
<b>Total Related Projects Trip Generation</b>							<b>8,757</b>	<b>385</b>	<b>257</b>	<b>2,760</b>	<b>329</b>	<b>426</b>	<b>755</b>

Notes:

ksf = one thousand square feet

Trip Generation Estimates based on ITE 10th Edition rates.



- Study Intersections
- Project Site
- Related Projects



Figure 4  
Related Projects

## 4. INTERSECTION TRAFFIC IMPACT ANALYSIS

The traffic impact analysis evaluates the projected LOS at each study intersection under the Existing plus Project and Future (year 2021) plus Project conditions to estimate the incremental increase in the V/C ratio caused by the proposed Project. This provides the information needed to assess the potential impact of the Project using significance criteria established by the City of Carson, City of Compton, and Los Angeles County.

### CRITERIA FOR DETERMINATION OF SIGNIFICANT TRAFFIC IMPACT

#### SIGNALIZED INTERSECTIONS

##### City of Carson

The City of Carson has established threshold criteria to determine significant traffic impact of a proposed project in its jurisdiction. A signalized intersection would be significantly impacted with an increase in V/C ratio equal to or greater than 0.02 for intersections operating at LOS E or F after the addition of project traffic. Intersections operating at LOS A, B, C, or D after the addition of project traffic are not considered significantly impacted regardless of the increase in V/C ratio. The following summarizes the significant impact criteria:

City of Carson Traffic Impact Criteria, Signalized Intersections		
LOS	Final V/C Ratio	Project-Related Increase in V/C
E or F	> 0.900	equal to or greater than 0.020

##### City of Compton and Los Angeles County

Both the City of Compton and the County of Los Angeles utilize the criteria defined in the County's *Traffic Impact Analysis Report Guidelines* to assess project impacts:

Los Angeles County Traffic Impact Criteria, Signalized Intersections		
LOS	Pre-Project V/C Ratio	Project-Related Increase in V/C
C	> 0.700 - 0.800	equal to or greater than 0.040
D	> 0.800 - 0.900	equal to or greater than 0.020
E or F	> 0.900	equal to or greater than 0.010



## EXISTING PLUS PROJECT IMPACT ANALYSIS

### EXISTING PLUS PROJECT TRAFFIC LEVEL OF SERVICE

The Existing plus Project traffic volumes presented in Appendix A were analyzed to determine the projected V/C ratios and LOS for each of the analyzed signalized intersections under this scenario, using the ICU methodology utilized by Carson, Compton, and Los Angeles County. Table 5 summarizes the Existing plus Project LOS. Analysis sheets are provided in Appendix C. As indicated in Table 5, three of the six analyzed intersections are projected to operate at LOS A or B during both morning and evening peak hours with the Project. The intersection of Central Avenue & Victoria Street, in the City of Carson, is expected to operate at LOS B in the AM peak hour and LOS C in the PM peak hour. The intersections of Central Avenue & Artesia Boulevard and Central Avenue & Albertoni Street, both in the City of Compton, are expected to operate at LOS C during both peak hours. Detailed LOS analysis sheets for the Project are provided in Appendix C.

### EXISTING PLUS PROJECT INTERSECTION IMPACTS

Table 5 shows that the proposed Project would not result in significant traffic impacts at any of the six study intersections.

## FUTURE PLUS PROJECT IMPACT ANALYSIS

### FUTURE BASE TRAFFIC LEVEL OF SERVICE

The year 2021 Future Base peak hour traffic volumes were analyzed to determine the projected V/C ratio and LOS for each of the analyzed intersections using the ICU methodology. Table 6 summarizes the future LOS. Three of the six intersections analyzed for impacts are projected to operate at LOS A or B during the morning and afternoon peak hours under Future Base conditions. The intersection of Central Avenue & Victoria Street, in the City of Carson, is projected to operate at LOS B during the AM peak hour and LOS D during the PM peak hour. The intersection of Central Avenue & Artesia Boulevard, in the City of Compton, is projected to operate at LOS D during both the AM and PM peak hours. The intersection of Central Avenue & Albertoni Street/SR 91 eastbound ramps, also in the City of Carson, is projected to operate at LOS E during the AM peak hour and LOS D during the PM peak hour. Detailed LOS analysis sheets are provided in Appendix C.

### FUTURE PLUS PROJECT TRAFFIC LEVEL OF SERVICE

The Future (year 2021) plus Project peak hour traffic volumes, provided in Appendix A, were analyzed using the ICU methodology to determine the projected future operating conditions with the addition of the proposed Project traffic. The results of the Future (year 2021) plus Project analysis are also presented in Table 6, with analysis sheets provided in Appendix C. Three of the six intersections analyzed are projected to operate at LOS A or B during the morning and afternoon peak hours under Future (year 2021) plus Project conditions. The intersection of Central Avenue & Victoria Street, in the City of Carson, is projected to operate at LOS B during the AM peak hour and LOS D during the PM peak hour. The intersection of Central Avenue & Artesia Boulevard, in the City of Compton, is projected to operate at LOS D during both the AM and PM





peak hours. The intersection of Central Avenue & Albertoni Street/SR 91 eastbound ramps, also in the City of Carson, is projected to operate at LOS E during both the AM and PM peak hours. Detailed LOS analysis sheets for the Project are provided in Appendix C.

### FUTURE (YEAR 2021) PLUS PROJECT INTERSECTION IMPACTS

As shown in Table 6, using the criteria for determination of significant impacts, it is determined that the proposed Project would not result in significant impacts at any of the six intersections under Future (year 2021) plus Project conditions.



**TABLE 5  
VICTORIA GREENS PROJECT  
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS**

ID	N/S Street Name	E/W Street Name	Intersection Control	Jurisdiction [1]	Analyzed Period	Existing		Existing + Project		Project Increase In V/C or Delay (s)	Significant Impact?
						V/C or Delay (s)	LOS	V/C or Delay (s)	LOS		
1	Tamcliff Ave	E Victoria St	Signalized	City of Carson	AM	0.438	A	0.440	A	0.002	No
					PM	0.524	A	0.530	A	0.006	No
2	S Central Ave	E Victoria St	Signalized	City of Carson	AM	0.594	A	0.600	A	0.006	No
					PM	0.699	B	0.711	C	0.012	No
3	S Wilmington Ave	W Victoria St	Signalized	Los Angeles County	AM	0.539	A	0.540	A	0.001	No
					PM	0.614	B	0.614	B	0.000	No
4	S Central Ave	E Artesia Blvd	Signalized	City of Compton	AM	0.765	C	0.776	C	0.011	No
					PM	0.713	C	0.720	C	0.007	No
5	S Central Ave	E Albertoni St	Signalized	City of Compton	AM	0.790	C	0.795	C	0.005	No
					PM	0.764	C	0.773	C	0.009	No
6	S Central Ave	E University Dr	Signalized	City of Carson	AM	0.540	A	0.541	A	0.001	No
					PM	0.504	A	0.504	A	0.000	No

Notes

[1] Methodologies and impact thresholds vary by Jurisdiction.

**TABLE 6  
VICTORIA GREENS PROJECT  
FUTURE YEAR (2021) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS**

ID	N/S Street Name	E/W Street Name	Intersection Control	Jurisdiction [1]	Analyzed Period	Future		Future + Project		Project Increase In V/C or Delay (s)	Significant Impact?
						V/C or Delay (s)	LOS	V/C or Delay (s)	LOS		
1	Tamcliff Ave	E Victoria St	Signalized	City of Carson	AM	0.512	A	0.515	A	0.003	No
					PM	0.604	B	0.610	B	0.006	No
2	S Central Ave	E Victoria St	Signalized	City of Carson	AM	0.670	B	0.677	B	0.007	No
					PM	0.810	D	0.822	D	0.012	No
3	S Wilmington Ave	W Victoria St	Signalized	Los Angeles County	AM	0.560	A	0.560	A	0.000	No
					PM	0.628	B	0.628	B	0.000	No
4	S Central Ave	E Artesia Blvd	Signalized	City of Compton	AM	0.868	D	0.880	D	0.012	No
					PM	0.864	D	0.873	D	0.009	No
5	S Central Ave	E Albertoni St	Signalized	City of Compton	AM	0.975	E	0.979	E	0.004	No
					PM	0.895	D	0.904	E	0.009	No
6	S Central Ave	E University Dr	Signalized	City of Carson	AM	0.624	B	0.626	B	0.002	No
					PM	0.600	A	0.602	B	0.002	No

Notes

[1] Methodologies and impact thresholds vary by Jurisdiction.

## UNSIGNALIZED INTERSECTION SIGNAL WARRANT ANALYSIS

The proposed Project driveway is currently planned as the fourth leg to the existing three-legged uncontrolled intersection of Central Avenue and Aspen Hill Road. Central Avenue at this location provides two through lanes in each direction, as well as left-turn pockets for both northbound and southbound turns. Aspen Hill Road provides gate-controlled access into Dominguez Hills Village. The outbound driveway provides one shared right-left lane onto Central Avenue. In order to assess whether the addition of the Project driveway to the existing three-legged, side-street stop-controlled intersection will warrant signalization, a traffic signal warrant analysis was prepared utilizing the California Manual on Uniform Traffic Control Devices peak hour warrant. Traffic volumes utilized in the warrant analysis were collected on February 20, 2018.

A 24-hour traffic count on Central Avenue confirmed the AM peak hour as the peak hour with the highest volumes through the intersection. The count sheet for this 24-hour count is included as Appendix D. Morning peak hour volumes at the unsignalized intersection were therefore analyzed under Existing, Existing plus Project, Future Base, and Future plus Project conditions. As shown in Appendix E, the volumes at the Central Avenue & Aspen Hill Road/Project Driveway intersection did not meet the signal warrant thresholds during the AM peak hour under any of the analysis scenarios.

## FREEWAY RAMP INTERSECTION ANALYSIS

Per Caltrans' *Guide for the Preparation of Traffic Impact Studies* (Guide), it is recommended that traffic impact analysis evaluate the potential effects of a development project on intersections along nearby State highway facilities, including ramp terminal intersections. The analyzed study intersections include two freeway ramp terminal intersections.

4. South Central Avenue & East Artesia Boulevard/SR 91 westbound ramps
5. South Central Avenue & East Albertoni Street/SR 91 eastbound ramps

## FREEWAY RAMP INTERSECTION LEVEL OF SERVICE ANALYSIS

LOS calculations were conducted using the Synchro 10.0 traffic analysis software and are reported using the *Highway Capacity Manual* (HCM) methodology. The analysis was conducted in accordance with methodologies outlined in the Caltrans Guide. Each intersection was configured according to its existing configuration, including signal timing and physical geometry. Four scenarios were tested for the AM and PM weekday peak hours:

- Existing Year (2018)
- Existing plus Project
- Future Year (2021)
- Future Year plus Project

The traffic volumes for each of these scenarios are consistent with those described in Chapter 3. Signal timing plans were obtained from the City of Compton and are shown in Appendix F.



## FREEWAY RAMP LEVEL OF SERVICE CRITERIA

Under the HCM methodology, LOS is measured in seconds of delay and assigned a letter grade A through F, where LOS A through D is considered acceptable and operations are considered unacceptable at LOS E or F. Signalized intersection LOS is reported as a weighted average delay for all movements. Table 7 shows the HCM definitions for LOS at signalized intersections.

**TABLE 7 – LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS, 6<sup>TH</sup> EDITION HCM OPERATIONAL METHODOLOGY**

Level of Service	Average Total Delay (seconds/vehicle)	Definition
A	$\leq 10.0$	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	$> 10.0$ and $\leq 20.0$	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	$> 20.0$ and $\leq 35.0$	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	$> 35.0$ and $\leq 55.0$	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	$> 55.0$ and $\leq 80.0$	POOR. Represents the most vehicles the intersection can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	$> 80.0$	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths

Source: *Highway Capacity Manual, Special Report 209*,  
Transportation Research Board, 2010.





## FREEWAY RAMP LEVEL OF SERVICE RESULTS

Table 8 and 9 present a summary of ramp intersection LOS analysis using the HCM methodology for Existing and Existing plus Project conditions and Future and Future plus Project conditions, respectively. The Existing and Existing plus Project traffic volumes presented in Appendix C were analyzed to determine the projected delay and LOS for each of the analyzed ramp intersections. Analysis reports are provided in Appendix H, along with the signal timing reports, and 95%ile ramp queue reports. As indicated in Tables 8 and 9, all analyzed intersections are projected to operate at LOS C or better during both peak hours in the Existing condition, and at LOS D or better in the Future condition.

## FREEWAY RAMP ANALYSIS SUMMARY

Per the Guide, Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on state highway facilities, however, Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating above the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained.

Based on these guidelines, a project-related impact is considered significant when the baseline LOS is C and becomes D with the addition of the Project, the baseline LOS is D and becomes E with addition of the Project, or the baseline LOS is E and becomes F with addition of the Project.

Since the addition of Project traffic is not projected to degrade the LOS from C to D, from D to E, or from E to F at any of the study ramp terminal intersections, the Project impacts on the intersections would be less than significant.



**TABLE 8  
VICTORIA GREENS PROJECT  
EXISTING PLUS PROJECT RAMP INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS - 7% HEAVY TRUCKS**

ID	N/S Street Name	E/W Street Name	Intersection Control	Analyzed Period	Future		Future + Project		Project Increase In Delay (sec)	Significant Impact?
					Delay (sec)	LOS	Delay (sec)	LOS		
4	S Central Ave	E Artesia Blvd	Signalized	AM	24.6	C	26.3	C	1.7	NO
				PM	19.6	B	23.0	C	3.4	NO
5	S Central Ave	E Albertoni St	Signalized	AM	24.5	C	25.1	C	0.6	NO
				PM	23.2	C	23.6	C	0.4	NO

**TABLE 9  
VICTORIA GREENS PROJECT  
FUTURE YEAR (2021) PLUS PROJECT RAMP INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS - 7% HEAVY TRUCKS**

ID	N/S Street Name	E/W Street Name	Intersection Control	Analyzed Period	Future		Future + Project		Project Increase In Delay (sec)	Significant Impact?
					Delay (sec)	LOS	Delay (sec)	LOS		
4	S Central Ave	E Artesia Blvd	Signalized	AM	30.4	C	32.0	C	1.6	NO
				PM	39.6	D	41.0	D	1.4	NO
5	S Central Ave	E Albertoni St	Signalized	AM	46.9	D	47.8	D	0.9	NO
				PM	41.8	D	43.5	D	1.7	NO

## 5. REGIONAL TRANSPORTATION SYSTEM ANALYSIS

This section presents an analysis of potential impacts on the regional transportation system. Analysis at CMP monitoring stations was conducted in accordance with the procedures outlined in *Congestion Management Program*. The CMP requires that, when an environmental impact report is prepared for a project, traffic and transit impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use those facilities.

### CMP REGIONAL TRAFFIC IMPACT ANALYSIS

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours.

### SIGNIFICANT CMP TRAFFIC IMPACT CRITERIA

The CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following threshold is exceeded:

- The proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C 0.02), causing LOS F (V/C > 1.00)
- If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C 0.02)

### ARTERIAL CMP MONITORING STATION ANALYSIS

None of the study area intersections are CMP arterial monitoring locations. The CMP arterial monitoring stations nearest to the Project study area are:

- Alameda Street & SR-91 eastbound Ramps (City of Compton)
- Alameda Street & Del Amo Boulevard (City of Carson)
- Vermont Avenue & Artesia Boulevard (City of Gardena)

The CMP arterial monitoring station closest to the proposed Project site is at Alameda Street & SR-91 eastbound ramps, located 2.2 miles east of the proposed Project site. Vermont Avenue & Artesia Boulevard is located approximately 2.7 miles west of the proposed Project site, and Alameda Street & Del Amo Boulevard is located 3.1 miles southeast of the proposed Project site. Based on the Project trip distribution



and trip generation, the Project is not expected to add 50 peak hour vehicle trips through the closest CMP arterial monitoring station. The majority of Project trips are anticipated to disperse among the transportation network within close proximity to the study area and less than 5% of total Project trips (or fewer than a maximum of 5 trips during the highest peak hour) are expected at any of the CMP monitoring stations.

## FREEWAY CMP IMPACT ANALYSIS

The *2010 Congestion Management Program (CMP)* (Metro, 2010) for Los Angeles County requires that all CMP mainline freeway monitoring locations where a proposed Project will add 150 or more trips, in either direction, during either the AM or PM peak hours be analyzed. The closest CMP freeway monitoring station to the Project are located on the Gardena Freeway west of the interchange with the Long Beach Freeway (I-710) and on the San Diego Freeway (I-405) south of the interchange with the Harbor Freeway (I-110). The proposed Project is expected to generate just 81 total trips in the AM peak hour and 98 total trips in the PM peak hour, therefore fewer than 150 trips will be added to the closest CMP monitoring sites during the AM and PM peak hours. CMP analysis is not required and was not conducted.

## REGIONAL TRANSIT IMPACT ANALYSIS

Potential transit related person-trips generated by the proposed Project were estimated. Appendix D.8.4 of the 2010 CMP provides a methodology for estimating the number of transit trips expected to result from a proposed Project based on the projected number of vehicle trips. This methodology assumes an average vehicle ridership (AVR) factor of 1.4 in order to estimate the number of person trips to and from the Project and then provides guidance regarding the percentage of person trips assigned to public transit depending on the type of use (commercial/other versus residential) and the proximity to transit services. Appendix D.8.4 of the 2010 CMP recommends summarizing the fixed-route local bus services within ¼ mile of the Project site and express bus routes and rail service within two miles of the Project site.

The Project is located within ¼ mile of bus stops serving Metro Local Routes 53 and 130 and Torrance Transit Route 6, and within 2 miles of the Metro Silver Line Victoria Street station, and the Blue Line Artesia station. However, the Project is not located within ¼ mile of a designated CMP transit center, multi-modal transportation center, or transit corridor. Therefore, the CMP guidelines provide that approximately 3.5% of total person trips generated are assumed to use transit to travel to and from the site. The proposed Project would have an estimated increase in vehicle trip generation of approximately 81 vehicle trips during the AM peak hour and 98 during the PM peak hour. Applying the AVR factor of 1.4 to the estimated vehicle trips would result in an estimated increase of approximately 113 and 137 person-trips during the AM and PM peak hours, respectively. Applying the 3.5% transit use would result in approximately 4 new transit person-trips during the weekday AM peak hour and 5 new transit person-trips during the weekday PM peak hour.

Within the two miles of the Project site, Metro operates the Blue Line (801) with 12-minute headways during peak hours and the Silver Line (950) with 5-minute headways during peak hours. Within a ¼ mile of the Project site, Metro also operates Local Routes 53 (approximately 25-minute headways during the peak hours) and 130 (approximately 40-minute headways during the peak hours), and Torrance Transit operates Route 6 with approximately 40-minute headways during the peak hours. The total of these services has an



estimated seating capacity of 2,496 persons per hour during the peak periods based on a seating capacity of 40 persons for a local bus, 65 persons for a Rapid articulated bus, and 300 persons for a light rail vehicle. The proposed Project would utilize up to 0.2% of available transit capacity during the peak hours using the CMP assumption of transit trips equating to 3.5% of person trips. At this level of transit capacity utilization, the Project is not anticipated to result in a significant CMP transit impact.



## 6. PARKING AND SITE CIRCULATION ANALYSIS

This chapter presents an analysis of the parking supply and access system proposed by the project. Based on the applicable code requirements as specified by the City of Carson, the required parking supply was estimated. Issues relating to the project's proposed site access and internal circulation design were also evaluated using standard guides for the types of vehicles expected to use these facilities.

### CITY OF CARSON PARKING REQUIREMENTS

The parking analysis for the proposed project compared the proposed parking supply to the requirements of the Dominguez Hills Village Specific Plan (Plan), in which area the Project is located. According to the Plan, a proposed development project is required to provide an adequate supply of parking spaces based on the proposed land uses on the site. The proposed project is considered to have a significant parking impact if the proposed parking supply is below that specified by the Plan. The Plan is currently in the process of being amended; draft Plan parking requirements have been provided verbally by the Project applicant and will be verified by City staff.

The project involves development of 175 two- and three-bedroom multifamily dwelling units in a garden-style low-rise complex. Per the draft amended Plan, 2.35 dedicated parking spaces per dwelling unit are required, including guest spaces, yielding a total requirement of 411 parking spaces. The project would provide a total of 419 parking spaces, including 350 dedicated residential garage spaces, and 69 guest surface spaces, equal to 2.39 parking spaces per dwelling unit. Table 10 provides a summary of parking requirements and proposed supply.

**TABLE 10 – PARKING REQUIREMENT ESTIMATES**

Parking Ratio		
Land Use	Ratio	
Dwelling units	2.00	per DU
Guest spaces	0.35	per DU

Parking Requirements per City of Carson Code		
Land Use	Size	Required Spaces
2-bedroom dwelling units	175 DU	
<i>Primary spaces</i>		350
<i>Guest spaces</i>		61
<b>TOTAL REQUIRED</b>		<b>411</b>
<b>SPACES PROVIDED</b>		<b>419</b>
<b>TOTAL NEEDED</b>		<b>-8</b>



## SITE ACCESS AND CIRCULATION

As shown in Figure 2, the proposed project would provide two driveways, one on Central Avenue and one on Victoria Street. The driveway on Central Avenue will serve as the primary project driveway. It will provide full-access ingress and right-turn only egress. Left turns out of the project driveway will be discouraged by signage and a physical barrier located at the project driveway. The driveway on Victoria Street will provide left- and right-turn egress only. The residential driveway on Central Avenue will provide the eastern leg of Central Avenue & Aspen Hill Road, while the driveway on Victoria Street will form a T-intersection.

## SITE CIRCULATION

### DRIVE AISLES

Inside the Project site, the drive aisle widths vary from 20 feet (in alleys) to 26 feet (along primary internal circulation routes and the fire lane), with two-way operation. The drive aisle widths meet the minimum recommended width for two-way operation.

Most of the proposed parking is located in garage spaces on the ground floor level of individual units. Guest parking spaces are provided in surface parking, located on the eastern edge of the property and near the southwestern edge. Guest spaces measure 9 feet by 16 feet, which is shorter than the 20 feet in length required by Carson Municipal Code (CMC) 9162.41. Seven surface parking spaces are identified as compact spaces; these spaces measure 8 feet by 15 feet, in compliance with CMC 9162.41.

### EMERGENCY VEHICLE AND WASTE DISPOSAL VEHICLE ACCESS

A test was performed that determined a 44-foot pumper fire truck and a 38-foot rear-load garbage truck found in *A Policy on Geometric Design of Highways and Streets 2004* was able to enter and exit the primary driveway turning radii without any conflicts; however, firetrucks inbound and outbound to the residential alleys do need to make wide turns that require partially crossing over onto landscaping for some portion of their turn in and out of the alleys. Truck turning movements are presented in Appendix G.



## 7. SUMMARY AND CONCLUSIONS

### PROJECT SUMMARY

The following summarizes the results of the Project transportation impact analysis for the proposed Victoria Greens Project in the City of Carson:

- The Project consists of the construction of 175 residential units.
- The Project will provide access via a driveway on Central Avenue located opposite Aspen Hill Road. Egress from the Project via Central Avenue driveway will be limited to right-turns only at all times. The project will provide an additional egress-only driveway on Victoria Street. That driveway will also serve as a secondary access point for emergency vehicles if ever necessary.
- The Project is projected to generate approximately 1,281 daily trips, including 81 trips during the AM peak hour, and 98 trips during the PM peak hour.
- The LOS analysis for the Existing plus Project scenario determined that the Project would not result in significant impacts at any of the six study intersections.
- The LOS analysis for the Future plus Project scenario determined that the Project would not result in significant impacts at any of the six study intersections.
- A signal warrant analysis concluded that the addition of the primary project driveway to the existing three-legged intersection of Central Avenue and Aspen Hill Road would not warrant installation of a traffic signal.
- Following Caltrans guidelines, HCM delay-based LOS analysis determined that the Project would not result in significant impacts at the two freeway ramp intersections within the study area.
- The project would not result in a significant impact to any CMP arterial or freeway monitoring stations. The projected level of additional transit riders generated by the proposed Project would not result in a significant impact on public transit services in the vicinity of the Project.





## REFERENCES

*2010 Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority, 2010.

*Carson Master Plan of Bikeways*, City of Carson, 2013.

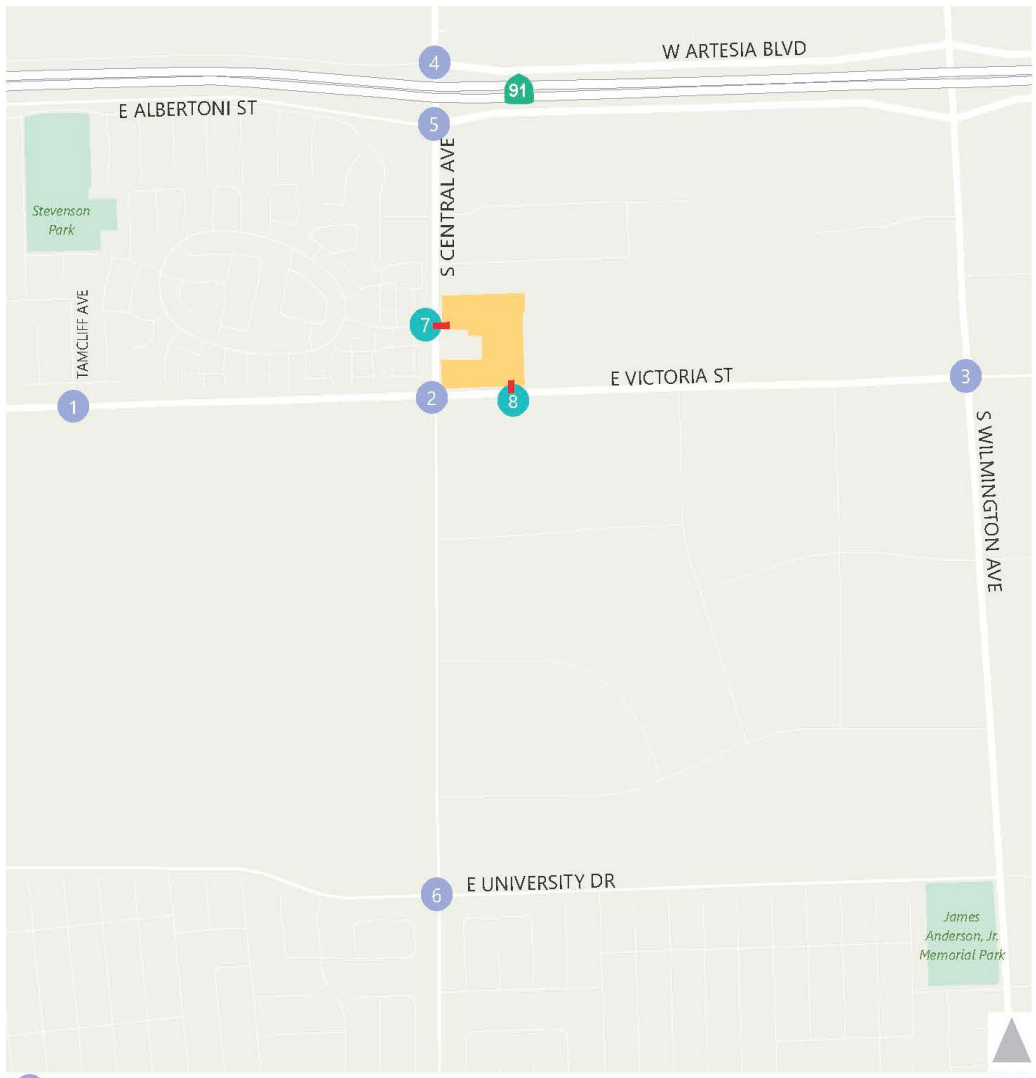
*Traffic Impact Analysis Report Guidelines*, County of Los Angeles Department of Public Works, 2013.

*Trip Generation, 10<sup>th</sup> Edition*, Institute of Transportation Engineers, 2017.

*Highway Capacity Manual, Sixth Edition*, Transportation Research Board, 2016.

*Guide for the Preparation of Traffic Impact Studies*, California Department of Transportation, December 2002.

**APPENDIX A:  
LANE CONFIGURATIONS AND TRAFFIC VOLUMES**

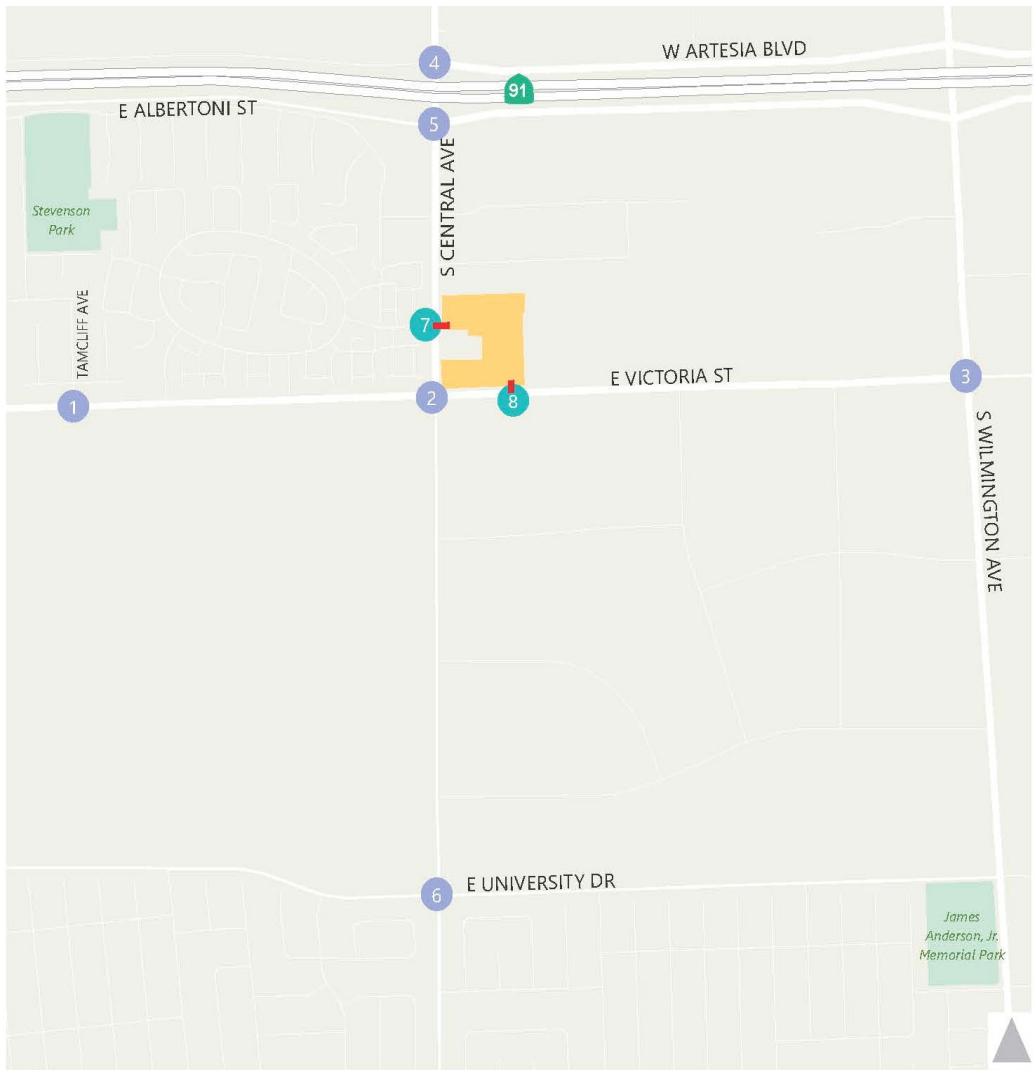


- Signalized Study Intersection
- Unsignalized Intersection
- Project Site
- Project Driveway

1. Tamcliff Ave/E Victoria St	2. S Central Ave/E Victoria St	3. S Wilmington Ave/E Victoria St
<p>28 (15) 3 (6) 25 (17)</p> <p>23 (35) 403 (666) 216 (75)</p> <p>13 (25) 441 (893) 175 (125)</p> <p>73 (189) 4 (4) 30 (168)</p>	<p>577 (271) 728 (666) 221 (146)</p> <p>98 (193) 195 (272) 10 (20)</p> <p>177 (422) 138 (582) 74 (163)</p> <p>67 (129) 540 (588) 27 (35)</p>	<p>178 (117) 957 (492) 172 (108)</p> <p>213 (227) 143 (141) 29 (46)</p> <p>72 (304) 133 (359) 53 (115)</p> <p>72 (89) 538 (918) 25 (33)</p>
4. S Central Ave/E Artesia Blvd	5. S Central Ave/E Albertoni St	6. S Central Ave/E University Dr
<p>195 (220) 852 (690)</p> <p>304 (352) 213 (128) 688 (479)</p> <p>268 (324) 683 (770)</p>	<p>1,150 (891) 396 (271)</p> <p>386 (294) 122 (806) 529 (194)</p> <p>570 (622) 338 (493)</p>	<p>63 (189) 413 (719) 85 (83)</p> <p>104 (74) 194 (203) 32 (46)</p> <p>149 (79) 147 (209) 57 (135)</p> <p>90 (67) 604 (398) 38 (20)</p>
7. S Central Ave/Aspen Hill Road	8. E Victoria St	
<p>19 (40) 1,572 (1,132) 0 (0)</p> <p>55 (21) 9 (23)</p> <p>3 (12) 876 (1,146)</p>	<p>303 (485)</p> <p>386 (763)</p>	

Appendix A-1  
Traffic Volumes and Lane Configurations  
Existing Conditions



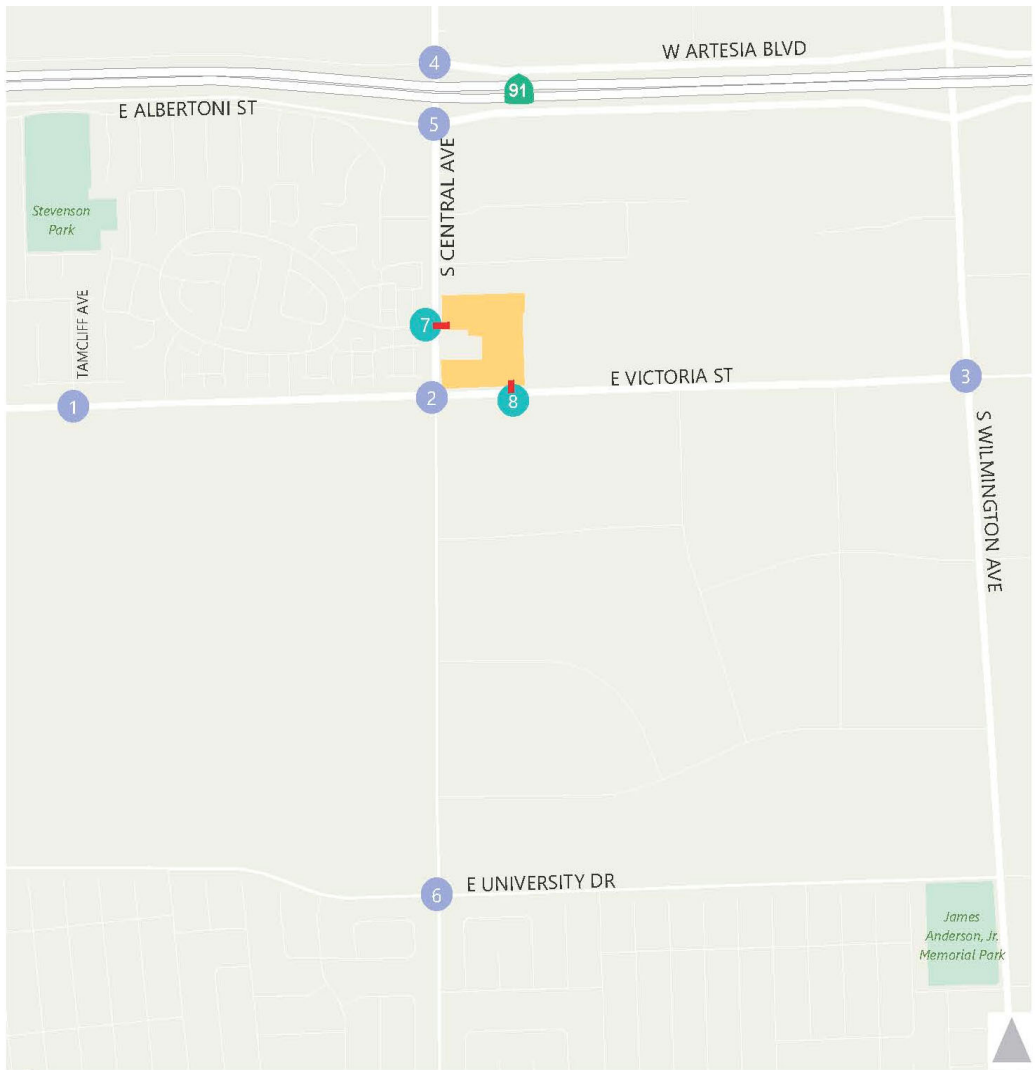


- Signalized Study Intersection
- Unsignalized Intersection
- Project Site
- Project Driveway

1. Tamcliff Ave/E Victoria St	2. S Central Ave/E Victoria St	3. S Wilmington Ave/E Victoria St											
<table border="1"> <tr> <td>28 (15) 3 (6) 25 (17)</td> <td>23 (35) 420 (676) 217 (76)</td> <td>100 (198) 214 (283) 17 (24)</td> </tr> <tr> <td>13 (25) 446 (910) 175 (125)</td> <td>73 (189) 4 (4) 30 (169)</td> <td>67 (129) 542 (585) 27 (35)</td> </tr> </table>	28 (15) 3 (6) 25 (17)	23 (35) 420 (676) 217 (76)	100 (198) 214 (283) 17 (24)	13 (25) 446 (910) 175 (125)	73 (189) 4 (4) 30 (169)	67 (129) 542 (585) 27 (35)	<table border="1"> <tr> <td>178 (117) 957 (492) 172 (108)</td> <td>213 (227) 144 (143) 29 (46)</td> <td></td> </tr> <tr> <td>72 (304) 135 (360) 56 (117)</td> <td>73 (92) 536 (918) 25 (33)</td> <td></td> </tr> </table>	178 (117) 957 (492) 172 (108)	213 (227) 144 (143) 29 (46)		72 (304) 135 (360) 56 (117)	73 (92) 536 (918) 25 (33)	
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72 (304) 135 (360) 56 (117)	73 (92) 536 (918) 25 (33)												
4. S Central Ave/E Artesia Blvd	5. S Central Ave/E Albertoni St	6. S Central Ave/E University Dr											
<table border="1"> <tr> <td>195 (220) 854 (696)</td> <td>304 (352) 213 (128) 690 (486)</td> <td></td> </tr> <tr> <td>285 (334) 689 (774)</td> <td>386 (294) 122 (806) 534 (211)</td> <td>593 (635) 346 (497)</td> </tr> </table>	195 (220) 854 (696)	304 (352) 213 (128) 690 (486)		285 (334) 689 (774)	386 (294) 122 (806) 534 (211)	593 (635) 346 (497)	<table border="1"> <tr> <td>1,154 (905) 390 (271)</td> <td></td> <td></td> </tr> <tr> <td>149 (80) 147 (209) 57 (135)</td> <td></td> <td>90 (67) 605 (401) 38 (20)</td> </tr> </table>	1,154 (905) 390 (271)			149 (80) 147 (209) 57 (135)		90 (67) 605 (401) 38 (20)
195 (220) 854 (696)	304 (352) 213 (128) 690 (486)												
285 (334) 689 (774)	386 (294) 122 (806) 534 (211)	593 (635) 346 (497)											
1,154 (905) 390 (271)													
149 (80) 147 (209) 57 (135)		90 (67) 605 (401) 38 (20)											
Central Ave/Aspen Hill Road/Project Driveway	8. Project Driveway/E Victoria St												
<table border="1"> <tr> <td>19 (40) 1,572 (1,132) 9 (30)</td> <td>30 (18) 0 (0)</td> <td></td> </tr> <tr> <td>55 (21) 9 (23)</td> <td>3 (12) 876 (1,146) 10 (32)</td> <td></td> </tr> </table>	19 (40) 1,572 (1,132) 9 (30)	30 (18) 0 (0)		55 (21) 9 (23)	3 (12) 876 (1,146) 10 (32)		<table border="1"> <tr> <td>27 (15) 5 (3)</td> <td>305 (490)</td> <td></td> </tr> <tr> <td></td> <td>386 (763)</td> <td></td> </tr> </table>	27 (15) 5 (3)	305 (490)			386 (763)	
19 (40) 1,572 (1,132) 9 (30)	30 (18) 0 (0)												
55 (21) 9 (23)	3 (12) 876 (1,146) 10 (32)												
27 (15) 5 (3)	305 (490)												
	386 (763)												

Appendix A-2  
Traffic Volumes and Lane Configurations  
Existing Plus Project Conditions



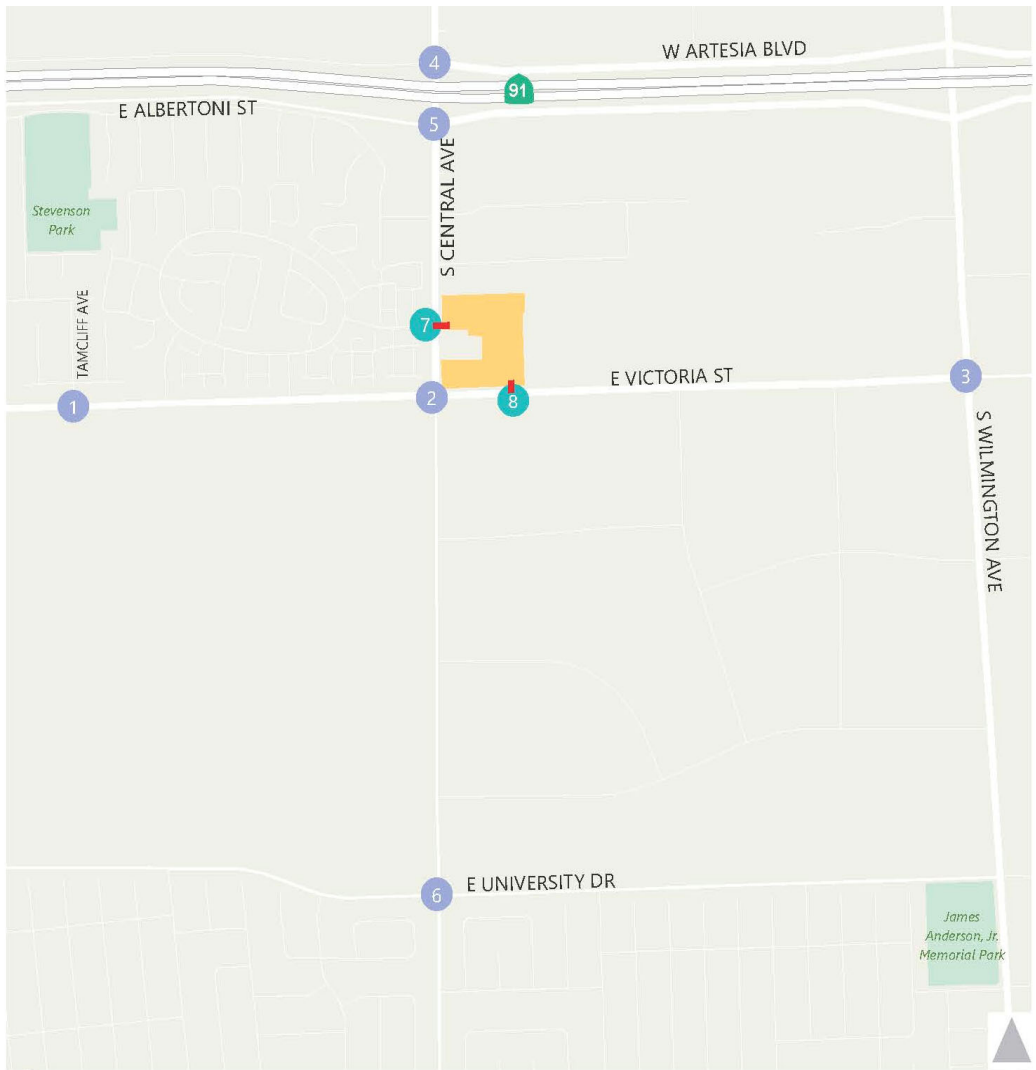


- Signalized Study Intersection
- Unsignalized Intersection
- Project Site
- Project Driveway

1. Tamcliff Ave/E Victoria St	2. S Central Ave/E Victoria St	3. S Wilmington Ave/E Victoria St
<p>28 (15) 3 (6) 25 (17)</p> <p>23 (40) 591 (884) 234 (90)</p> <p>13 (25) 644 (1,097) 183 (136)</p> <p>74 (206) 4 (4) 40 (189)</p>	<p>666 (415) 961 (804) 228 (166)</p> <p>119 (213) 204 (290) 15 (20)</p> <p>241 (494) 149 (605) 226 (235)</p> <p>84 (175) 632 (825) 27 (40)</p>	<p>185 (122) 984 (503) 177 (116)</p> <p>221 (234) 152 (144) 29 (51)</p> <p>73 (307) 140 (368) 59 (118)</p> <p>84 (104) 551 (836) 25 (33)</p>
4. S Central Ave/E Artesia Blvd	5. S Central Ave/E Albertoni St	6. S Central Ave/E University Dr
<p>198 (222) 914 (748)</p> <p>314 (361) 216 (129) 844 (599)</p> <p>348 (496) 735 (633)</p>	<p>1,362 (1,066) 401 (274)</p> <p>392 (297) 124 (814) 718 (376)</p> <p>698 (1,049) 441 (651)</p>	<p>89 (257) 479 (629) 114 (156)</p> <p>194 (127) 200 (215) 32 (46)</p> <p>167 (129) 158 (221) 61 (155)</p> <p>97 (65) 684 (441) 39 (20)</p>
7. S Central Ave/Aspen Hill Road	8. /E Victoria St	
<p>19 (40) 1,914 (1,432) 0 (0)</p> <p>56 (21) 9 (23)</p> <p>3 (12) 1,057 (1,482)</p>	<p>337 (518)</p> <p>405 (792)</p>	

Appendix A-3  
Traffic Volumes and Lane Configurations  
Future Conditions



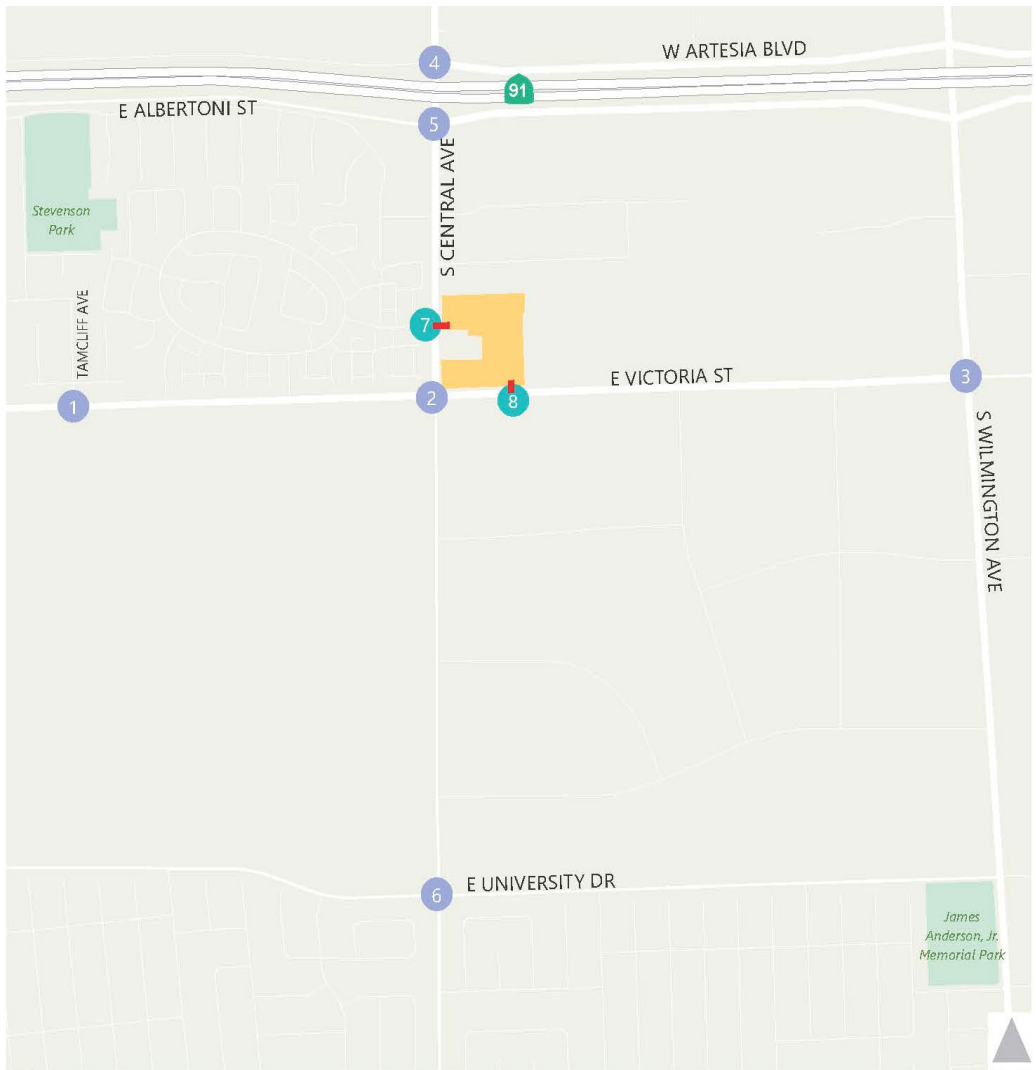


- Signalized Study Intersection
- Unsignalized Intersection
- Project Site
- Project Driveway

1. Tamcliff Ave/E Victoria St	2. S Central Ave/E Victoria St	3. S Wilmington Ave/E Victoria St
<p>28 (15) 3 (6) 25 (17)</p> <p>23 (40) 608 (894) 235 (91)</p> <p>13 (25) 649 (1,114) 183 (136)</p> <p>74 (206) 4 (4) 40 (190)</p>	<p>666 (415) 961 (804) 228 (166)</p> <p>121 (218) 223 (301) 22 (24)</p> <p>247 (513) 149 (605) 226 (235)</p> <p>84 (175) 634 (832) 27 (40)</p>	<p>185 (122) 984 (503) 177 (116)</p> <p>221 (234) 153 (146) 29 (51)</p> <p>73 (307) 142 (369) 62 (120)</p> <p>85 (107) 551 (836) 25 (33)</p>
4. S Central Ave/E Artesia Blvd	5. S Central Ave/E Albertoni St	6. S Central Ave/E University Dr
<p>198 (222) 916 (754)</p> <p>314 (361) 216 (129) 846 (606)</p> <p>396 (608) 741 (837)</p>	<p>1,366 (1,080) 401 (274)</p> <p>392 (297) 124 (814) 723 (393)</p> <p>721 (1,082) 448 (655)</p>	<p>90 (257) 482 (831) 116 (157)</p> <p>195 (129) 200 (215) 32 (46)</p> <p>167 (130) 158 (221) 61 (155)</p> <p>97 (65) 685 (444) 39 (20)</p>
Central Ave/Aspen Hill Road/Project Driveway	8. Project Driveway/E Victoria St	
<p>19 (40) 1,914 (1,432) 9 (30)</p> <p>30 (18) 0 (0)</p> <p>56 (21) 9 (23)</p> <p>3 (12) 1,057 (1,482) 10 (32)</p>	<p>27 (15) 5 (3)</p> <p>339 (523)</p> <p>405 (792)</p>	

Appendix A-4  
Traffic Volumes and Lane Configurations  
Future Plus Project Conditions



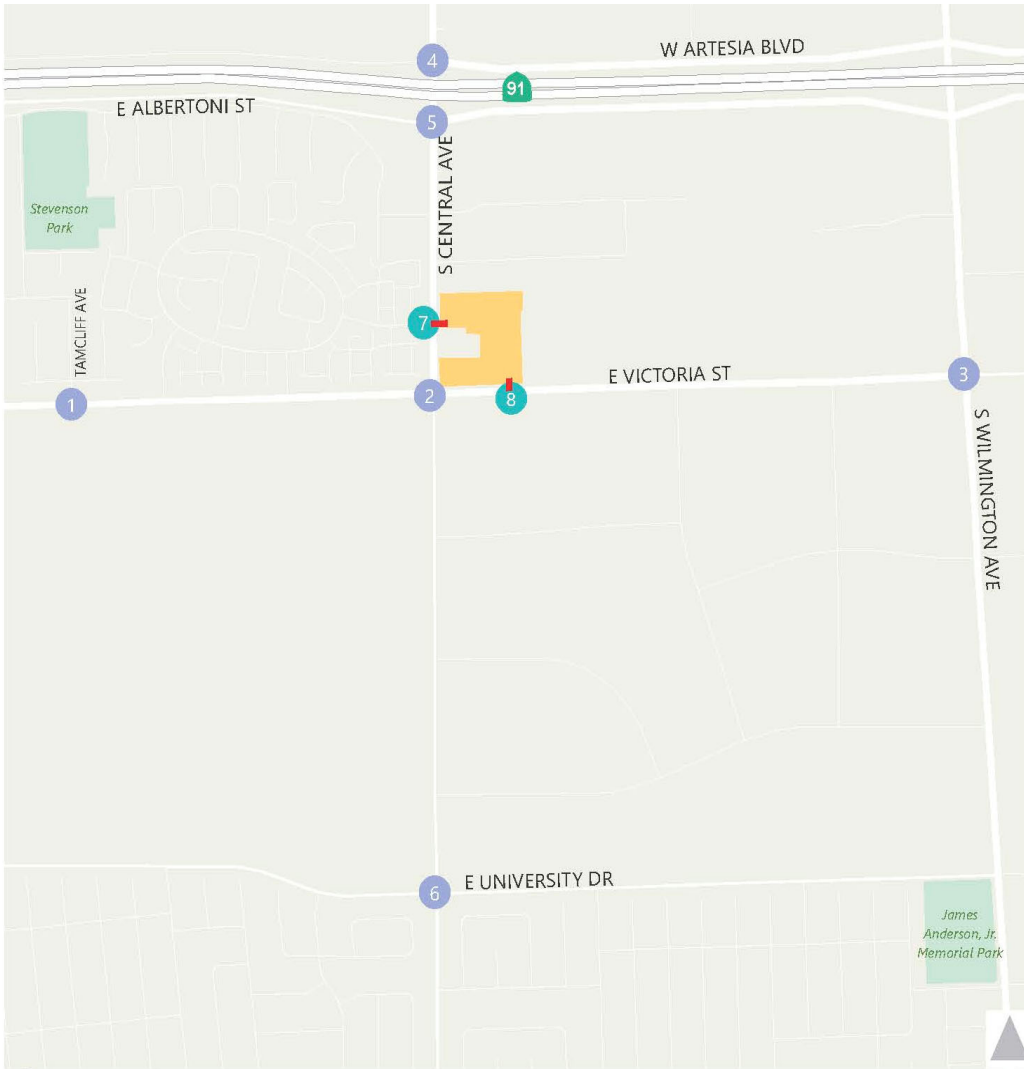


- Signalized Study Intersection
- Unsignalized Intersection
- Project Site
- Project Driveway

1. Tamcliff Ave/E Victoria St	2. S Central Ave/E Victoria St	3. S Wilmington Ave/E Victoria St
4. S Central Ave/E Artesia Blvd	5. S Central Ave/E Albertoni St	6. S Central Ave/E University Dr
Central Ave/Aspen Hill Road/Project Driveway	8. Project Driveway/E Victoria St	

Appendix A-5  
Traffic Volumes and Lane Configurations  
Project Only Conditions





- Signalized Study Intersection
- Unsignalized Intersection
- Project Site
- Project Driveway

1. Tamcliff Ave/E Victoria St	2. S Central Ave/E Victoria St	3. S Wilmington Ave/E Victoria St
<p>0 (0) 0 (0) 0 (0)            0 (0) 22 (26) 10 (9)            0 (0) 0 (0) 0 (0)            26 (25) 0 (0) 10 (9)</p>	<p>30 (86) 15 (13) 4 (4)            47 (66) 1 (5) 13 (6)            4 (4) 0 (0) 2 (2)            31 (28) 4 (2) 1 (5)            1 (5) 44 (71) 0 (0)</p>	<p>4 (4) 0 (0) 0 (0)            13 (6) 2 (2) 2 (2)            2 (2) 0 (0) 0 (0)            0 (0) 0 (0) 6 (6)            5 (2) 2 (8) 2 (8)            0 (0) 0 (0) 0 (0)</p>
4. S Central Ave/E Artesia Blvd	5. S Central Ave/E Albertoni St	6. S Central Ave/E University Dr
<p>0 (0) 0 (0) 0 (0)            44 (46) 0 (0) 46 (50)            0 (0) 0 (0) 0 (0)            42 (49) 42 (45)</p>	<p>90 (96) 0 (0) 0 (0)            0 (0) 0 (0) 0 (0)            0 (0) 0 (0) 0 (0)            46 (50) 84 (94) 52 (58)</p>	<p>20 (46) 8 (7) 8 (7)            20 (18) 3 (10) 3 (10)            8 (7) 0 (0) 0 (0)            16 (49) 9 (5) 3 (19)            6 (17) 21 (18) 0 (0)</p>
7. S Central Ave/Aspen Hill Road	8. E Victoria St	
<p>0 (0) 0 (0) 0 (0)            80 (96) 0 (0) 0 (0)            0 (0) 0 (0) 0 (0)            0 (0) 90 (112)</p>	<p>16 (18)            8 (6)</p>	

Appendix A-6  
 Traffic Volumes and Lane Configurations  
 Related Project Only Conditions





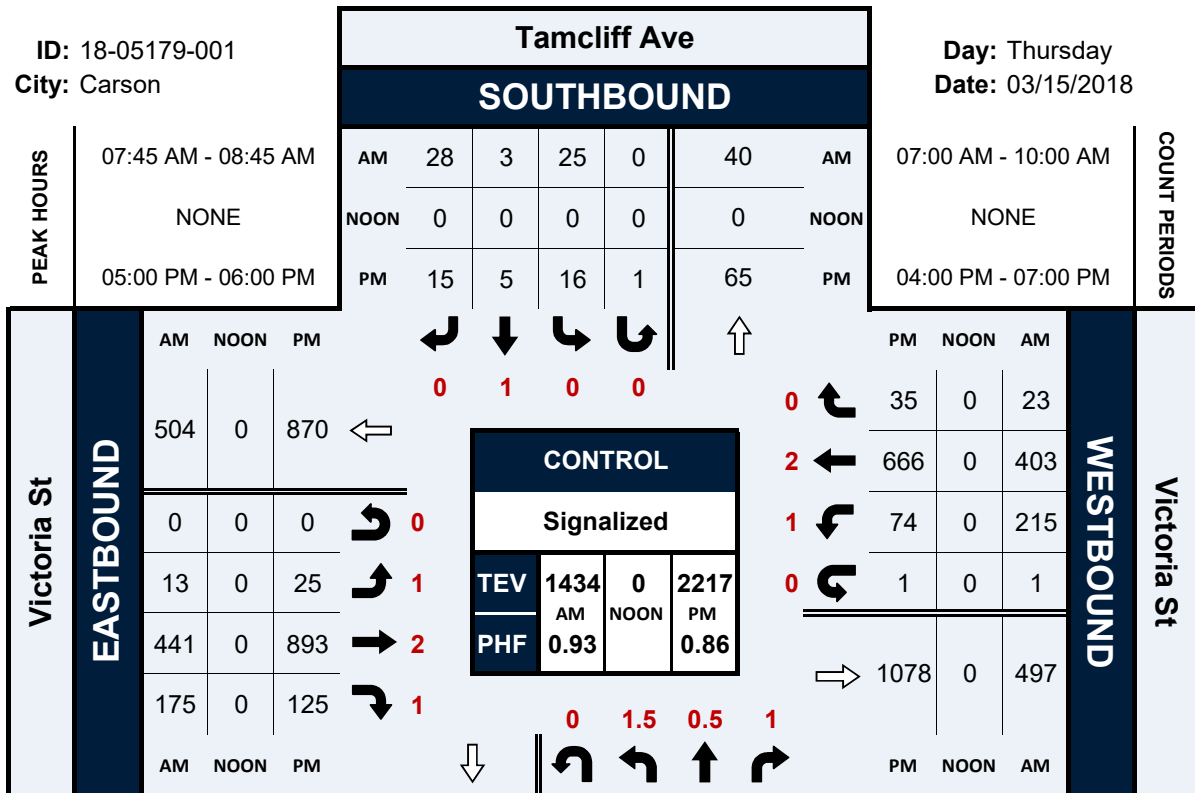
**APPENDIX B:**  
**TURNING MOVEMENT COUNT SHEETS**

# Tamcliff Ave & Victoria St

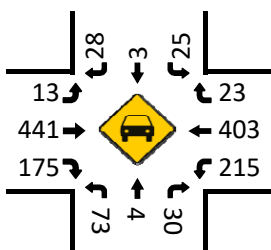
## Peak Hour Turning Movement Count

ID: 18-05179-001  
City: Carson

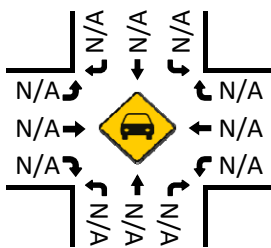
Day: Thursday  
Date: 03/15/2018



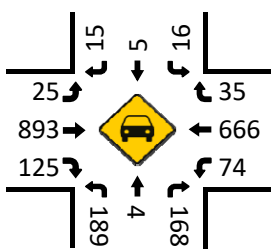
Total Vehicles (AM)



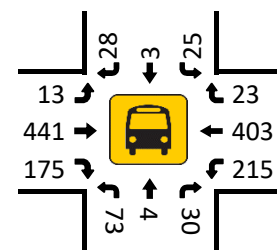
Total Vehicles (Noon)



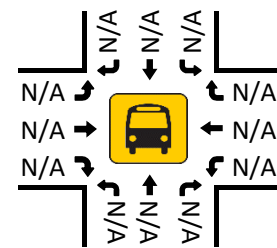
Total Vehicles (PM)



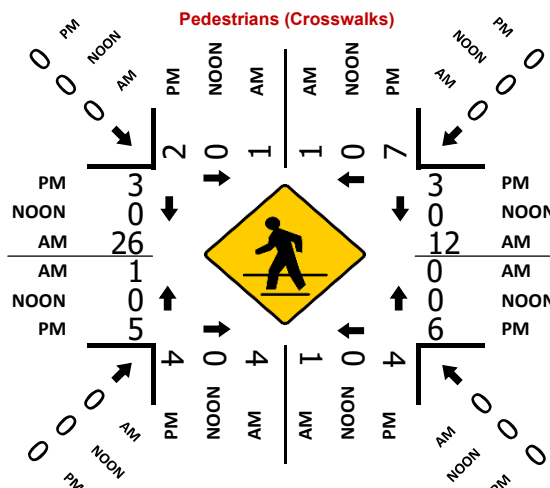
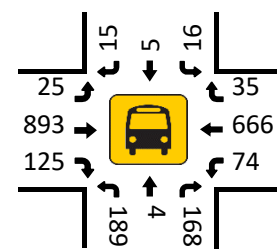
(AM)



(NOON)



(PM)

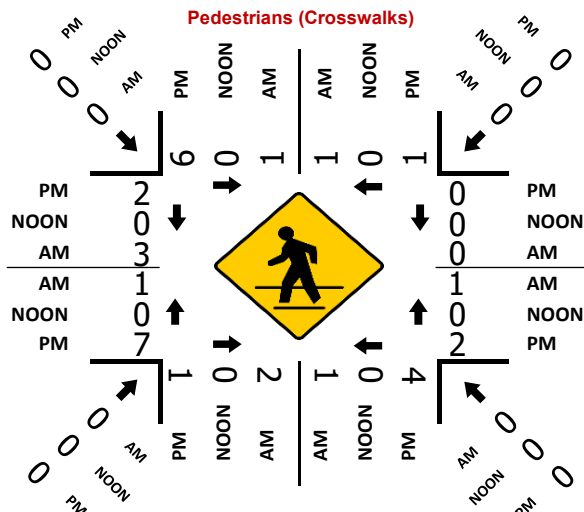
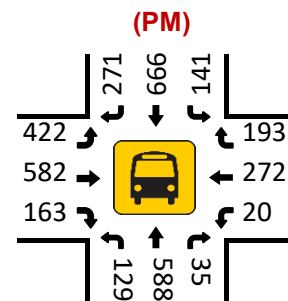
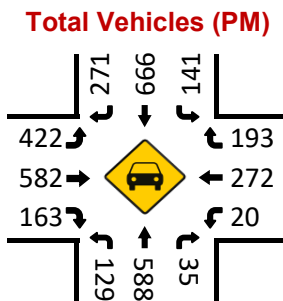
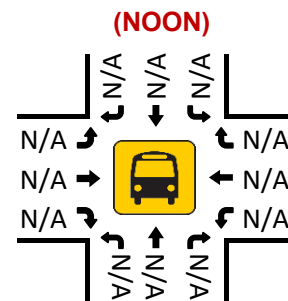
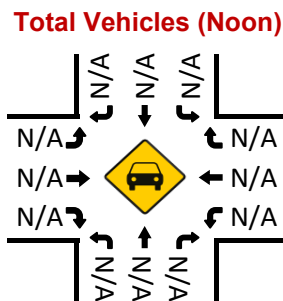
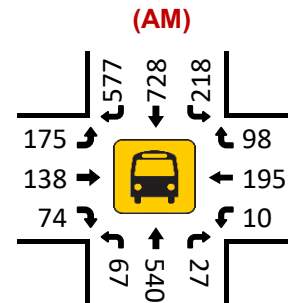
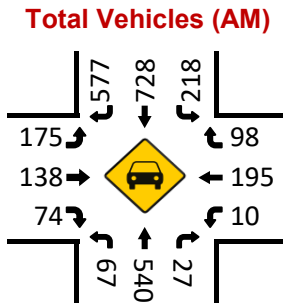
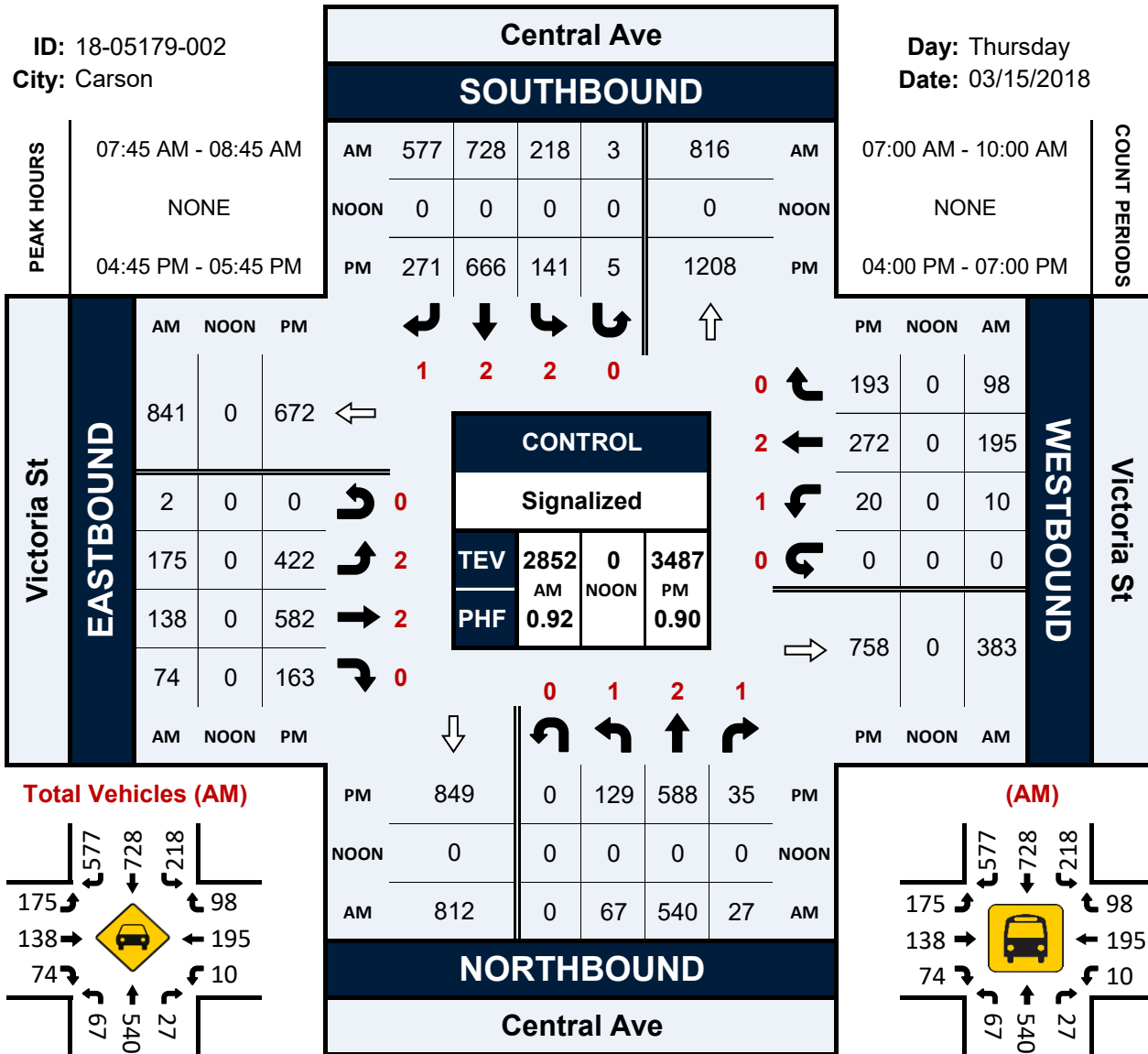


# Central Ave & Victoria St

## Peak Hour Turning Movement Count

ID: 18-05179-002  
City: Carson

Day: Thursday  
Date: 03/15/2018

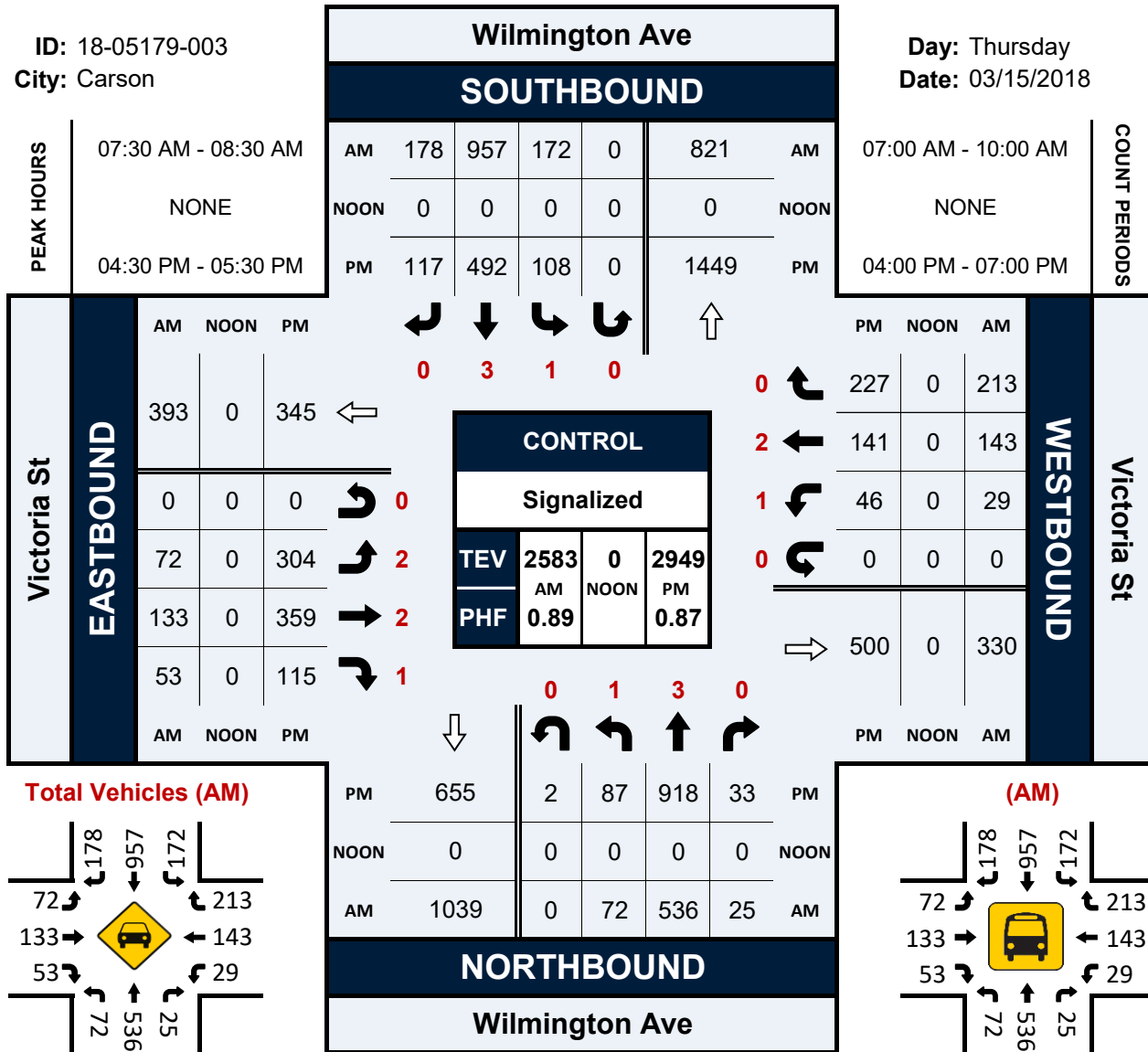


# Wilmington Ave & Victoria St

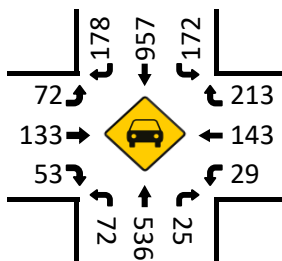
## Peak Hour Turning Movement Count

ID: 18-05179-003  
City: Carson

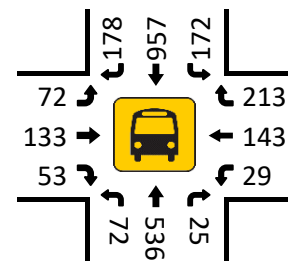
Day: Thursday  
Date: 03/15/2018



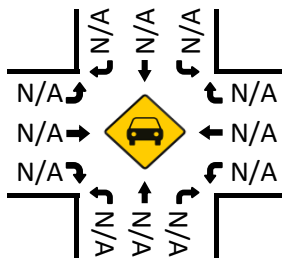
Total Vehicles (AM)



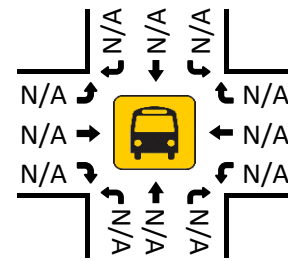
(AM)



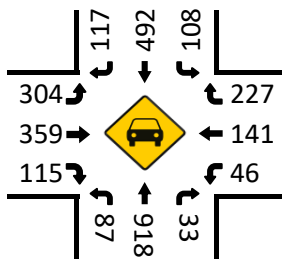
Total Vehicles (Noon)



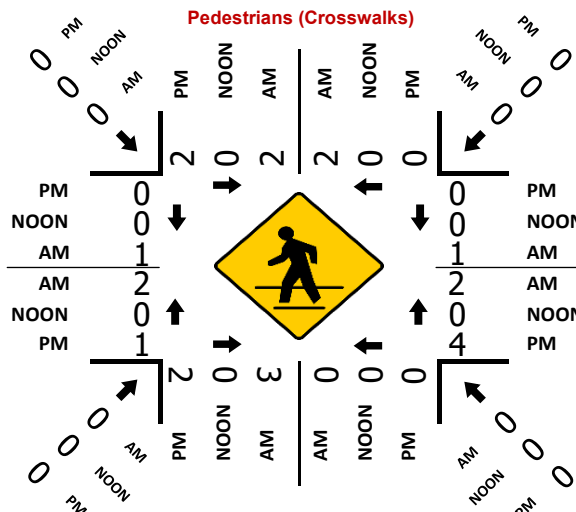
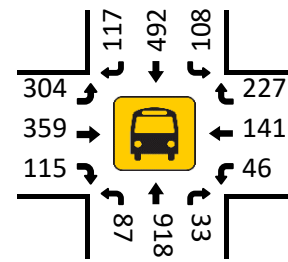
(NOON)



Total Vehicles (PM)



(PM)

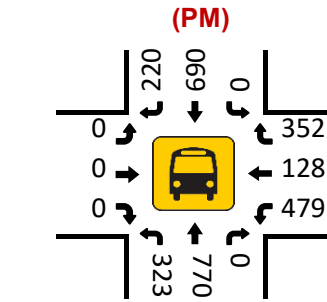
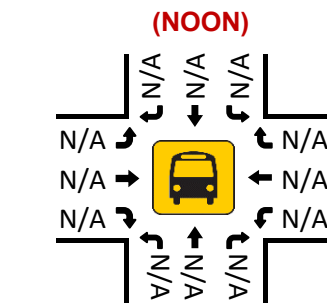
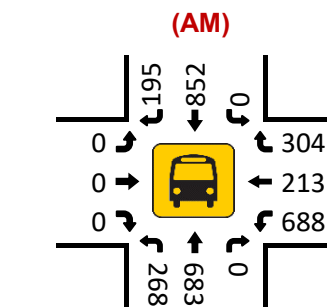
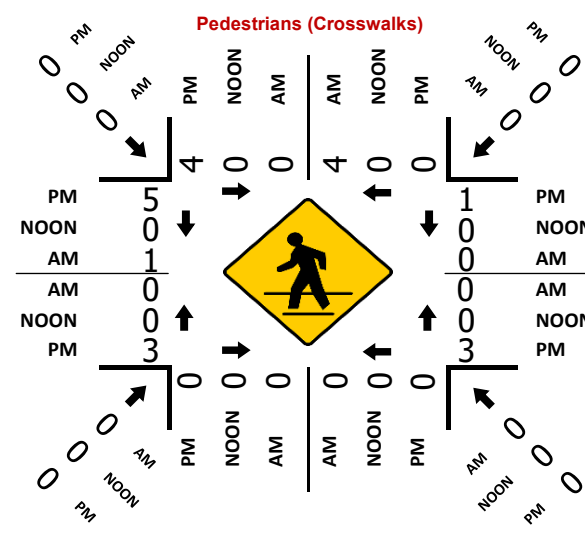
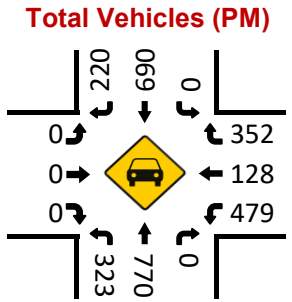
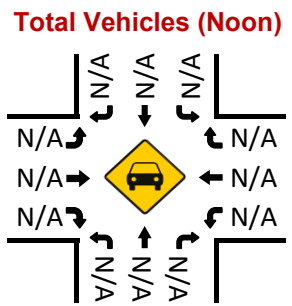
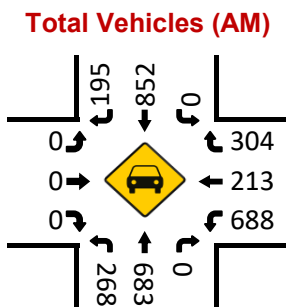
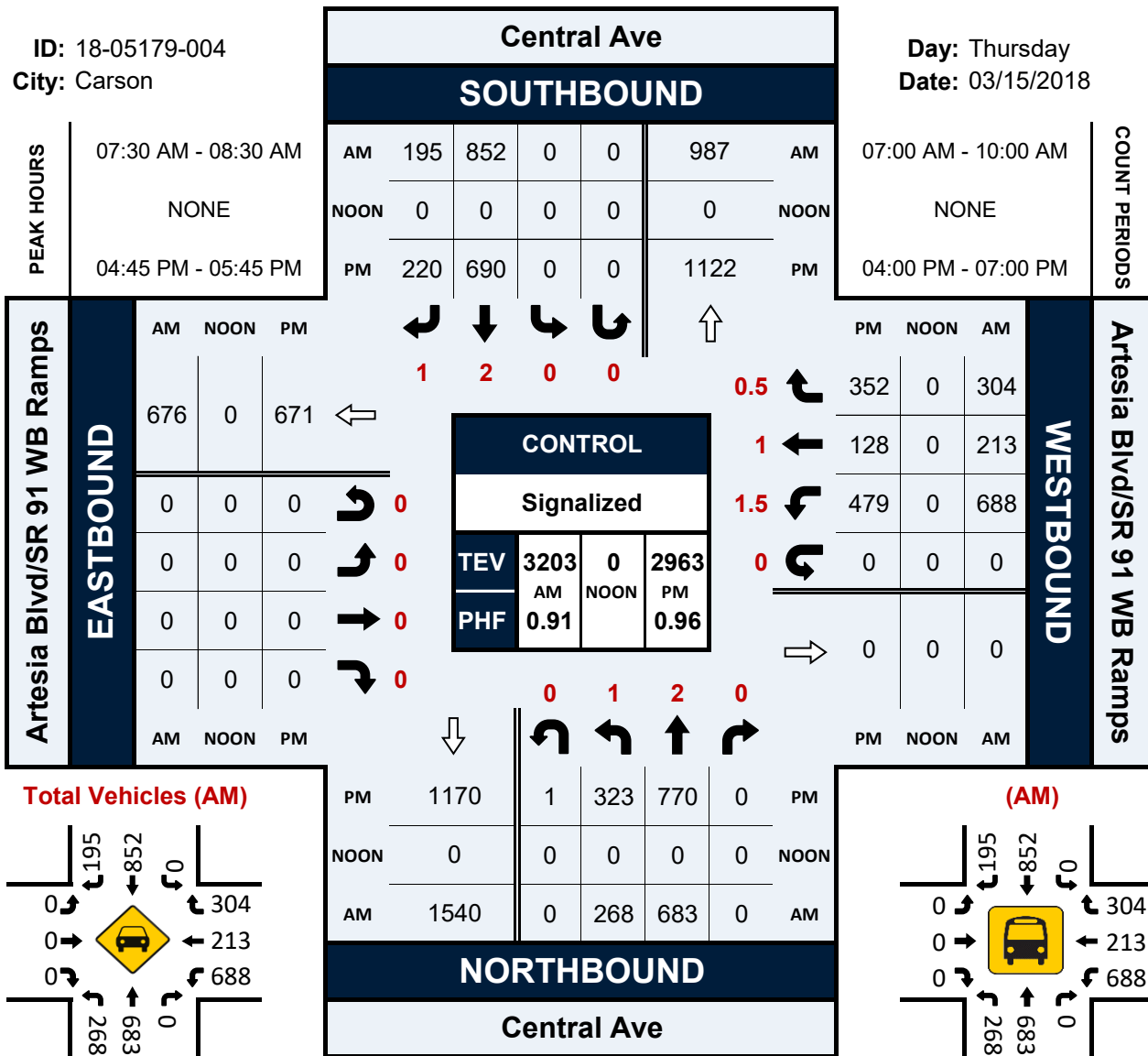


# Central Ave & Artesia Blvd/SR 91 WB Ramps

## Peak Hour Turning Movement Count

ID: 18-05179-004  
City: Carson

Day: Thursday  
Date: 03/15/2018

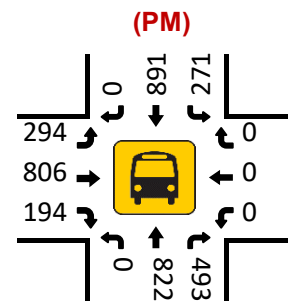
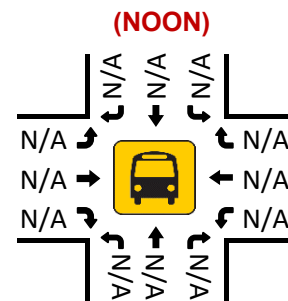
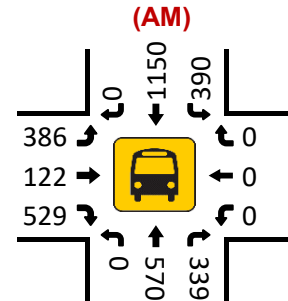
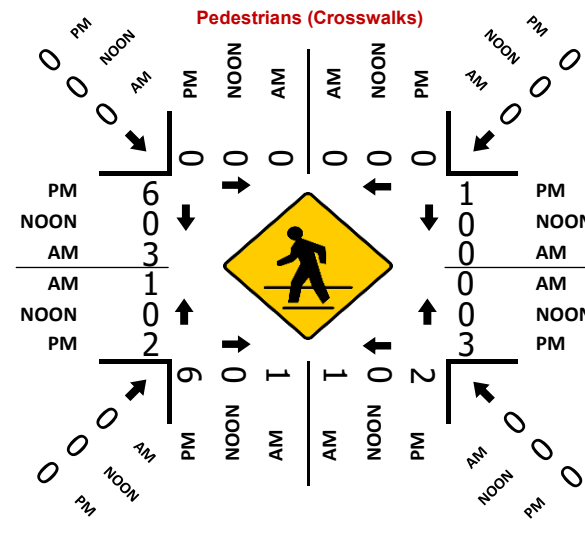
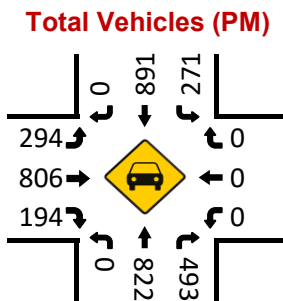
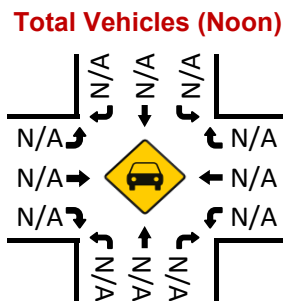
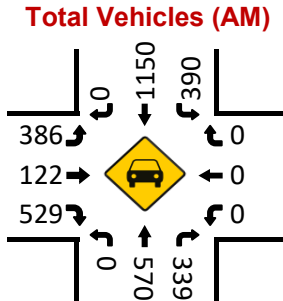
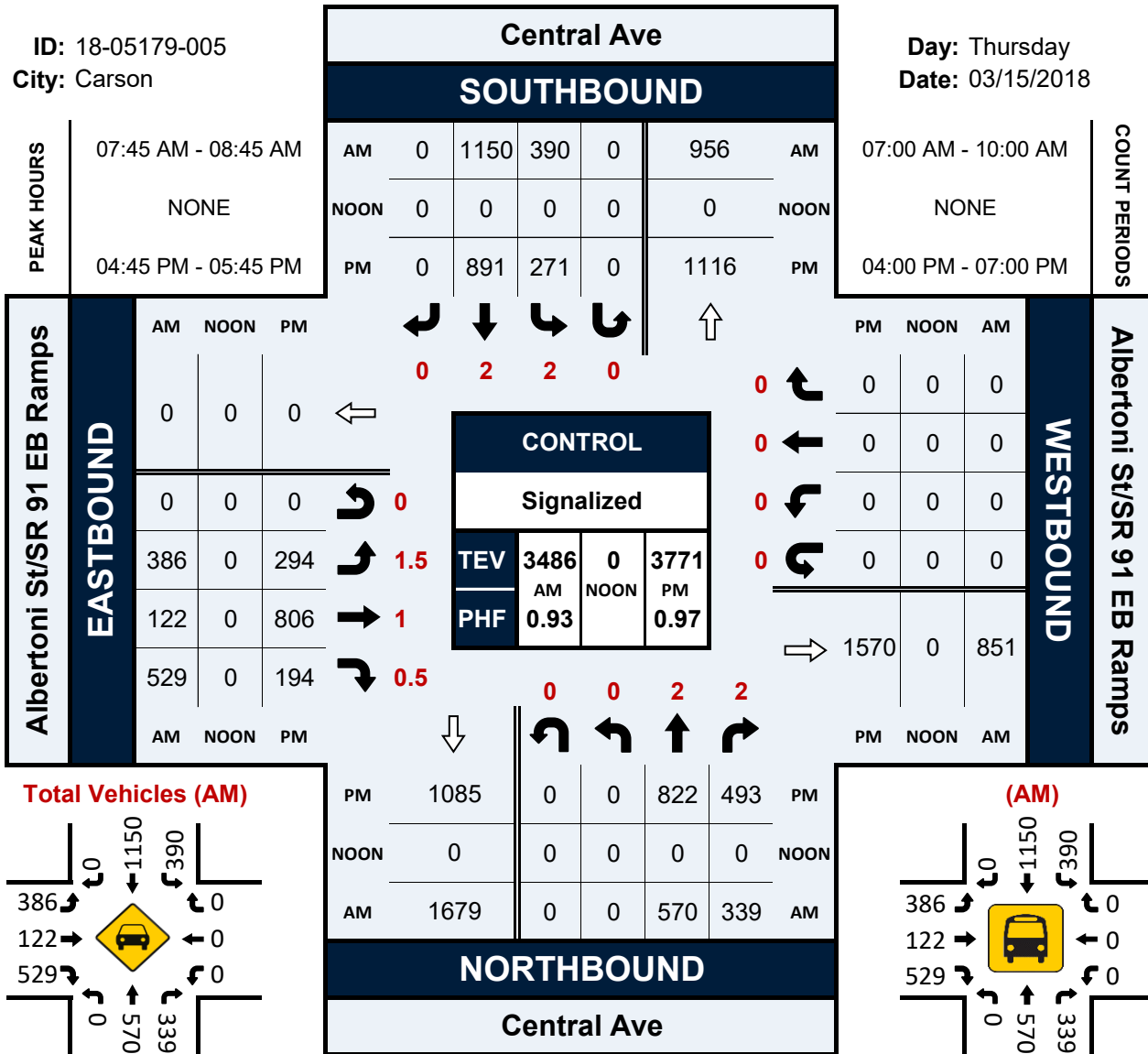


# Central Ave & Albertoni St/SR 91 EB Ramps

## Peak Hour Turning Movement Count

ID: 18-05179-005  
City: Carson

Day: Thursday  
Date: 03/15/2018

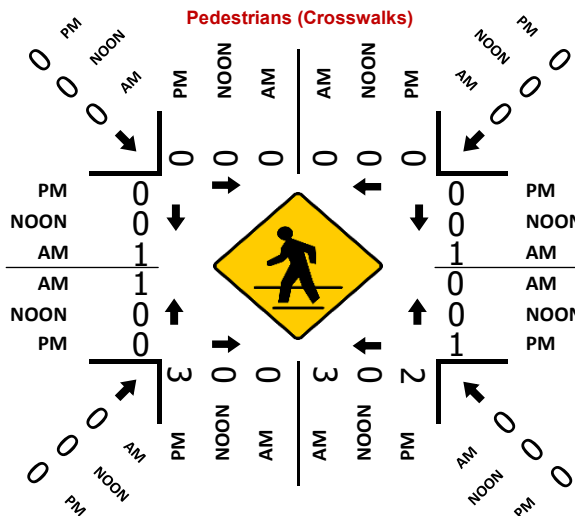
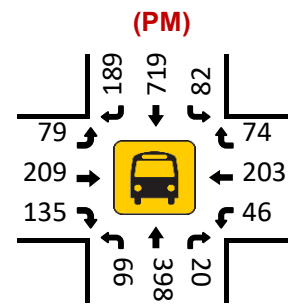
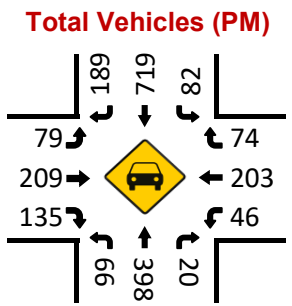
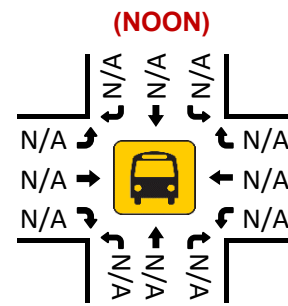
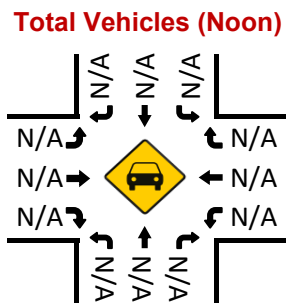
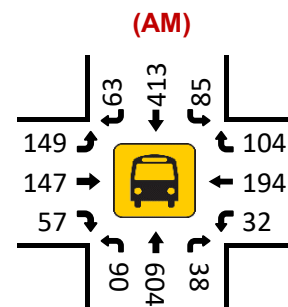
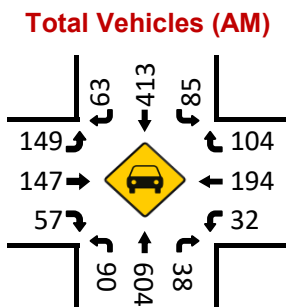
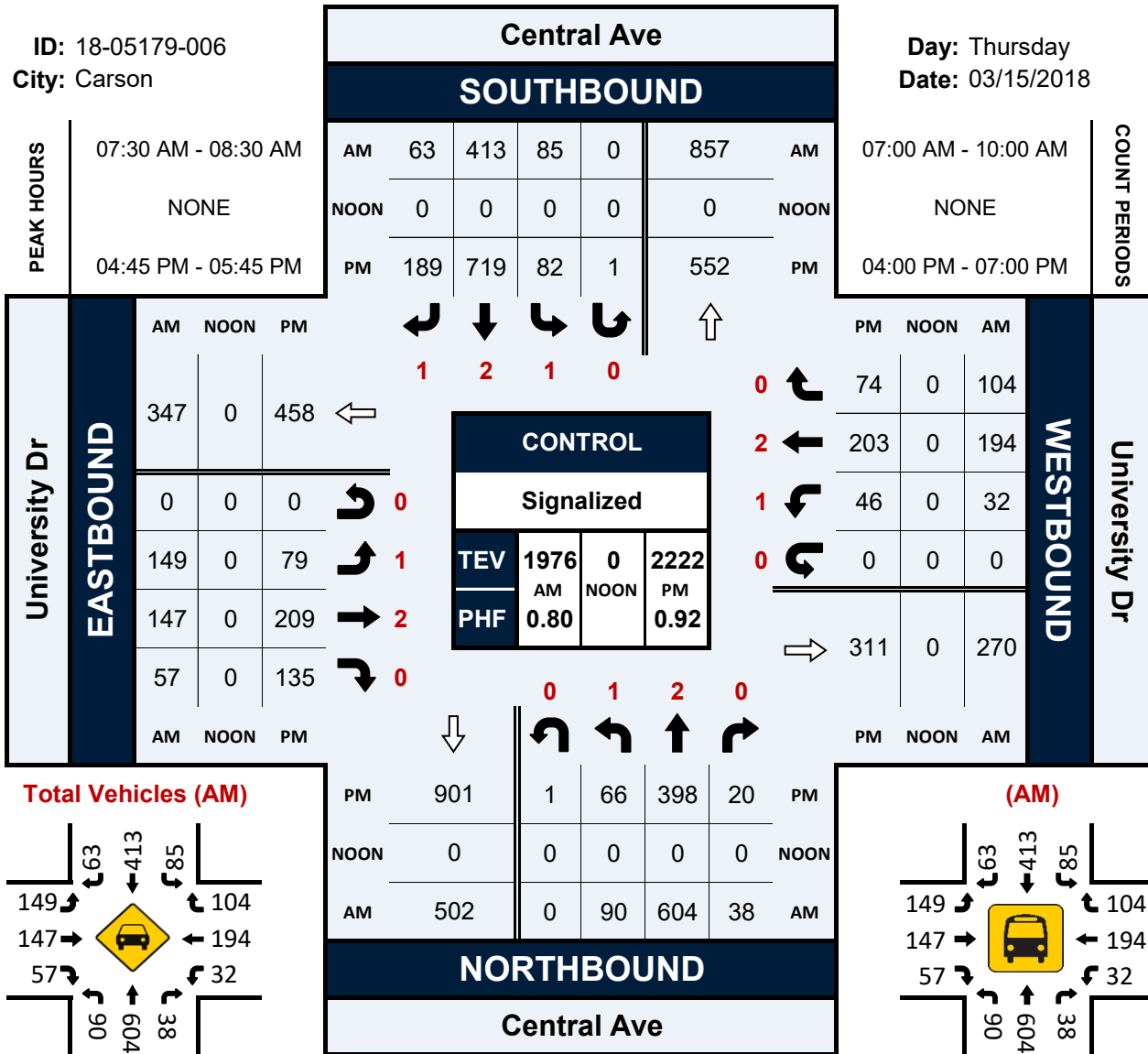


# Central Ave & University Dr

## Peak Hour Turning Movement Count

ID: 18-05179-006  
City: Carson

Day: Thursday  
Date: 03/15/2018

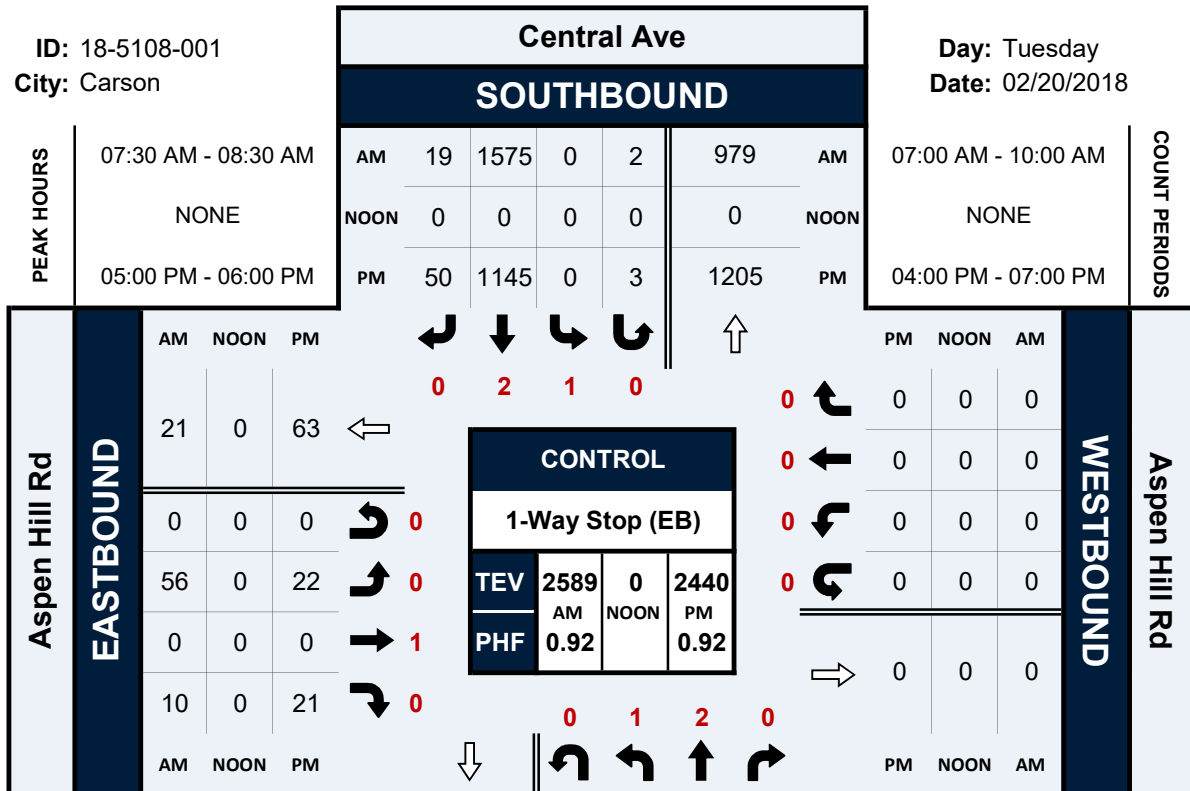


# Central Ave & Aspen Hill Rd

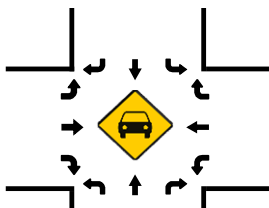
## Peak Hour Turning Movement Count

ID: 18-5108-001  
City: Carson

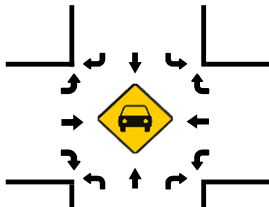
Day: Tuesday  
Date: 02/20/2018



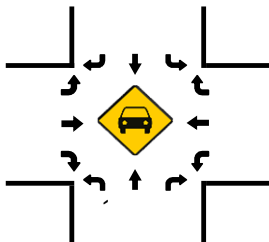
Total Vehicles (AM)



Total Vehicles (NOON)



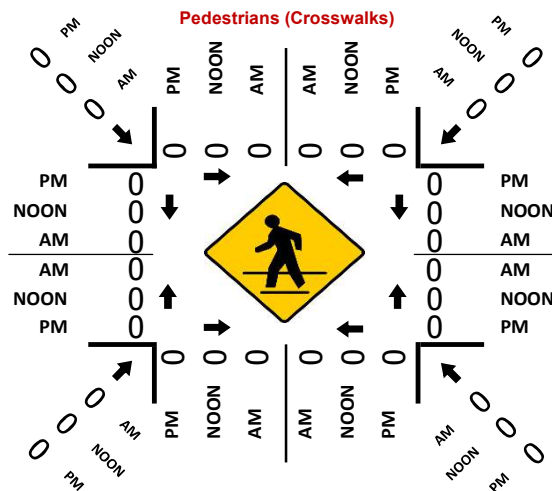
Total Vehicles (PM)



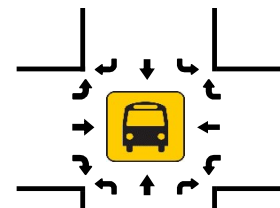
PM	1172	6	13	1180	0	PM
NOON	0	0	0	0	0	NOON
AM	1589	4	2	921	0	AM

### NORTHBOUND

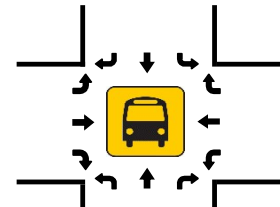
Central Ave



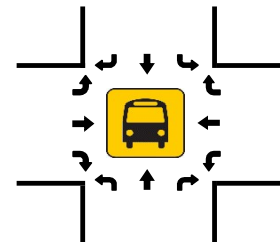
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)





**APPENDIX C:  
PROJECT LOS ANALYSIS SHEETS**

**Project Title:** Victoria Greens  
**Intersection:** 1 - Tamcliff Ave & E Victoria St  
**Description:** Existing

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	30	0	0.000	N-S(1):	0.007
	TH	1.00	1	1,600	0.026 *	N-S(2):	0.031 *
	LT	0.00	11	1,600	0.007	E-W(1):	0.147 *
Westbound	RT	0.00	5	0	0.000	E-W(2):	0.115
	TH	2.00	337	3,200	0.107	V/C:	0.178
	LT	1.00	81	1,600	0.051 *	Lost Time:	0.100
Northbound	RT	1.00	8	1,600	0.000	ITS:	0.000
	TH	0.00	0	0	0.000	ICU:	0.278
	LT	2.00	12	2,560	0.005 *	LOS:	A
Eastbound	RT	1.00	47	1,600	0.027		
	TH	2.00	308	3,200	0.096 *		
	LT	1.00	12	1,600	0.008		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	19	0	0.000	N-S(1):	0.058 *
	TH	1.00	1	1,600	0.024 *	N-S(2):	0.058 *
	LT	0.00	19	1,600	0.012	E-W(1):	0.261 *
Westbound	RT	0.00	21	0	0.000	E-W(2):	0.223
	TH	2.00	624	3,200	0.202	V/C:	0.319
	LT	1.00	20	1,600	0.013 *	Lost Time:	0.100
Northbound	RT	1.00	84	1,600	0.046	ITS:	0.000
	TH	0.00	0	0	0.000	ICU:	0.419
	LT	2.00	86	2,560	0.034 *	LOS:	A
Eastbound	RT	1.00	34	1,600	0.004		
	TH	2.00	794	3,200	0.248 *		
	LT	1.00	33	1,600	0.021		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 2 - S Central Ave & E Victoria St  
**Description:** Existing

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %  
 OLA Movements : SBR,  
 FF Movements:

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	222	1,600	0.110	N-S(1):	0.188 *
	TH	2.00	499	3,200	0.156	N-S(2):	0.185
	LT	2.00	226	2,560	0.088 *	E-W(1):	0.070
Westbound	RT	0.00	87	0	0.000	E-W(2):	0.106 *
	TH	2.00	160	3,200	0.077 *	V/C:	0.294
	LT	1.00	5	1,600	0.003	Lost Time:	0.100
Northbound	RT	1.00	14	1,600	0.007	ITS:	0.000
	TH	2.00	319	3,200	0.100 *	ICU:	0.394
	LT	1.00	47	1,600	0.029	LOS:	A
Eastbound	RT	0.00	67	0	0.000		
	TH	2.00	147	3,200	0.067		
	LT	2.00	73	2,560	0.029 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	148	1,600	0.000	N-S(1):	0.240
	TH	2.00	564	3,200	0.176 *	N-S(2):	0.254 *
	LT	2.00	176	2,560	0.069	E-W(1):	0.180
Westbound	RT	0.00	184	0	0.000	E-W(2):	0.280 *
	TH	2.00	338	3,200	0.163 *	V/C:	0.534
	LT	1.00	19	1,600	0.012	Lost Time:	0.100
Northbound	RT	1.00	26	1,600	0.010	ITS:	0.000
	TH	2.00	547	3,200	0.171	ICU:	0.634
	LT	1.00	124	1,600	0.078 *	LOS:	B
Eastbound	RT	0.00	113	0	0.000		
	TH	2.00	423	3,200	0.168		
	LT	2.00	300	2,560	0.117 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 3 - S Wilmington Ave & E Victoria St  
**Description:** Existing

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	178	0	0.000	N-S(1):	0.195
	TH	3.00	831	4,800	0.210 *	N-S(2):	0.267 *
	LT	1.00	173	1,600	0.108	E-W(1):	0.061
Westbound	RT	0.00	180	1,600	0.113 *	E-W(2):	0.130 *
	TH	2.00	95	1,600	0.059	V/C:	0.397
	LT	1.00	24	1,600	0.015	Lost Time:	0.100
Northbound	RT	0.00	35	0	0.000	ITS:	0.000
	TH	3.00	383	4,800	0.087	ICU:	0.497
	LT	1.00	91	1,600	0.057 *	LOS:	A
Eastbound	RT	1.00	45	1,600	0.000		
	TH	2.00	148	3,200	0.046		
	LT	2.00	49	2,880	0.017 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	96	0	0.000	N-S(1):	0.263 *
	TH	3.00	472	4,800	0.118	N-S(2):	0.177
	LT	1.00	101	1,600	0.063 *	E-W(1):	0.107
Westbound	RT	0.00	205	1,600	0.128 *	E-W(2):	0.230 *
	TH	2.00	178	1,600	0.111	V/C:	0.493
	LT	1.00	29	1,600	0.018	Lost Time:	0.100
Northbound	RT	0.00	22	0	0.000	ITS:	0.000
	TH	3.00	938	4,800	0.200 *	ICU:	0.593
	LT	1.00	95	1,600	0.059	LOS:	A
Eastbound	RT	1.00	113	1,600	0.041		
	TH	2.00	286	3,200	0.089		
	LT	2.00	294	2,880	0.102 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 4 - S Central Ave & E Artesia Blvd  
**Description:** Existing

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : Y  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	170	0	0.000	N-S(1):	0.144
	TH	3.00	601	4,800	0.161 *	N-S(2):	0.312 *
	LT	0.00	0	0	0.000	E-W(1):	0.225 *
Westbound	RT	0.00	296	0	0.000	E-W(2):	0.000
	TH	1.48	185	2,370	0.203	V/C:	0.537
	LT	1.52	493	2,187	0.225 *	Lost Time:	0.100
Northbound	RT	0.00	0	0	0.000	ITS:	0.000
	TH	2.00	462	3,200	0.144	ICU:	0.637
	LT	1.00	241	1,600	0.151 *	LOS:	B
Eastbound	RT	0.00	0	0	0.000		
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	192	0	0.000	N-S(1):	0.201
	TH	3.00	697	4,800	0.185 *	N-S(2):	0.374 *
	LT	0.00	0	0	0.000	E-W(1):	0.225 *
Westbound	RT	0.00	360	1,600	0.225 *	E-W(2):	0.000
	TH	1.54	123	861	0.143	V/C:	0.599
	LT	1.46	334	2,105	0.159	Lost Time:	0.100
Northbound	RT	0.00	0	0	0.000	ITS:	0.000
	TH	2.00	644	3,200	0.201	ICU:	0.699
	LT	1.00	303	1,600	0.189 *	LOS:	B
Eastbound	RT	0.00	0	0	0.000		
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 5 - S Central Ave & E Albertoni St  
**Description:** Existing

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : Y  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.255 *
	TH	2.00	701	3,200	0.219	N-S(2):	0.219
	LT	2.00	422	2,880	0.147 *	E-W(1):	0.273 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.000
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	V/C:	0.528
Northbound	RT	2.00	256	3,200	0.080	Lost Time:	0.100
	TH	2.00	344	3,200	0.108 *	ITS:	0.000
	LT	0.00	0	0	0.000		
Eastbound	RT	0.00	436	1,600	0.273 *	ICU:	0.628
	TH	1.57	131	915	0.143		
	LT	1.43	327	2,056	0.159	LOS:	B

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.338 *
	TH	2.00	704	3,200	0.220	N-S(2):	0.220
	LT	2.00	337	2,880	0.117 *	E-W(1):	0.252 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.000
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	V/C:	0.590
Northbound	RT	2.00	476	3,200	0.149	Lost Time:	0.100
	TH	2.00	707	3,200	0.221 *	ITS:	0.000
	LT	0.00	0	0	0.000		
Eastbound	RT	0.00	236	0	0.000	ICU:	0.690
	TH	2.00	571	3,200	0.252 *		
	LT	1.00	228	1,600	0.143	LOS:	B

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 6 - S Central Ave & E University Dr  
**Description:** Existing

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	46	1,600	0.000	N-S(1):	0.132 *
	TH	2.00	205	3,200	0.064	N-S(2):	0.089
	LT	1.00	43	1,600	0.027 *	E-W(1):	0.042
Westbound	RT	0.00	42	0	0.000	E-W(2):	0.104 *
	TH	2.00	89	3,200	0.041 *	V/C:	0.236
	LT	1.00	10	1,600	0.006	Lost Time:	0.100
Northbound	RT	0.00	16	0	0.000	ITS:	0.000
	TH	2.00	319	3,200	0.105 *	ICU:	0.336
	LT	1.00	40	1,600	0.025	LOS:	A
Eastbound	RT	0.00	13	0	0.000		
	TH	2.00	101	3,200	0.036		
	LT	1.00	100	1,600	0.063 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	158	1,600	0.074	N-S(1):	0.159
	TH	2.00	540	3,200	0.169 *	N-S(2):	0.208 *
	LT	1.00	67	1,600	0.042	E-W(1):	0.092
Westbound	RT	0.00	47	0	0.000	E-W(2):	0.121 *
	TH	2.00	181	3,200	0.071 *	V/C:	0.329
	LT	1.00	23	1,600	0.014	Lost Time:	0.100
Northbound	RT	0.00	20	0	0.000	ITS:	0.000
	TH	2.00	354	3,200	0.117	ICU:	0.429
	LT	1.00	62	1,600	0.039 *	LOS:	A
Eastbound	RT	0.00	95	0	0.000		
	TH	2.00	153	3,200	0.078		
	LT	1.00	80	1,600	0.050 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 1 - Tamcliff Ave & E Victoria St  
**Description:** Existing + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	28	0	0.000	N-S(1):	0.040
	TH	1.00	3	1,600	0.035 *	N-S(2):	0.065 *
	LT	0.00	25	1,600	0.016	E-W(1):	0.275 *
Westbound	RT	0.00	23	0	0.000	E-W(2):	0.146
	TH	2.00	420	3,200	0.138	V/C:	0.340
	LT	1.00	217	1,600	0.136 *	Lost Time:	0.100
Northbound	RT	1.00	30	1,600	0.000	ITS:	0.000
	TH	0.10	4	166	0.024	ICU:	0.440
	LT	1.90	73	2,427	0.030 *	LOS:	A
Eastbound	RT	1.00	175	1,600	0.094		
	TH	2.00	446	3,200	0.139 *		
	LT	1.00	13	1,600	0.008		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	15	0	0.000	N-S(1):	0.093
	TH	1.00	5	1,600	0.023 *	N-S(2):	0.098 *
	LT	0.00	17	1,600	0.011	E-W(1):	0.332 *
Westbound	RT	0.00	35	0	0.000	E-W(2):	0.238
	TH	2.00	676	3,200	0.222	V/C:	0.430
	LT	1.00	76	1,600	0.048 *	Lost Time:	0.100
Northbound	RT	1.00	169	1,600	0.082	ITS:	0.000
	TH	0.04	4	66	0.060	ICU:	0.530
	LT	1.96	189	2,507	0.075 *	LOS:	A
Eastbound	RT	1.00	125	1,600	0.040		
	TH	2.00	910	3,200	0.284 *		
	LT	1.00	25	1,600	0.016		

\* - Denotes critical movement



**Project Title:** Victoria Greens  
**Intersection:** 2 - S Central Ave & E Victoria St  
**Description:** Existing + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %  
 OLA Movements : SBR,  
 FF Movements:

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	577	1,600	0.289 *	N-S(1): 0.255
	TH	2.00	728	3,200	0.228	N-S(2): 0.331 *
	LT	2.00	221	2,560	0.086	E-W(1): 0.077
Westbound	RT	0.00	100	0	0.000	E-W(2): 0.169 *
	TH	2.00	214	3,200	0.098 *	V/C: 0.500
	LT	1.00	17	1,600	0.011	Lost Time: 0.100
Northbound	RT	1.00	27	1,600	0.012	ITS: 0.000
	TH	2.00	542	3,200	0.169	ICU: 0.600
	LT	1.00	67	1,600	0.042 *	LOS: A
Eastbound	RT	0.00	74	0	0.000	
	TH	2.00	138	3,200	0.066	
	LT	2.00	183	2,560	0.071 *	

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	271	1,600	0.000	N-S(1): 0.243
	TH	2.00	666	3,200	0.208 *	N-S(2): 0.289 *
	LT	2.00	146	2,560	0.057	E-W(1): 0.248
Westbound	RT	0.00	198	0	0.000	E-W(2): 0.322 *
	TH	2.00	283	3,200	0.150 *	V/C: 0.611
	LT	1.00	24	1,600	0.015	Lost Time: 0.100
Northbound	RT	1.00	35	1,600	0.014	ITS: 0.000
	TH	2.00	595	3,200	0.186	ICU: 0.711
	LT	1.00	129	1,600	0.081 *	LOS: C
Eastbound	RT	0.00	163	0	0.000	
	TH	2.00	582	3,200	0.233	
	LT	2.00	441	2,560	0.172 *	

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 3 - S Wilmington Ave & E Victoria St  
**Description:** Existing + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	178	0	0.000	N-S(1):	0.225
	TH	3.00	957	4,800	0.236 *	N-S(2):	0.282 *
	LT	1.00	172	1,600	0.108	E-W(1):	0.060
Westbound	RT	0.00	213	1,600	0.133 *	E-W(2):	0.158 *
	TH	2.00	144	1,600	0.090	V/C:	0.440
	LT	1.00	29	1,600	0.018	Lost Time:	0.100
Northbound	RT	0.00	25	0	0.000	ITS:	0.000
	TH	3.00	536	4,800	0.117	ICU:	0.540
	LT	1.00	73	1,600	0.046 *	LOS:	A
Eastbound	RT	1.00	56	1,600	0.012		
	TH	2.00	135	3,200	0.042		
	LT	2.00	72	2,880	0.025 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	117	0	0.000	N-S(1):	0.266 *
	TH	3.00	492	4,800	0.127	N-S(2):	0.185
	LT	1.00	108	1,600	0.068 *	E-W(1):	0.142
Westbound	RT	0.00	227	1,600	0.142 *	E-W(2):	0.248 *
	TH	2.00	143	1,600	0.089	V/C:	0.514
	LT	1.00	46	1,600	0.029	Lost Time:	0.100
Northbound	RT	0.00	33	0	0.000	ITS:	0.000
	TH	3.00	918	4,800	0.198 *	ICU:	0.614
	LT	1.00	92	1,600	0.058	LOS:	B
Eastbound	RT	1.00	117	1,600	0.044		
	TH	2.00	360	3,200	0.113		
	LT	2.00	304	2,880	0.106 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 4 - S Central Ave & E Artesia Blvd  
**Description:** Existing + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : Y  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	195	0	0.000	N-S(1):	0.215
	TH	3.00	854	4,800	0.219 *	N-S(2):	0.397 *
	LT	0.00	0	0	0.000	E-W(1):	0.279 *
Westbound	RT	0.00	304	0	0.000	E-W(2):	0.000
	TH	1.29	213	2,056	0.251	V/C:	0.676
	LT	1.71	690	2,470	0.279 *	Lost Time:	0.100
Northbound	RT	0.00	0	0	0.000	ITS:	0.000
	TH	2.00	689	3,200	0.215	ICU:	0.776
	LT	1.00	285	1,600	0.178 *	LOS:	C
Eastbound	RT	0.00	0	0	0.000		
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	220	0	0.000	N-S(1):	0.242
	TH	3.00	696	4,800	0.191 *	N-S(2):	0.400 *
	LT	0.00	0	0	0.000	E-W(1):	0.220 *
Westbound	RT	0.00	352	1,600	0.220 *	E-W(2):	0.000
	TH	1.42	128	667	0.192	V/C:	0.620
	LT	1.58	486	2,280	0.213	Lost Time:	0.100
Northbound	RT	0.00	0	0	0.000	ITS:	0.000
	TH	2.00	774	3,200	0.242	ICU:	0.720
	LT	1.00	334	1,600	0.209 *	LOS:	C
Eastbound	RT	0.00	0	0	0.000		
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 5 - S Central Ave & E Albertoni St  
**Description:** Existing + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : Y  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.320
	TH	2.00	1,154	3,200	0.361 *	N-S(2): 0.361 *
	LT	2.00	390	2,880	0.135	E-W(1): 0.334 *
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.000
	TH	0.00	0	0	0.000	V/C: 0.695
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	2.00	346	3,200	0.108	ITS: 0.000
	TH	2.00	593	3,200	0.185	ICU: 0.795
	LT	0.00	0	0	0.000 *	LOS: C
Eastbound	RT	0.00	534	1,600	0.334 *	
	TH	1.48	122	769	0.159	
	LT	1.52	386	2,188	0.176	

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.355 *
	TH	2.00	905	3,200	0.283	N-S(2): 0.283
	LT	2.00	271	2,880	0.094 *	E-W(1): 0.318 *
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.000
	TH	0.00	0	0	0.000	V/C: 0.673
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	2.00	497	3,200	0.155	ITS: 0.000
	TH	2.00	835	3,200	0.261 *	ICU: 0.773
	LT	0.00	0	0	0.000	LOS: C
Eastbound	RT	0.00	211	0	0.000	
	TH	2.00	806	3,200	0.318 *	
	LT	1.00	294	1,600	0.184	

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 6 - S Central Ave & E University Dr  
**Description:** Existing + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	64	1,600	0.000	N-S(1): 0.255 * N-S(2): 0.186 E-W(1): 0.084 E-W(2): 0.186 *
	TH	2.00	416	3,200	0.130	
	LT	1.00	87	1,600	0.054 *	
Westbound	RT	0.00	105	0	0.000	V/C: 0.441 Lost Time: 0.100 ITS: 0.000
	TH	2.00	194	3,200	0.093 *	
	LT	1.00	32	1,600	0.020	
Northbound	RT	0.00	38	0	0.000	ICU: 0.541
	TH	2.00	605	3,200	0.201 *	
	LT	1.00	90	1,600	0.056	
Eastbound	RT	0.00	57	0	0.000	LOS: A
	TH	2.00	147	3,200	0.064	
	LT	1.00	149	1,600	0.093 *	

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	189	1,600	0.093	N-S(1): 0.185 N-S(2): 0.267 * E-W(1): 0.137 * E-W(2): 0.137 *
	TH	2.00	721	3,200	0.225 *	
	LT	1.00	84	1,600	0.053	
Westbound	RT	0.00	76	0	0.000	V/C: 0.404 Lost Time: 0.100 ITS: 0.000
	TH	2.00	203	3,200	0.087 *	
	LT	1.00	46	1,600	0.029 *	
Northbound	RT	0.00	20	0	0.000	ICU: 0.504
	TH	2.00	401	3,200	0.132	
	LT	1.00	67	1,600	0.042 *	
Eastbound	RT	0.00	135	0	0.000	LOS: A
	TH	2.00	209	3,200	0.108 *	
	LT	1.00	80	1,600	0.050 *	

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 1 - Tamcliff Ave & E Victoria St  
**Description:** Future Base

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	28	0	0.000	N-S(1):	0.040
	TH	1.00	3	1,600	0.035 *	N-S(2):	0.065 *
	LT	0.00	25	1,600	0.016	E-W(1):	0.347 *
Westbound	RT	0.00	23	0	0.000	E-W(2):	0.200
	TH	2.00	591	3,200	0.192	V/C:	0.412
	LT	1.00	234	1,600	0.146 *	Lost Time:	0.100
Northbound	RT	1.00	40	1,600	0.000	ITS:	0.000
	TH	0.10	4	164	0.024	ICU:	0.512
	LT	1.90	74	2,429	0.030 *	LOS:	A
Eastbound	RT	1.00	183	1,600	0.099		
	TH	2.00	644	3,200	0.201 *		
	LT	1.00	13	1,600	0.008		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	15	0	0.000	N-S(1):	0.101
	TH	1.00	5	1,600	0.023 *	N-S(2):	0.105 *
	LT	0.00	17	1,600	0.011	E-W(1):	0.399 *
Westbound	RT	0.00	40	0	0.000	E-W(2):	0.305
	TH	2.00	884	3,200	0.289	V/C:	0.504
	LT	1.00	90	1,600	0.056 *	Lost Time:	0.100
Northbound	RT	1.00	189	1,600	0.090	ITS:	0.000
	TH	0.04	4	61	0.066	ICU:	0.604
	LT	1.96	206	2,511	0.082 *	LOS:	B
Eastbound	RT	1.00	136	1,600	0.044		
	TH	2.00	1,097	3,200	0.343 *		
	LT	1.00	25	1,600	0.016		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 2 - S Central Ave & E Victoria St  
**Description:** Future Base

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %  
 OLA Movements : SBR,  
 FF Movements:

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	666	1,600	0.322 *	N-S(1):	0.287
	TH	2.00	961	3,200	0.300	N-S(2):	0.375 *
	LT	2.00	228	2,560	0.089	E-W(1):	0.150
Westbound	RT	0.00	119	0	0.000	E-W(2):	0.195 *
	TH	2.00	204	3,200	0.101 *	V/C:	0.570
	LT	1.00	15	1,600	0.009	Lost Time:	0.100
Northbound	RT	1.00	27	1,600	0.012	ITS:	0.000
	TH	2.00	632	3,200	0.198	ICU:	0.670
	LT	1.00	84	1,600	0.053 *	LOS:	B
Eastbound	RT	0.00	226	1,600	0.141		
	TH	2.00	149	1,600	0.093		
	LT	2.00	241	2,560	0.094 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	415	1,600	0.066	N-S(1):	0.319
	TH	2.00	804	3,200	0.251 *	N-S(2):	0.360 *
	LT	2.00	156	2,560	0.061	E-W(1):	0.276
Westbound	RT	0.00	213	0	0.000	E-W(2):	0.350 *
	TH	2.00	290	3,200	0.157 *	V/C:	0.710
	LT	1.00	20	1,600	0.013	Lost Time:	0.100
Northbound	RT	1.00	40	1,600	0.019	ITS:	0.000
	TH	2.00	825	3,200	0.258	ICU:	0.810
	LT	1.00	175	1,600	0.109 *	LOS:	D
Eastbound	RT	0.00	235	0	0.000		
	TH	2.00	605	3,200	0.263		
	LT	2.00	494	2,560	0.193 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 3 - S Wilmington Ave & E Victoria St  
**Description:** Future Base

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	185	0	0.000	N-S(1):	0.231
	TH	3.00	984	4,800	0.244 *	N-S(2):	0.297 *
	LT	1.00	177	1,600	0.111	E-W(1):	0.062
Westbound	RT	0.00	221	1,600	0.138 *	E-W(2):	0.163 *
	TH	2.00	152	1,600	0.095	V/C:	0.460
	LT	1.00	29	1,600	0.018	Lost Time:	0.100
Northbound	RT	0.00	25	0	0.000	ITS:	0.000
	TH	3.00	551	4,800	0.120	ICU:	0.560
	LT	1.00	84	1,600	0.053 *	LOS:	A
Eastbound	RT	1.00	59	1,600	0.011		
	TH	2.00	140	3,200	0.044		
	LT	2.00	73	2,880	0.025 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	122	0	0.000	N-S(1):	0.275 *
	TH	3.00	503	4,800	0.130	N-S(2):	0.195
	LT	1.00	116	1,600	0.073 *	E-W(1):	0.147
Westbound	RT	0.00	234	1,600	0.146 *	E-W(2):	0.253 *
	TH	2.00	144	1,600	0.090	V/C:	0.528
	LT	1.00	51	1,600	0.032	Lost Time:	0.100
Northbound	RT	0.00	33	0	0.000	ITS:	0.000
	TH	3.00	936	4,800	0.202 *	ICU:	0.628
	LT	1.00	104	1,600	0.065	LOS:	B
Eastbound	RT	1.00	118	1,600	0.041		
	TH	2.00	368	3,200	0.115		
	LT	2.00	307	2,880	0.107 *		

\* - Denotes critical movement



**Project Title:** Victoria Greens  
**Intersection:** 4 - S Central Ave & E Artesia Blvd  
**Description:** Future Base

Thru Lane: 1600 vph  
Left Lane: 1600 vph  
Double Lt Penalty: 10 %  
ITS: 0 %

N-S Split Phase : N  
E-W Split Phase : Y  
Lost Time (% of cycle) : 10  
V/C Round Off (decs.) : 3

OLA Movements :  
FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	198	0	0.000	N-S(1): 0.230
	TH	3.00	914	4,800	0.232 *	N-S(2): 0.450 *
	LT	0.00	0	0	0.000	E-W(1): 0.318 *
Westbound	RT	0.00	314	0	0.000	E-W(2): 0.000
	TH	1.16	216	1,852	0.286	V/C: 0.768
	LT	1.84	844	2,654	0.318 *	Lost Time: 0.100
Northbound	RT	0.00	0	0	0.000	ITS: 0.000
	TH	2.00	735	3,200	0.230	ICU: 0.868
	LT	1.00	349	1,600	0.218 *	LOS: D
Eastbound	RT	0.00	0	0	0.000	
	TH	0.00	0	0	0.000	
	LT	0.00	0	0	0.000 *	

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	222	0	0.000	N-S(1): 0.260
	TH	3.00	748	4,800	0.202 *	N-S(2): 0.512 *
	LT	0.00	0	0	0.000	E-W(1): 0.252 *
Westbound	RT	0.00	361	0	0.000	E-W(2): 0.000
	TH	1.35	129	2,160	0.227	V/C: 0.764
	LT	1.65	599	2,376	0.252 *	Lost Time: 0.100
Northbound	RT	0.00	0	0	0.000	ITS: 0.000
	TH	2.00	833	3,200	0.260	ICU: 0.864
	LT	1.00	496	1,600	0.310 *	LOS: D
Eastbound	RT	0.00	0	0	0.000	
	TH	0.00	0	0	0.000	
	LT	0.00	0	0	0.000 *	

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 5 - S Central Ave & E Albertoni St  
**Description:** Future Base

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : Y  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.357
	TH	2.00	1,362	3,200	0.426 *	N-S(2): 0.426 *
	LT	2.00	401	2,880	0.139	E-W(1): 0.449 *
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.000
	TH	0.00	0	0	0.000	V/C: 0.875
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	2.00	441	3,200	0.138	ITS: 0.000
	TH	2.00	698	3,200	0.218	ICU: 0.975
	LT	0.00	0	0	0.000 *	LOS: E
Eastbound	RT	0.00	718	1,600	0.449 *	
	TH	2.00	124	1,600	0.078	
	LT	1.00	392	1,600	0.245	

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.423 *
	TH	2.00	1,066	3,200	0.333	N-S(2): 0.333
	LT	2.00	274	2,880	0.095 *	E-W(1): 0.372 *
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.000
	TH	0.00	0	0	0.000	V/C: 0.795
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	2.00	651	3,200	0.203	ITS: 0.000
	TH	2.00	1,049	3,200	0.328 *	ICU: 0.895
	LT	0.00	0	0	0.000	LOS: D
Eastbound	RT	0.00	376	0	0.000	
	TH	2.00	814	3,200	0.372 *	
	LT	1.00	297	1,600	0.186	

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 6 - S Central Ave & E University Dr  
**Description:** Future Base

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	89	1,600	0.003	N-S(1):	0.297 *
	TH	2.00	479	3,200	0.150	N-S(2):	0.211
	LT	1.00	114	1,600	0.071 *	E-W(1):	0.088
Westbound	RT	0.00	194	0	0.000	E-W(2):	0.227 *
	TH	2.00	200	3,200	0.123 *	V/C:	0.524
	LT	1.00	32	1,600	0.020	Lost Time:	0.100
Northbound	RT	0.00	39	0	0.000	ITS:	0.000
	TH	2.00	684	3,200	0.226 *	ICU:	0.624
	LT	1.00	97	1,600	0.061	LOS:	B
Eastbound	RT	0.00	61	0	0.000		
	TH	2.00	158	3,200	0.068		
	LT	1.00	167	1,600	0.104 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	257	1,600	0.120	N-S(1):	0.242
	TH	2.00	829	3,200	0.259 *	N-S(2):	0.312 *
	LT	1.00	156	1,600	0.098	E-W(1):	0.147
Westbound	RT	0.00	127	0	0.000	E-W(2):	0.188 *
	TH	2.00	215	3,200	0.107 *	V/C:	0.500
	LT	1.00	46	1,600	0.029	Lost Time:	0.100
Northbound	RT	0.00	20	0	0.000	ITS:	0.000
	TH	2.00	441	3,200	0.144	ICU:	0.600
	LT	1.00	85	1,600	0.053 *	LOS:	A
Eastbound	RT	0.00	155	0	0.000		
	TH	2.00	221	3,200	0.118		
	LT	1.00	129	1,600	0.081 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 1 - Tamcliff Ave & E Victoria St  
**Description:** Future + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	28	0	0.000	N-S(1):	0.040
	TH	1.00	3	1,600	0.035 *	N-S(2):	0.065 *
	LT	0.00	25	1,600	0.016	E-W(1):	0.350 *
Westbound	RT	0.00	23	0	0.000	E-W(2):	0.205
	TH	2.00	608	3,200	0.197	V/C:	0.415
	LT	1.00	235	1,600	0.147 *	Lost Time:	0.100
Northbound	RT	1.00	40	1,600	0.000	ITS:	0.000
	TH	0.10	4	164	0.024	ICU:	0.515
	LT	1.90	74	2,429	0.030 *	LOS:	A
Eastbound	RT	1.00	183	1,600	0.099		
	TH	2.00	649	3,200	0.203 *		
	LT	1.00	13	1,600	0.008		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	15	0	0.000	N-S(1):	0.101
	TH	1.00	5	1,600	0.023 *	N-S(2):	0.105 *
	LT	0.00	17	1,600	0.011	E-W(1):	0.405 *
Westbound	RT	0.00	40	0	0.000	E-W(2):	0.308
	TH	2.00	894	3,200	0.292	V/C:	0.510
	LT	1.00	91	1,600	0.057 *	Lost Time:	0.100
Northbound	RT	1.00	190	1,600	0.090	ITS:	0.000
	TH	0.04	4	61	0.066	ICU:	0.610
	LT	1.96	206	2,511	0.082 *	LOS:	B
Eastbound	RT	1.00	136	1,600	0.044		
	TH	2.00	1,114	3,200	0.348 *		
	LT	1.00	25	1,600	0.016		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 2 - S Central Ave & E Victoria St  
**Description:** Future + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %  
 OLA Movements : SBR,  
 FF Movements:

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	666	1,600	0.320 *	N-S(1): 0.287
	TH	2.00	961	3,200	0.300	N-S(2): 0.373 *
	LT	2.00	228	2,560	0.089	E-W(1): 0.155
Westbound	RT	0.00	121	0	0.000	E-W(2): 0.204 *
	TH	2.00	223	3,200	0.108 *	V/C: 0.577
	LT	1.00	22	1,600	0.014	Lost Time: 0.100
Northbound	RT	1.00	27	1,600	0.010	ITS: 0.000
	TH	2.00	634	3,200	0.198	ICU: 0.677
	LT	1.00	84	1,600	0.053 *	LOS: B
Eastbound	RT	0.00	226	1,600	0.141	
	TH	2.00	149	1,600	0.093	
	LT	2.00	247	2,560	0.096 *	

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	415	1,600	0.059	N-S(1): 0.321
	TH	2.00	804	3,200	0.251 *	N-S(2): 0.360 *
	LT	2.00	156	2,560	0.061	E-W(1): 0.278
Westbound	RT	0.00	218	0	0.000	E-W(2): 0.362 *
	TH	2.00	301	3,200	0.162 *	V/C: 0.722
	LT	1.00	24	1,600	0.015	Lost Time: 0.100
Northbound	RT	1.00	40	1,600	0.018	ITS: 0.000
	TH	2.00	832	3,200	0.260	ICU: 0.822
	LT	1.00	175	1,600	0.109 *	LOS: D
Eastbound	RT	0.00	235	0	0.000	
	TH	2.00	605	3,200	0.263	
	LT	2.00	513	2,560	0.200 *	

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 3 - S Wilmington Ave & E Victoria St  
**Description:** Future + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	185	0	0.000	N-S(1):	0.231
	TH	3.00	984	4,800	0.244 *	N-S(2):	0.297 *
	LT	1.00	177	1,600	0.111	E-W(1):	0.062
Westbound	RT	0.00	221	1,600	0.138 *	E-W(2):	0.163 *
	TH	2.00	153	1,600	0.096	V/C:	0.460
	LT	1.00	29	1,600	0.018	Lost Time:	0.100
Northbound	RT	0.00	25	0	0.000	ITS:	0.000
	TH	3.00	551	4,800	0.120	ICU:	0.560
	LT	1.00	85	1,600	0.053 *	LOS:	A
Eastbound	RT	1.00	62	1,600	0.012		
	TH	2.00	142	3,200	0.044		
	LT	2.00	73	2,880	0.025 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	122	0	0.000	N-S(1):	0.275 *
	TH	3.00	503	4,800	0.130	N-S(2):	0.197
	LT	1.00	116	1,600	0.073 *	E-W(1):	0.147
Westbound	RT	0.00	234	1,600	0.146 *	E-W(2):	0.253 *
	TH	2.00	146	1,600	0.091	V/C:	0.528
	LT	1.00	51	1,600	0.032	Lost Time:	0.100
Northbound	RT	0.00	33	0	0.000	ITS:	0.000
	TH	3.00	936	4,800	0.202 *	ICU:	0.628
	LT	1.00	107	1,600	0.067	LOS:	B
Eastbound	RT	1.00	120	1,600	0.042		
	TH	2.00	369	3,200	0.115		
	LT	2.00	307	2,880	0.107 *		

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 4 - S Central Ave & E Artesia Blvd  
**Description:** Future + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : Y  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	198	0	0.000	N-S(1): 0.232
	TH	3.00	916	4,800	0.232 *	N-S(2): 0.461 *
	LT	0.00	0	0	0.000	E-W(1): 0.319 *
Westbound	RT	0.00	314	0	0.000	E-W(2): 0.000
	TH	1.16	216	1,849	0.287	V/C: 0.780
	LT	1.84	846	2,656	0.319 *	Lost Time: 0.100
Northbound	RT	0.00	0	0	0.000	ITS: 0.000
	TH	2.00	741	3,200	0.232	ICU: 0.880
	LT	1.00	366	1,600	0.229 *	LOS: D
Eastbound	RT	0.00	0	0	0.000	
	TH	0.00	0	0	0.000	
	LT	0.00	0	0	0.000 *	

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	222	0	0.000	N-S(1): 0.262
	TH	3.00	754	4,800	0.203 *	N-S(2): 0.519 *
	LT	0.00	0	0	0.000	E-W(1): 0.254 *
Westbound	RT	0.00	361	0	0.000	E-W(2): 0.000
	TH	1.34	129	2,146	0.228	V/C: 0.773
	LT	1.66	606	2,389	0.254 *	Lost Time: 0.100
Northbound	RT	0.00	0	0	0.000	ITS: 0.000
	TH	2.00	837	3,200	0.262	ICU: 0.873
	LT	1.00	506	1,600	0.316 *	LOS: D
Eastbound	RT	0.00	0	0	0.000	
	TH	0.00	0	0	0.000	
	LT	0.00	0	0	0.000 *	

\* - Denotes critical movement

**Project Title:** Victoria Greens  
**Intersection:** 5 - S Central Ave & E Albertoni St  
**Description:** Future + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 10 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : Y  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.364
	TH	2.00	1,366	3,200	0.427 *	N-S(2):	0.427 *
	LT	2.00	401	2,880	0.139	E-W(1):	0.452 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.000
	TH	0.00	0	0	0.000	V/C:	0.879
	LT	0.00	0	0	0.000 *	Lost Time:	0.100
Northbound	RT	2.00	448	3,200	0.140	ITS:	0.000
	TH	2.00	721	3,200	0.225	ICU:	0.979
	LT	0.00	0	0	0.000 *	LOS:	E
Eastbound	RT	0.00	723	1,600	0.452 *		
	TH	2.00	124	1,600	0.078		
	LT	1.00	392	1,600	0.245		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.427 *
	TH	2.00	1,080	3,200	0.338	N-S(2):	0.338
	LT	2.00	274	2,880	0.095 *	E-W(1):	0.377 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.000
	TH	0.00	0	0	0.000	V/C:	0.804
	LT	0.00	0	0	0.000 *	Lost Time:	0.100
Northbound	RT	2.00	655	3,200	0.205	ITS:	0.000
	TH	2.00	1,062	3,200	0.332 *	ICU:	0.904
	LT	0.00	0	0	0.000	LOS:	E
Eastbound	RT	0.00	393	0	0.000		
	TH	2.00	814	3,200	0.377 *		
	LT	1.00	297	1,600	0.186		

\* - Denotes critical movement



**Project Title:** Victoria Greens  
**Intersection:** 6 - S Central Ave & E University Dr  
**Description:** Future + Project

Thru Lane: 1600 vph  
 Left Lane: 1600 vph  
 Double Lt Penalty: 20 %  
 ITS: 0 %

N-S Split Phase : N  
 E-W Split Phase : N  
 Lost Time (% of cycle) : 10  
 V/C Round Off (decs.) : 3

OLA Movements :  
 FF Movements:

**Date/Time:** AM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	90	1,600	0.004	N-S(1):	0.299 *
	TH	2.00	482	3,200	0.151	N-S(2):	0.212
	LT	1.00	116	1,600	0.073 *	E-W(1):	0.088
Westbound	RT	0.00	195	0	0.000	E-W(2):	0.227 *
	TH	2.00	200	3,200	0.123 *	V/C:	0.526
	LT	1.00	32	1,600	0.020	Lost Time:	0.100
Northbound	RT	0.00	39	0	0.000	ITS:	0.000
	TH	2.00	685	3,200	0.226 *	ICU:	0.626
	LT	1.00	97	1,600	0.061	LOS:	B
Eastbound	RT	0.00	61	0	0.000		
	TH	2.00	158	3,200	0.068		
	LT	1.00	167	1,600	0.104 *		

**Date/Time:** PM PEAK HOUR

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	257	1,600	0.120	N-S(1):	0.243
	TH	2.00	831	3,200	0.260 *	N-S(2):	0.313 *
	LT	1.00	157	1,600	0.098	E-W(1):	0.147
Westbound	RT	0.00	129	0	0.000	E-W(2):	0.189 *
	TH	2.00	215	3,200	0.108 *	V/C:	0.502
	LT	1.00	46	1,600	0.029	Lost Time:	0.100
Northbound	RT	0.00	20	0	0.000	ITS:	0.000
	TH	2.00	444	3,200	0.145	ICU:	0.602
	LT	1.00	85	1,600	0.053 *	LOS:	B
Eastbound	RT	0.00	155	0	0.000		
	TH	2.00	221	3,200	0.118		
	LT	1.00	130	1,600	0.081 *		

\* - Denotes critical movement

**APPENDIX D:  
24-HOUR TRAFFIC COUNT**

# VOLUME

Central Ave N/O Aspen Hill Rd

Day: Tuesday  
Date: 2/20/2018

City: Carson  
Project #: CA18\_5109\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					15,352	17,286	0	0	32,638		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	33	28			61	12:00	215	223			438
00:15	25	35			60	12:15	197	262			459
00:30	44	28			72	12:30	232	291			523
00:45	23	125	21	112	44	12:45	265	909	305	1081	570
01:00	31	24			55	13:00	287	247			534
01:15	20	23			43	13:15	219	227			446
01:30	35	36			71	13:30	232	204			436
01:45	21	107	14	97	35	13:45	225	963	235	913	460
02:00	16	22			38	14:00	268	241			509
02:15	20	24			44	14:15	299	280			579
02:30	24	37			61	14:30	263	225			488
02:45	18	78	32	115	50	14:45	242	1072	256	1002	498
03:00	15	18			33	15:00	213	242			455
03:15	21	21			42	15:15	230	278			508
03:30	19	20			39	15:30	264	345			609
03:45	16	71	32	91	48	15:45	372	1079	333	1198	705
04:00	18	25			43	16:00	275	261			536
04:15	25	40			65	16:15	204	212			416
04:30	29	64			93	16:30	259	256			515
04:45	40	112	79	208	119	16:45	215	953	291	1020	506
05:00	46	77			123	17:00	288	284			572
05:15	71	114			185	17:15	328	312			640
05:30	72	173			245	17:30	309	302			611
05:45	92	281	237	601	329	17:45	267	1192	270	1168	537
06:00	111	152			263	18:00	243	264			507
06:15	102	155			257	18:15	246	257			503
06:30	135	193			328	18:30	282	284			566
06:45	161	509	255	755	416	18:45	273	1044	279	1084	552
07:00	204	200			404	19:00	258	205			463
07:15	177	285			462	19:15	249	173			422
07:30	240	343			583	19:30	184	125			309
07:45	246	867	456	1284	702	19:45	169	860	185	688	354
08:00	271	377			648	20:00	180	125			305
08:15	215	416			631	20:15	223	143			366
08:30	199	356			555	20:30	176	120			296
08:45	155	840	281	1430	436	20:45	143	722	129	517	272
09:00	141	238			379	21:00	166	94			260
09:15	144	255			399	21:15	171	132			303
09:30	162	327			489	21:30	166	99			265
09:45	207	654	365	1185	572	21:45	168	671	113	438	281
10:00	173	275			448	22:00	119	87			206
10:15	185	207			392	22:15	85	85			170
10:30	165	199			364	22:30	88	72			160
10:45	174	697	215	896	389	22:45	88	380	57	301	145
11:00	223	204			427	23:00	82	53			135
11:15	292	251			543	23:15	47	54			101
11:30	217	249			466	23:30	54	44			98
11:45	216	948	222	926	438	23:45	35	218	25	176	60
<b>TOTALS</b>	<b>5289</b>	<b>7700</b>			<b>12989</b>	<b>TOTALS</b>	<b>10063</b>	<b>9586</b>			<b>19649</b>
<b>SPLIT %</b>	<b>40.7%</b>	<b>59.3%</b>			<b>39.8%</b>	<b>SPLIT %</b>	<b>51.2%</b>	<b>48.8%</b>			<b>60.2%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					15,352	17,286	0	0	32,638
AM Peak Hour	07:30	07:45			07:30	PM Peak Hour	17:00	15:15	17:00
AM Pk Volume	972	1605			2564	PM Pk Volume	1192	1217	2360
Pk Hr Factor	0.897	0.880			0.913	Pk Hr Factor	0.909	0.882	0.922
7 - 9 Volume	1707	2714	0	0	4421	4 - 6 Volume	2145	2188	0
7 - 9 Peak Hour	07:30	07:45			07:30	4 - 6 Peak Hour	17:00	16:45	17:00
7 - 9 Pk Volume	972	1605	0	0	2564	4 - 6 Pk Volume	1192	1189	0
Pk Hr Factor	0.897	0.880	0.000	0.000	0.913	Pk Hr Factor	0.909	0.953	0.000

**APPENDIX E:  
SIGNAL WARRANT**

Major Street **Central Avenue**  
 Minor Street **Project Driveway/Aspen Hill Road**

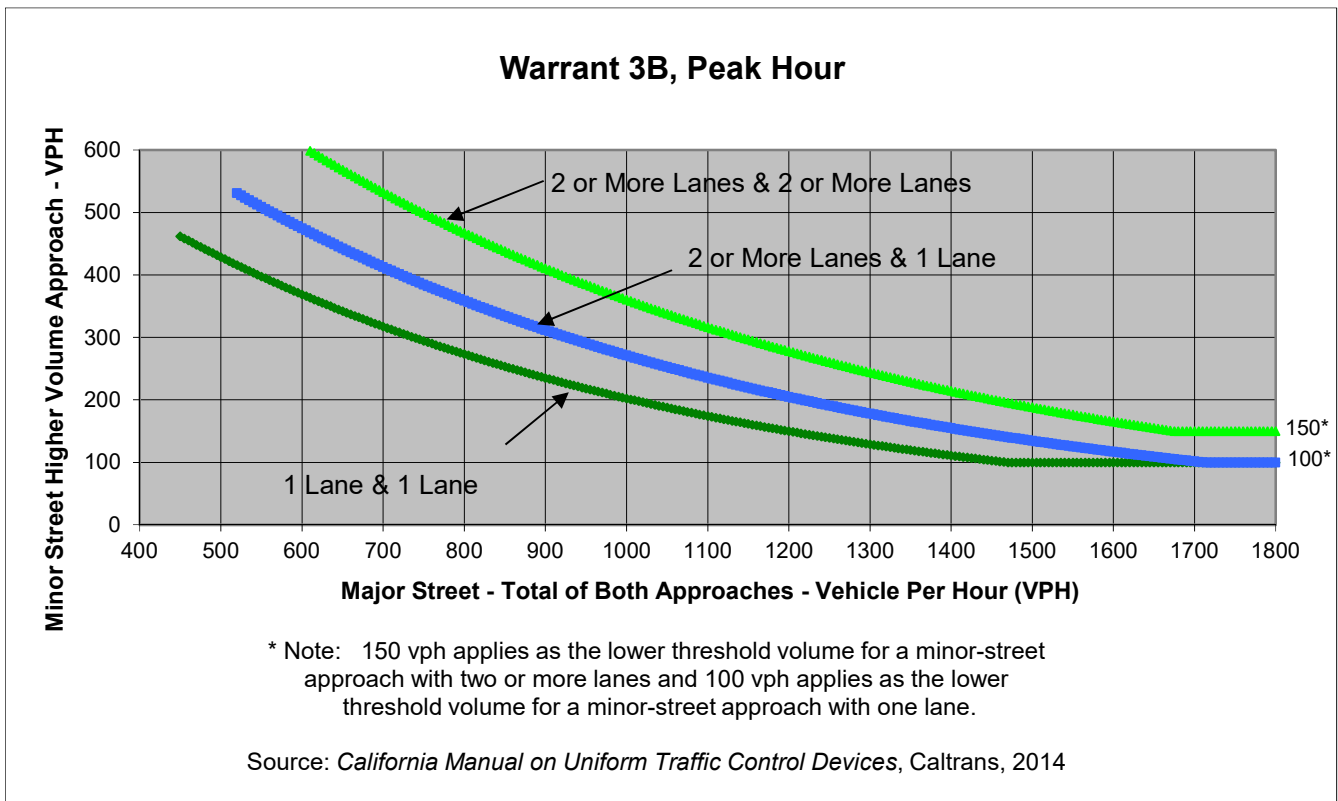
Project **Victoria Greens**  
 Scenario **Existing Conditions**  
 Peak Hour **AM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	0	56	0
Through	921	1,575	0	0
Right	0	19	10	0
Total	923	1,594	66	0

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>2,517</b>	<b>66</b>	

\* Note: Traffic Volume for Major Street is Total Volume of Both Approches.  
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Central Avenue  
 Minor Street Project Driveway/Aspen Hill Road

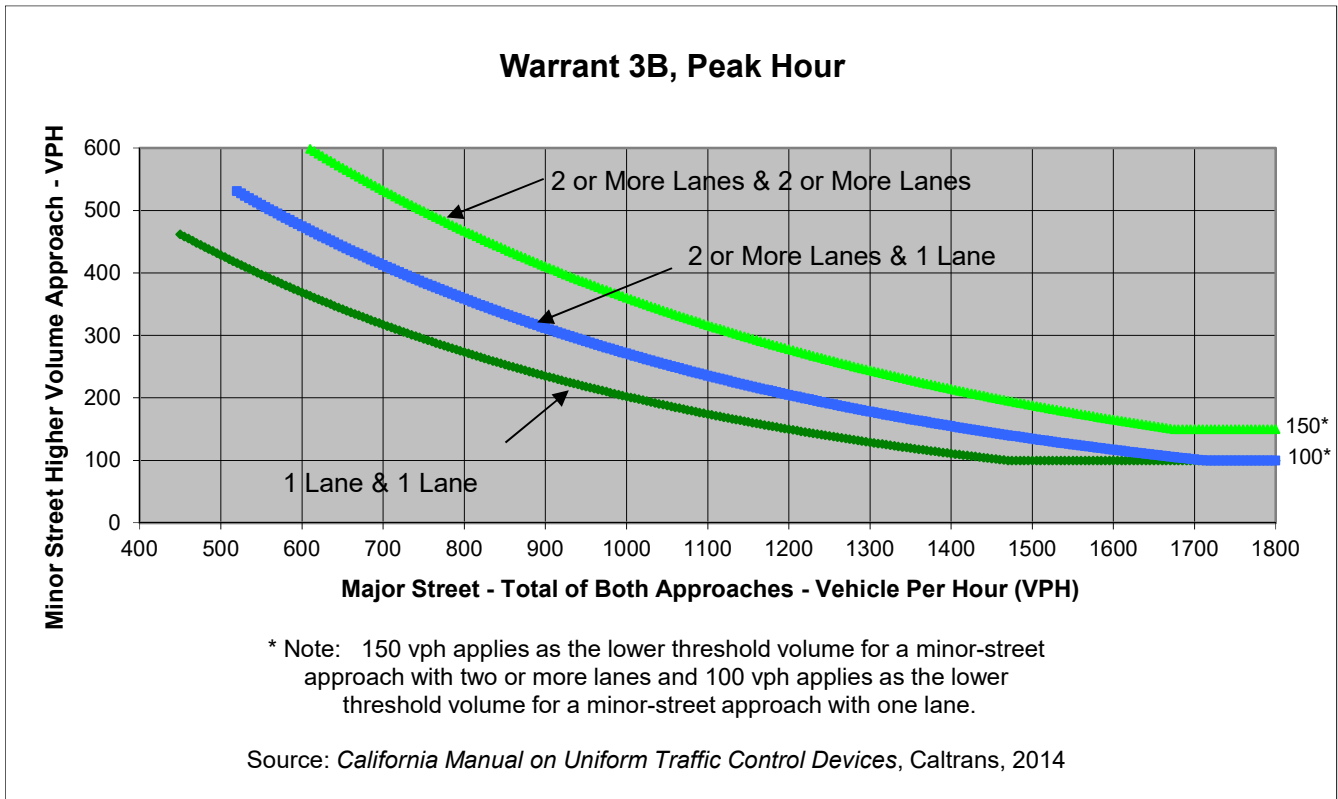
Project Victoria Greens  
 Scenario Existing Conditions  
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	0	21	0
Through	1,146	1,132	0	0
Right	0	40	23	0
Total	1,158	1,172	44	0

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>2,330</b>	<b>44</b>	

\* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.  
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Central Avenue  
 Minor Street Project Driveway/Aspen Hill Road

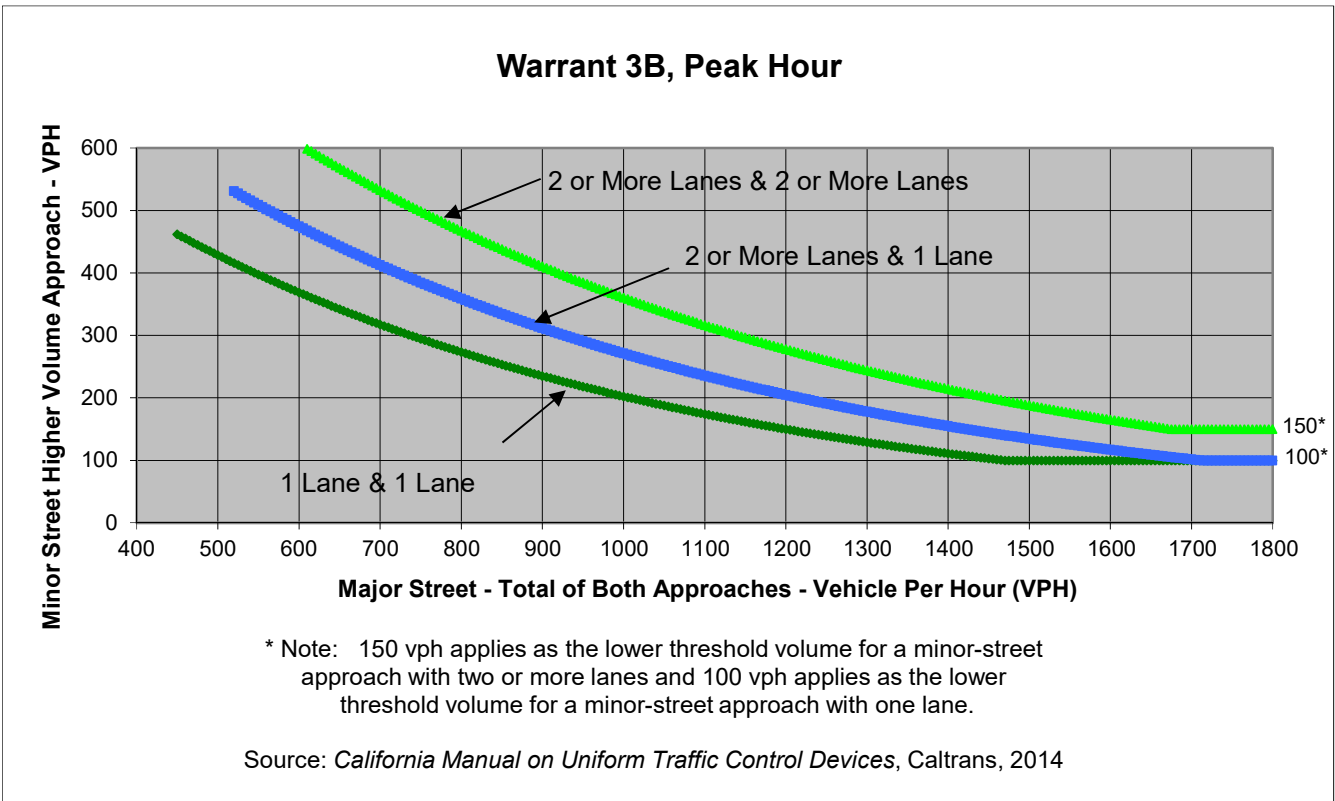
Project Victoria Greens  
 Scenario Existing + Project  
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	9	56	0
Through	921	1,575	0	0
Right	10	19	10	30
Total	933	1,603	66	30

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>2,536</b>	<b>66</b>	

\* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.  
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street **Central Avenue**  
 Minor Street **Project Driveway/Aspen Hill Road**

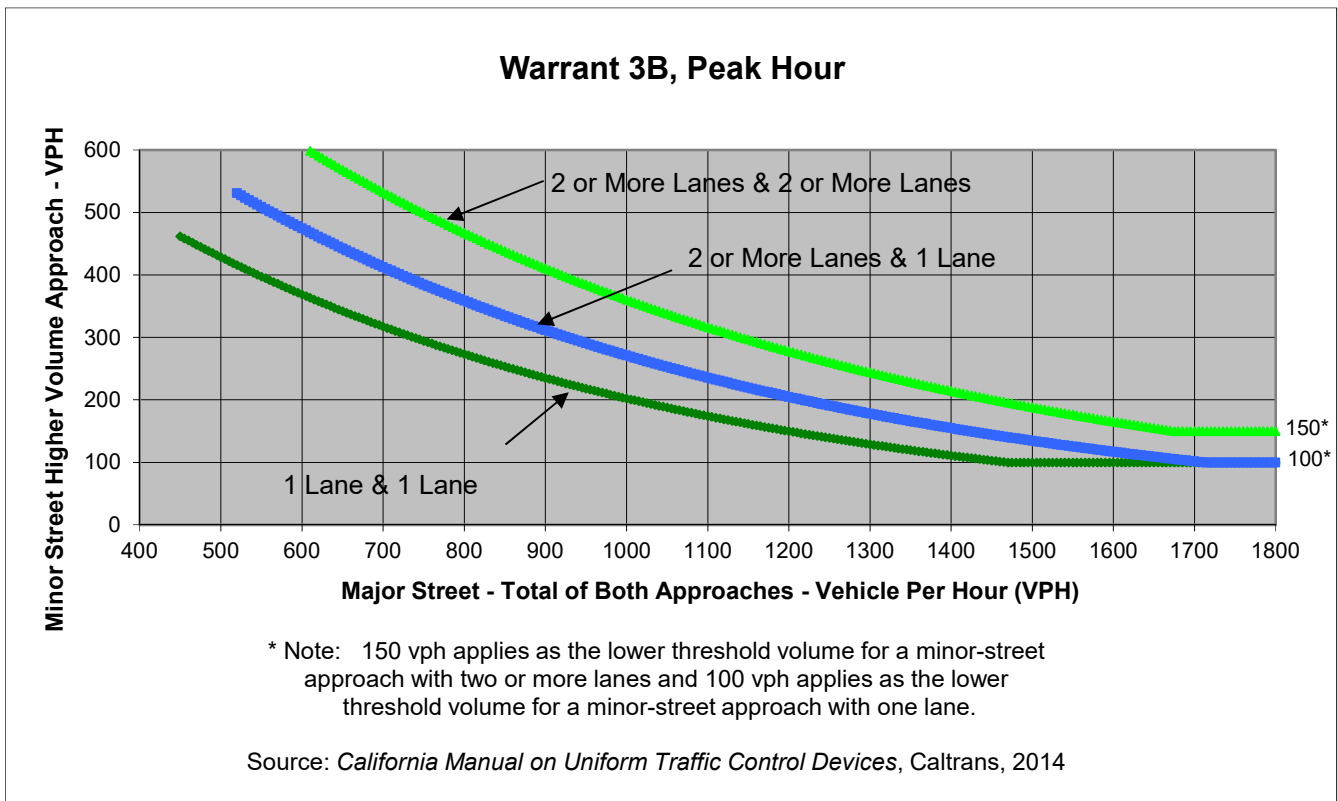
Project **Victoria Greens**  
 Scenario **Existing + Project**  
 Peak Hour **PM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	30	21	0
Through	1,146	1,132	0	0
Right	32	40	23	18
Total	1,190	1,202	44	18

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>2,392</b>	<b>44</b>	
* Note: Traffic Volume for Major Street is Total Volume of Both Approaches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			





Major Street Central Avenue  
 Minor Street Project Driveway/Aspen Hill Road

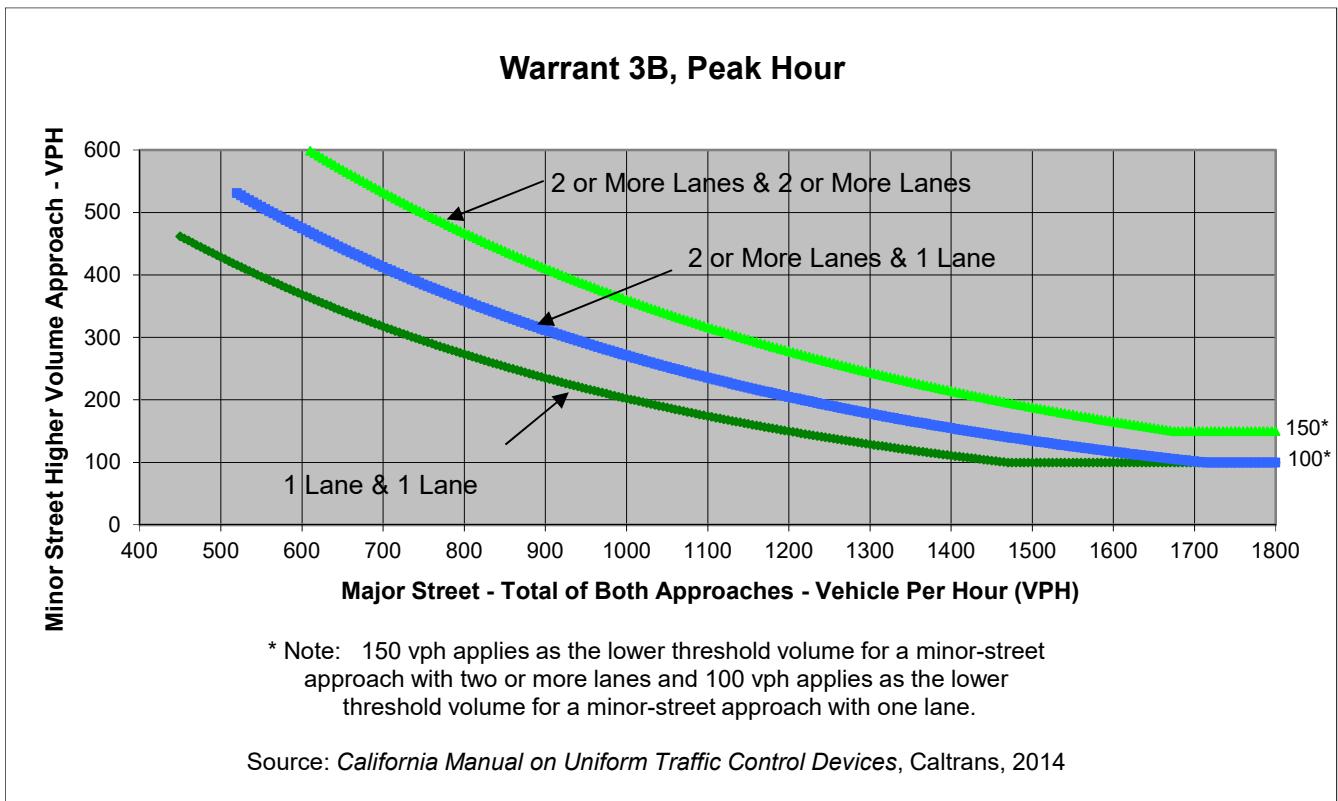
Project Victoria Greens  
 Scenario Future Base  
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	3	0	56	0
Through	1,057	1,914	0	0
Right	0	19	9	0
Total	1,060	1,933	65	0

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>2,993</b>	<b>65</b>	

\* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.  
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Central Avenue  
 Minor Street Project Driveway/Aspen Hill Road

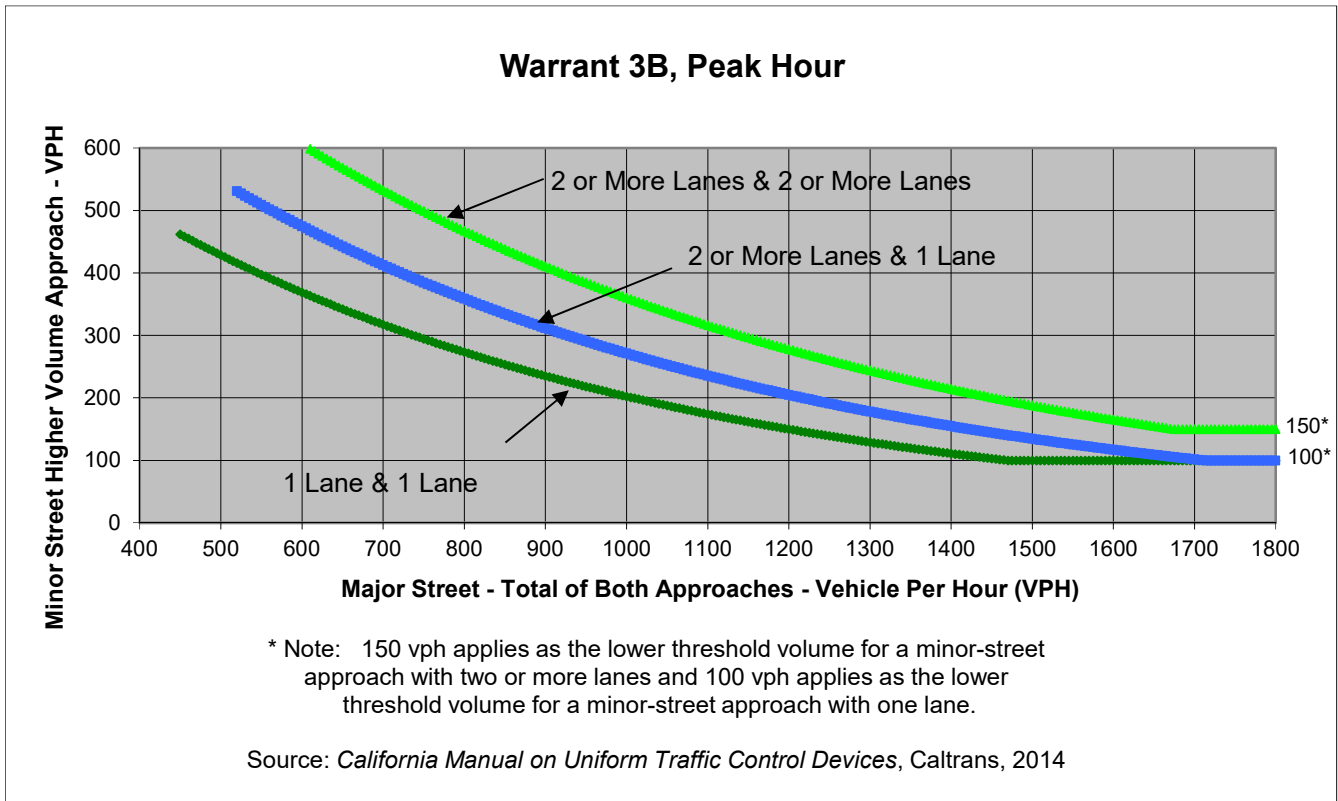
Project Victoria Greens  
 Scenario Future Base  
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	0	21	0
Through	1,482	1,432	0	0
Right	0	40	23	0
Total	1,494	1,472	44	0

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>2,966</b>	<b>44</b>	

\* Note: Traffic Volume for Major Street is Total Volume of Both Approches.  
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street **Central Avenue**  
 Minor Street **Project Driveway/Aspen Hill Road**

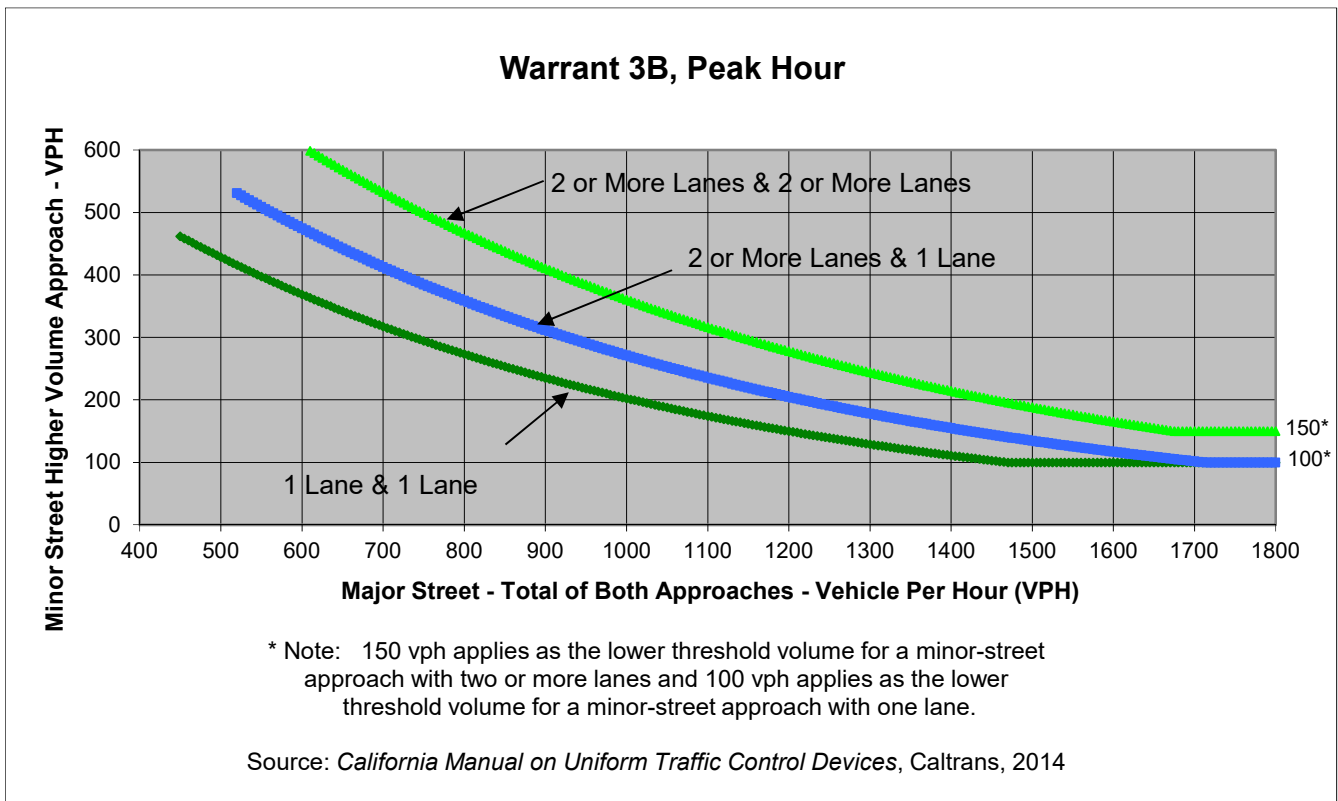
Project **Victoria Greens**  
 Scenario **Future + Project**  
 Peak Hour **AM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	9	56	0	0
Through	1,057	1,914	0	0
Right	10	19	9	30
Total	1,076	1,989	9	30

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>3,065</b>	<b>30</b>	

\* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.  
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street **Central Avenue**  
 Minor Street **Project Driveway/Aspen Hill Road**

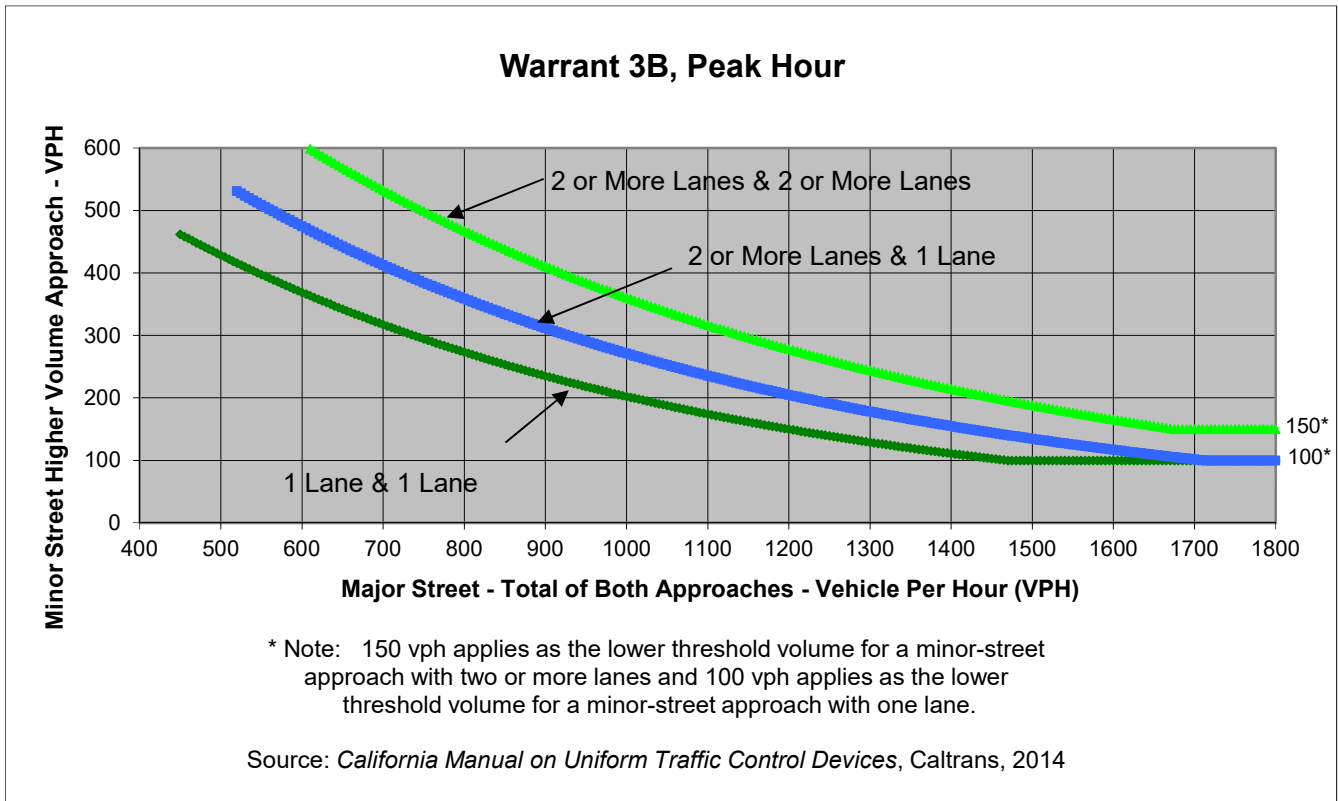
Project **Victoria Greens**  
 Scenario **Future + Project**  
 Peak Hour **PM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	30	21	0
Through	1,482	1,432	0	0
Right	32	40	23	18
Total	1,526	1,502	44	18

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Central Avenue	Project Driveway/Aspen Hill Road	
<b>Number of Approach Lanes</b>	<b>2</b>	<b>1</b>	<b><u>NO</u></b>
<b>Traffic Volume (VPH) *</b>	<b>3,028</b>	<b>44</b>	

\* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.  
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

**APPENDIX F:  
SIGNAL TIMING SHEETS**

PROGRAM REFERENCE CARD

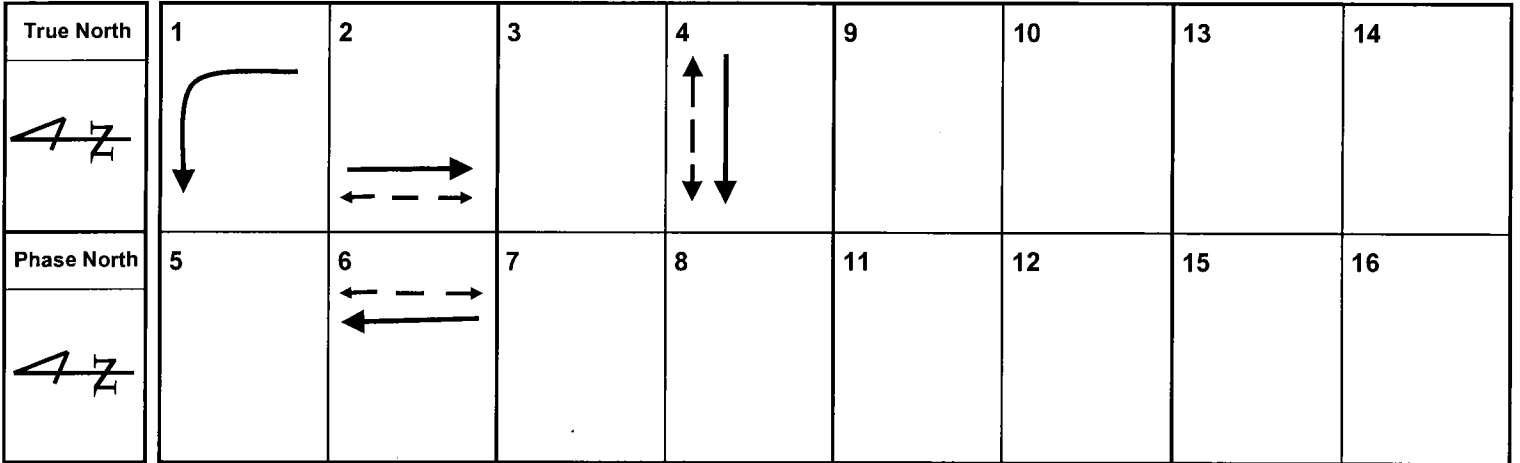
INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: EI  
 T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

UTILITIES SUBMENU

8-7. SOFTWARE MODULES

NAME	PART NUMBER	VERSION
BOOT	100-1047-209	V1.09.00
APPLICATION	100-1082-243	V2.43.20
CONFIGURATION	100-1049-001	N3000, 4
HELP	100-1050-001	01.00.00
DEFINITIONS	100-1051-001	02.10.00
TEXT	100-1052-001	02.10.00
TELEMETRY	NA	NA

PHASE DIAGRAM



Comments:

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: EJ  
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CONFIGURATION SUBMENU

1-1-1. PHASE RING SEQUENCE AND ASSIGNMENT

CONTROLLER SEQUENCE										1							
SEQUENCE COMMANDS												HARDWARE ALTERNATE SEQUENCE ENABLE					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
BARRIER CONTROL	X		X		X		X										
RING 1	1	2	3	4	9	10	13	14									
RING 2	5	6	7	8	11	12	15	16									
RING 3																	
RING 4																	

CONTROLLER SEQUENCE										2							
SEQUENCE COMMANDS												HARDWARE ALTERNATE SEQUENCE ENABLE					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
BARRIER CONTROL																	
RING 1																	
RING 2																	
RING 3																	
RING 4																	

CONTROLLER SEQUENCE										3							
SEQUENCE COMMANDS												HARDWARE ALTERNATE SEQUENCE ENABLE					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
BARRIER CONTROL																	
RING 1																	
RING 2																	
RING 3																	
RING 4																	

CONTROLLER SEQUENCE										4							
SEQUENCE COMMANDS												HARDWARE ALTERNATE SEQUENCE ENABLE					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
BARRIER CONTROL																	
RING 1																	
RING 2																	
RING 3																	
RING 4																	

UP TO 16 CONTROL SEQUENCES AVAILABLE.









PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

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CONFIGURATION SUBMENU

1-5-1. ETHERNET PORT CONFIGURATION

MAC ADDRESS	
CONTROLLER IP ADDRESS	
SUBNET MASK	
DEFAULT GATEWAY IP ADDRESS	
SERVER IP ADDRESS	
LINK SPEED/DUPLEX	

1-5-6. ECPIP

SYSTEM DETECTOR ASSIGNMENT:								
SYSTEM DETECTOR	1	2	3	4	5	6	7	8
LOCAL DETECTOR								
EXPANDED SYSTEM DETECTOR ADDRESS (PORT 3B)								
SYSTEM DETECTOR	9	10	11	12	13	14	15	16
LOCAL DETECTOR								

1-5-2. PORT 2/C50S (TERMINAL)

ENABLE	NO	PROTOCOL	TERM
DATA BIT RATE (BPS)			
DATA, PARITY, STOP			
DUPLEX - HALF OR FULL			
FLOW CONTROL			

1-5-3. PORT 3A/C21S (TELEMETRY)

ENABLE		PROTOCOL	AB 3418
DATA BIT RATE (BPS)		COMM PORT ADDRESS	
DATA, PARITY, STOP		GROUP ADDRESS	
DUPLEX - HALF OR FULL		SINGLE FLAGGED	
FLOW CONTROL		DROP-OUT TIME (In Seconds)	

1-5-4. PORT 3B/C22S

ENABLE		PROTOCOL	AB 3418
DATA BIT RATE (BPS)		COMM PORT ADDRESS	
DATA, PARITY, STOP		TELEMETRY RESPONSE DELAY (in ms)	
DUPLEX - HALF OR FULL		DROP-OUT TIME (In Seconds)	
FLOW CONTROL			
RTS TO CTS DELAY (in ms)			
RTS TURN OFF DELAY (in ms)			
EARLY RTS			
FSK HARDWARE			

1-5-5. NTCIP

BACKUP TIME (in seconds)	0
UDP PORT	
ETHERNET PRIORITY	1
PORT 2 PRIORITY	4
PORT 3A PRIORITY	2
PORT 3B PRIORITY	3



PROGRAM REFERENCE CARD

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CONFIGURATION SUBMENU

1-8-2. LOGIC STATEMENTS

LOGIC #	ACTIVE			
IF				
THEN				
ELSE				

LOGIC #	ACTIVE			
IF				
THEN				
ELSE				

LOGIC #	ACTIVE			
IF				
THEN				
ELSE				

LOGIC #	ACTIVE			
IF				
THEN				
ELSE				

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

CONTROLLER SUBMENU

2-1. CONTROLLER TIMING DATA

TIMING PLAN	1	PHASE DATA															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE																	
MINIMUM GREEN		4	6		4		6										
BICYCLE MIN GREEN		0	0		0		0										
CONDITIONAL SERVICE MIN GRN		0	0		0		0										
DELAY GREEN		0	0		0		0										
WALK		0	7		7		7										
WALK 2		0	0		0		0										
WALK MAX		0	0		0		0										
PEDESTRIAN CLEARANCE		0	8		20		8										
PEDESTRIAN CLEARANCE 2		0	0		0	0	0										
PEDESTRIAN CLEARANCE MAX		0	0		0	0	0										
PEDESTRIAN CARRY OVER		0	0		0	0	0										
VEHICLE EXTENSION		1.5	4.0		4.0		4.0										
VEHICLE EXTENSION 2		0.0	0.0		0.0		0.0										
MAX 1		20	50		30		50										
MAX 2		0	0		0		0										
MAX 3		0	0		0		0										
DYNAMIC MAX		0	0		0		0										
DYNAMIC STEP		0.0	0.0		0.0		0.0										
YELLOW		4.0	4.0		4.5		4.0										
RED CLEARANCE		1.0	1.0		1.0		1.0										
RED MAX		0.0	0.0		0.0		0.0										
RED REVERT		2.0	2.0		2.0		2.0										
ACTUATIONS BEFORE (ACT B4)		0	0		0		0										
SEC/ACTUATION		0.0	0.0		0.0		0.0										
MAX ADDED INITIAL (MAX INI)		0	0		0		0										
TIME BEFORE GAP REDUCTION		0	15		15		15										
CARS WAITING B4 REDUCTION		0	255		255		255										
STEP TO REDUCE (STPTDUC)		0.0	0.0		0.0		0.0										
TIME TO REDUCE (TTREDUC)		0	15		15		15										
MINIMUM GAP		1.5	3.0		3.0		3.0										

Comments:

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

CONTROLLER SUBMENU

2-2. VEHICLE OVERLAP

VEHICLE OVERLAP		TYPE															
PHASES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
INCLUDED																	
PROTECT																	
MODIFIER																	
PED PROTECT																	
NOT OVLP																	
FLASH GRN																	
LAG X PHASE																	
LAG 2 PHASE																	
LAG GREEN		LAG YELLOW				LAG RED				ADV GREEN							

VEHICLE OVERLAP		TYPE															
PHASES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
INCLUDED																	
PROTECT																	
MODIFIER																	
PED PROTECT																	
NOT OVLP																	
FLASH GRN																	
LAG X PHASE																	
LAG 2 PHASE																	
LAG GREEN		LAG YELLOW				LAG RED				ADV GREEN							

VEHICLE OVERLAP		TYPE															
PHASES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
INCLUDED																	
PROTECT																	
MODIFIER																	
PED PROTECT																	
NOT OVLP																	
FLASH GRN																	
LAG X PHASE																	
LAG 2 PHASE																	
LAG GREEN		LAG YELLOW				LAG RED				ADV GREEN							

VEHICLE OVERLAP		TYPE															
PHASES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
INCLUDED																	
PROTECT																	
MODIFIER																	
PED PROTECT																	
NOT OVLP																	
FLASH GRN																	
LAG X PHASE																	
LAG 2 PHASE																	
LAG GREEN		LAG YELLOW				LAG RED				ADV GREEN							

VEHICLE OVERLAP		TYPE															
PHASES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
INCLUDED																	
PROTECT																	
MODIFIER																	
PED PROTECT																	
NOT OVLP																	
FLASH GRN																	
LAG X PHASE																	
LAG 2 PHASE																	
LAG GREEN		LAG YELLOW				LAG RED				ADV GREEN							

VEHICLE OVERLAP		TYPE															
PHASES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
INCLUDED																	
PROTECT																	
MODIFIER																	
PED PROTECT																	
NOT OVLP																	
FLASH GRN																	
LAG X PHASE																	
LAG 2 PHASE																	
LAG GREEN		LAG YELLOW				LAG RED				ADV GREEN							





PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: EI  
T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

CONTROLLER SUBMENU

2-5. START / FLASH DATA

POWER START																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
PHASE		Y				Y											
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
OVERLAP																	
FLASH>MON	NO				FLASH TIME				0				ALL RED				0
POWER START SEQ	1																
AUTOMATIC FLASH																	
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
ENTRY		X				X											
EXIT		X				X											
OVERLAP	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
EXIT																	
FLASH>MON	NO				EXIT FLASH				R				MIN AUTO FLASH				10
MINIMUM RECALL	NO		CYCLE THRU PHASE				NO										

2-6-1. CONTROLLER OPTIONS

PEDESTRIAN CLEARANCE PROTECT	ON															
UNIT RED REVERT	2.0															
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FLASHING GREEN PHASE																
GUARANTEED PASSAGE																
NON-ACT I																
NON-ACT II																
DUAL ENTRY																
COND SERVICE																
COND RESERVICE																
PED RESERVICE																
REST IN WALK																
FLASHING WALK																
PED CLEAR > YELLOW																
PED CLEAR > ALL RED																
INIT GREEN + VEH EXT																

2-6-2. EXTENDED OPTIONS [Not Available]





PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

COORDINATION SUBMENU

3-2. COORDINATOR PATTERN

COORDINATOR PATTERN	1																		
USE SPLIT PATTERN	1																		
TS2 (PAT - OFF)																			
CYCLE	90	STD (COS)															111		
OFFSET VALUE	4																		
ACTUATED COORD	YES	TIMING PLAN															0		
ACT WALK REST	NO	SEQUENCE															1		
PHASE RESERVICE	YES	ACTION PLAN															0		
SPLIT PREFERENCE PHASES																			
PHASE(S)	1	2	3	4	5	6	7	8											
SPLIT [ 1 ]	23	34		33		57													
PREFERENCE 1																			
PREFERENCE 2																			
SPLIT EXT (SEC)	15	15																	
VEH PERM				DISP															
RING DISP					(RING 2-4)														
PHASE(S)	9	10	11	12	13	14	15	16											
SPLIT [ 1 ]																			
PREFERENCE 1																			
PREFERENCE 2																			
SPLIT DEMAND PATTERN																			
X-ARTERIAL PATTERN																			
PHASE(S)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
COORD		X				X													
VEH RECALL		X				X													
PED RECALL																			
MAX RECALL																			
OMIT																			
SPECIAL FUNCTION OUTPUTS																			

COORDINATOR PATTERN	2																		
USE SPLIT PATTERN	2																		
TS2 (PAT - OFF)																			
CYCLE	90	STD (COS)															112		
OFFSET VALUE	3																		
ACTUATED COORD	YES	TIMING PLAN															0		
ACT WALK REST	NO	SEQUENCE															1		
PHASE RESERVICE	YES	ACTION PLAN															0		
SPLIT PREFERENCE PHASES																			
PHASE(S)	1	2	3	4	5	6	7	8											
SPLIT [ 2 ]	21	36		33		57													
PREFERENCE 1																			
PREFERENCE 2																			
SPLIT EXT (SEC)	19	19																	
VEH PERM				DISP															
RING DISP					(RING 2-4)														
PHASE(S)	9	10	11	12	13	14	15	16											
SPLIT [ 2 ]																			
PREFERENCE 1																			
PREFERENCE 2																			
SPLIT DEMAND PATTERN																			
X-ARTERIAL PATTERN																			
PHASE(S)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
COORD		X				X													
VEH RECALL		X				X													
PED RECALL																			
MAX RECALL																			
OMIT																			
SPECIAL FUNCTION OUTPUTS																			

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: [E]

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

COORDINATION SUBMENU

3-2. COORDINATOR PATTERN (CONTINUED)

COORDINATOR PATTERN	3																	
USE SPLIT PATTERN	3																	
TS2 (PAT - OFF)																		
CYCLE	90	STD (COS)															113	
OFFSET VALUE	27																	
ACTUATED COORD	YES	TIMING PLAN															0	
ACT WALK REST	NO	SEQUENCE															1	
PHASE RESERVICE	YES	ACTION PLAN															0	
SPLIT PREFERENCE PHASES																		
PHASE(S)	1	2	3	4	5	6	7	8										
SPLIT [ 3 ]	25	32		33		57												
PREFERENCE 1																		
PREFERENCE 2																		
SPLIT EXT (SEC)	13	13																
VEH PERM				DISP														
RING DISP					(RING 2-4)													
PHASE(S)	9	10	11	12	13	14	15	16										
SPLIT [ 3 ]																		
PREFERENCE 1																		
PREFERENCE 2																		
SPLIT DEMAND PATTERN																		
X-ARTERIAL PATTERN																		
PHASE(S)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
COORD		X				X												
VEH RECALL		X				X												
PED RECALL																		
MAX RECALL																		
OMIT																		
SPECIAL FUNCTION OUTPUTS																		

COORDINATOR PATTERN	4																	
USE SPLIT PATTERN	4																	
TS2 (PAT - OFF)																		
CYCLE		STD (COS)																
OFFSET VALUE																		
ACTUATED COORD		TIMING PLAN																
ACT WALK REST		SEQUENCE																
PHASE RESERVICE		ACTION PLAN																
SPLIT PREFERENCE PHASES																		
PHASE(S)	1	2	3	4	5	6	7	8										
SPLIT [ 4 ]																		
PREFERENCE 1																		
PREFERENCE 2																		
SPLIT EXT (SEC)																		
VEH PERM				DISP														
RING DISP					(RING 2-4)													
PHASE(S)	9	10	11	12	13	14	15	16										
SPLIT [ 4 ]																		
PREFERENCE 1																		
PREFERENCE 2																		
SPLIT DEMAND PATTERN																		
X-ARTERIAL PATTERN																		
PHASE(S)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
COORD																		
VEH RECALL																		
PED RECALL																		
MAX RECALL																		
OMIT																		
SPECIAL FUNCTION OUTPUTS																		

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: E1

T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

COORDINATION SUBMENU

3-3. SPLIT PATTERN

SPLIT PATTERN		1															
PHASE (S)		1	2	3	4	5	6	7	8								
SPLIT		23	34		33		57										
PHASE (S)		9	10	11	12	13	14	15	16								
SPLIT																	
PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COORD			X				X										
VEH RECALL			X				X										
PED RECALL																	
MAX RECALL																	
OMIT																	

SPLIT PATTERN		4															
PHASE (S)		1	2	3	4	5	6	7	8								
SPLIT																	
PHASE (S)		9	10	11	12	13	14	15	16								
SPLIT																	
PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COORD																	
VEH RECALL																	
PED RECALL																	
MAX RECALL																	
OMIT																	

SPLIT PATTERN		2															
PHASE (S)		1	2	3	4	5	6	7	8								
SPLIT		21	36		33		57										
PHASE (S)		9	10	11	12	13	14	15	16								
SPLIT																	
PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COORD			X				X										
VEH RECALL			X				X										
PED RECALL																	
MAX RECALL																	
OMIT																	

SPLIT PATTERN		5															
PHASE (S)		1	2	3	4	5	6	7	8								
SPLIT																	
PHASE (S)		9	10	11	12	13	14	15	16								
SPLIT																	
PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COORD																	
VEH RECALL																	
PED RECALL																	
MAX RECALL																	
OMIT																	

SPLIT PATTERN		3															
PHASE (S)		1	2	3	4	5	6	7	8								
SPLIT		25	32		33		57										
PHASE (S)		9	10	11	12	13	14	15	16								
SPLIT																	
PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COORD			X				X										
VEH RECALL			X				X										
PED RECALL																	
MAX RECALL																	
OMIT																	

SPLIT PATTERN		6															
PHASE (S)		1	2	3	4	5	6	7	8								
SPLIT																	
PHASE (S)		9	10	11	12	13	14	15	16								
SPLIT																	
PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COORD																	
VEH RECALL																	
PED RECALL																	
MAX RECALL																	
OMIT																	

120 SPLIT PATTERNS AVAILABLE

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

PREEMPT SUBMENU

4-1. PREEMPTOR

PREEMPT PLAN		1																			
VEH/PED PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
OVERLAP PHASE		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P				
TRACK CLEAR VEH																					
TRACK CLEAR OVERLAP																					
ENABLE TRAILING OLP																					
DWELL VEH																					
DWELL PED																					
DWELL OVERLAP																					
CYCLING VEH																					
CYCLING PED																					
CYCLING OVERLAP																					
EXIT PHASE																					
EXIT CALLS																					
SPECIAL FUNCTION																					
ENABLE		PREEMPT OVERRIDE						INTERLOCK ENABLE													
DET LOCK		DELAY TIME (SEC)						INHIBIT TIME (SEC)													
OVERRIDE FL		DURATION						RED CLEAR GOES GREEN													
TERMINATE OLVPS ASAP		PC THRU YELLOW						TERMINATE PHASES													
PED DARK LINKED PREEMPTOR		TRACK CLEAR RESERVICE DWELL FLASH EXIT COLOR						DWELL FLASH PREEMPTION EXITS TO COORD PHASES													
PREEMPT EXIT TIMING PLAN						PREEMPTION RESERVICE TIME															
RING						1				2				3				4			
FREE DURING PREEMPTION																					
---TIMING---		WALK				PED CL				MIN GRN				YELLOW				RED			
ENTRANCE TIMES																					
---MIN GREENS---		MIN GRN				EXT GRN				MX GRN				YELLOW				RED			
TRACK CLEARANCE TIMES																					
---MIN DL---		MIN HL				PMT EXT				MX TM				YELLOW				RED			
DWL/CYC-EXIT																					
---PREEMPT ACTIVE OUTPUTS---																					
PREEMPT ACTIVE OUTPUT						PREEMPT ACTIVE OUTPUT IN DWELL															
OTHER PRIORITY PREEMPT OUTPUT						NON-PRIORITY PREEMPT OUTPUT															

PREEMPT PLAN		2																			
VEH/PED PHASE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
OVERLAP PHASE		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P				
TRACK CLEAR VEH																					
TRACK CLEAR OVERLAP																					
ENABLE TRAILING OLP																					
DWELL VEH																					
DWELL PED																					
DWELL OVERLAP																					
CYCLING VEH																					
CYCLING PED																					
CYCLING OVERLAP																					
EXIT PHASE																					
EXIT CALLS																					
SPECIAL FUNCTION																					
ENABLE		PREEMPT OVERRIDE						INTERLOCK ENABLE													
DET LOCK		DELAY TIME (SEC)						INHIBIT TIME (SEC)													
OVERRIDE FL		DURATION						RED CLEAR GOES GREEN													
TERMINATE OLVPS ASAP		PC THRU YELLOW						TERMINATE PHASES													
PED DARK LINKED PREEMPTOR		TRACK CLEAR RESERVICE DWELL FLASH EXIT COLOR						DWELL FLASH PREEMPTION EXITS TO COORD PHASES													
PREEMPT EXIT TIMING PLAN						PREEMPTION RESERVICE TIME															
RING						1				2				3				4			
FREE DURING PREEMPTION																					
---TIMING---		WALK				PED CL				MIN GRN				YELLOW				RED			
ENTRANCE TIMES																					
---MIN GREENS---		MIN GRN				EXT GRN				MX GRN				YELLOW				RED			
TRACK CLEARANCE TIMES																					
---MIN DL---		MIN HL				PMT EXT				MX TM				YELLOW				RED			
DWL/CYC-EXIT																					
---PREEMPT ACTIVE OUTPUTS---																					
PREEMPT ACTIVE OUTPUT						PREEMPT ACTIVE OUTPUT IN DWELL															
OTHER PRIORITY PREEMPT OUTPUT						NON-PRIORITY PREEMPT OUTPUT															

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

PREEMPT SUBMENU

4-2. ENABLE PREEMPT FILTERING / TSP / SCP

FILTERED INPUT	SOLID	PULSING
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

4-4. TSP / SCP SPLIT PATTERN

TSP / SCP SPLIT PATTERN									
IN EFFECT TIMING PLAN	SPL DM								
PHASE	1	2	3	4	5	6	7	8	
TSP / SCP MAX RDTN									
MIN GREEN									
MAX EXTN									
PHASE	9	10	11	12	13	14	15	16	
TSP / SCP MAX RDTN									
MIN GREEN									
MAX EXTN									

4-3. TSP / SCP PLAN

TSP / SCP PLAN	1	2	3	4	5	6										
TSP / SCP ENABLE																
SIGNAL TYPE																
DET LOCK																
DELAY TIME																
MAX PRESENCE																
PREEMPT ENABLES RESERVICE																
NO DELAY IN TSP																
ACT SF INHIBIT																
RESERVICE CYCLES																
TSP OR SCP	FREE DEFAULT PATTERN															
TSP / SCP PHASE																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TSP / SCP1																
TSP / SCP2																
TSP / SCP3																
TSP / SCP4																
TSP / SCP5																
TSP / SCP6																

TSP / SCP SPLIT PATTERN									
IN EFFECT TIMING PLAN	SPL DM								
PHASE	1	2	3	4	5	6	7	8	
TSP / SCP MAX RDTN									
MIN GREEN									
MAX EXTN									
PHASE	9	10	11	12	13	14	15	16	
TSP / SCP MAX RDTN									
MIN GREEN									
MAX EXTN									

TSP / SCP SPLIT PATTERN									
IN EFFECT TIMING PLAN	SPL DM								
PHASE	1	2	3	4	5	6	7	8	
TSP / SCP MAX RDTN									
MIN GREEN									
MAX EXTN									
PHASE	9	10	11	12	13	14	15	16	
TSP / SCP MAX RDTN									
MIN GREEN									
MAX EXTN									

120 TSP / SCP SPLIT PATTERNS AVAILBLE



PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

TIME BASE SUBMENU

5-1. CLOCK / CALENDAR DATA

DATE SET		TIME SET	
ENABLE MANUAL ACTION PLAN	0		
SYNC REFERENCE TIME	0:00	SYNC REFERENCE	REFERENCE TIME
STANDARD TIME FROM GMT	-8	DAYLIGHT SAVINGS	USDLS
TIME TO RESET INPUT SET TIME			03:30:00

5-2. ACTION PLAN

ACTION PLAN	1		
PATTERN	1	SYSTEM OVERRIDE	YES
TIMING PLAN	0	CONTROLLER SEQUENCE	0
VEHICLE DETECTOR PLAN	0	DETECTOR LOG	NONE
FLASH	NO	RED REST	NO
VEH DETECTOR DIAG PLAN	0	PED DETECTOR DIAG PLAN	0
DIMMING ENABLE	NO		
PHASE	1	2	3
PED RECALL			
WALK 2			
VEH EXT 2			
VEH RECALL			
MAX RECALL			
MAX 2			
PHASE	1	2	3
MAX 3			
COND SERV INHIBIT			
OMIT			
SPECIAL FUNCTION			(1-8)
AUX FUNCTION		(1-3)	
	1	2	3
LP 1-15			
LP 16-30			
LP 31-45			
LP 46-60			
LP 61-75			
LP 76-90			
LP 91-100			

ACTION PLAN	2		
PATTERN	2	SYSTEM OVERRIDE	YES
TIMING PLAN	0	CONTROLLER SEQUENCE	0
VEHICLE DETECTOR PLAN	0	DETECTOR LOG	NONE
FLASH	NO	RED REST	NO
VEH DETECTOR DIAG PLAN	0	PED DETECTOR DIAG PLAN	0
DIMMING ENABLE	NO		
PHASE	1	2	3
PED RECALL			
WALK 2			
VEH EXT 2			
VEH RECALL			
MAX RECALL			
MAX 2			
PHASE	1	2	3
MAX 3			
COND SERV INHIBIT			
OMIT			
SPECIAL FUNCTION			(1-8)
AUX FUNCTION		(1-3)	
	1	2	3
LP 1-15			
LP 16-30			
LP 31-45			
LP 46-60			
LP 61-75			
LP 76-90			
LP 91-100			

PROGRAM REFERENCE CARD

INTERSECTION:

CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: By:

TIME BASE SUBMENU

5-2. ACTION PLAN (CONTINUED)

ACTION PLAN		3	
PATTERN	3	SYSTEM OVERRIDE	YES
TIMING PLAN	0	CONTROLLER SEQUENCE	0
VEHICLE DETECTOR PLAN	0	DETECTOR LOG	NONE
FLASH	NO	RED REST	NO
VEH DETECTOR DIAG PLAN	0	PED DETECTOR DIAG PLAN	0
DIMMING ENABLE	NO		
PHASE			
	1	2	3
PED RECALL			
WALK 2			
VEH EXT 2			
VEH RECALL			
MAX RECALL			
MAX 2			
PHASE			
	1	2	3
MAX 3			
COND SERV INHIBIT			
OMIT			
SPECIAL FUNCTION			(1-8)
AUX FUNCTION		(1-3)	
PHASE			
	1	2	3
LP 1-15			
LP 16-30			
LP 31-45			
LP 46-60			
LP 61-75			
LP 76-90			
LP 91-100			

ACTION PLAN		4	
PATTERN	254	SYSTEM OVERRIDE	YES
TIMING PLAN	0	CONTROLLER SEQUENCE	0
VEHICLE DETECTOR PLAN	0	DETECTOR LOG	NONE
FLASH	NO	RED REST	NO
VEH DETECTOR DIAG PLAN	0	PED DETECTOR DIAG PLAN	0
DIMMING ENABLE	NO		
PHASE			
	1	2	3
PED RECALL			
WALK 2			
VEH EXT 2			
VEH RECALL			
MAX RECALL			
MAX 2			
PHASE			
	1	2	3
MAX 3			
COND SERV INHIBIT			
OMIT			
SPECIAL FUNCTION			(1-8)
AUX FUNCTION		(1-3)	
PHASE			
	1	2	3
LP 1-15			
LP 16-30			
LP 31-45			
LP 46-60			
LP 61-75			
LP 76-90			
LP 91-100			

ACTION PLAN		5	
PATTERN		SYSTEM OVERRIDE	
TIMING PLAN		CONTROLLER SEQUENCE	
VEHICLE DETECTOR PLAN		DETECTOR LOG	
FLASH		RED REST	
VEH DETECTOR DIAG PLAN		PED DETECTOR DIAG PLAN	
DIMMING ENABLE			
PHASE			
	1	2	3
PED RECALL			
WALK 2			
VEH EXT 2			
VEH RECALL			
MAX RECALL			
MAX 2			
PHASE			
	1	2	3
MAX 3			
COND SERV INHIBIT			
OMIT			
SPECIAL FUNCTION			(1-8)
AUX FUNCTION		(1-3)	
PHASE			
	1	2	3
LP 1-15			
LP 16-30			
LP 31-45			
LP 46-60			
LP 61-75			
LP 76-90			
LP 91-100			

ACTION PLAN		6	
PATTERN		SYSTEM OVERRIDE	
TIMING PLAN		CONTROLLER SEQUENCE	
VEHICLE DETECTOR PLAN		DETECTOR LOG	
FLASH		RED REST	
VEH DETECTOR DIAG PLAN		PED DETECTOR DIAG PLAN	
DIMMING ENABLE			
PHASE			
	1	2	3
PED RECALL			
WALK 2			
VEH EXT 2			
VEH RECALL			
MAX RECALL			
MAX 2			
PHASE			
	1	2	3
MAX 3			
COND SERV INHIBIT			
OMIT			
SPECIAL FUNCTION			(1-8)
AUX FUNCTION		(1-3)	
PHASE			
	1	2	3
LP 1-15			
LP 16-30			
LP 31-45			
LP 46-60			
LP 61-75			
LP 76-90			
LP 91-100			

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

TIME BASE SUBMENU

5-3. DAY PLAN

DAY PLAN IN EFFECT		
DAY PLAN		1
EVENT	ACTION PLAN	START TIME
1	4	00:00
2	2	06:00
3	1	09:00
4	3	15:00
5	1	18:30
6	4	21:00
7		
8		
9		
10		
11		
12		
13		
14		
15		
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48		
49		
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DAY PLAN IN EFFECT		
DAY PLAN		2
EVENT	ACTION PLAN	START TIME
1	4	00:00
2		
3		
4		
5		
6		
7		
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9		
10		
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12		
13		
14		
15		
16		
17		
18		
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DAY PLAN IN EFFECT		
DAY PLAN		3
EVENT	ACTION PLAN	START TIME
1		
2		
3		
4		
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6		
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11		
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13		
14		
15		
16		
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**PROGRAM REFERENCE CARD**

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PP By: EI

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**TIME BASE SUBMENU**

**5-5. EXCEPTION DAY PROGRAM**

EXCEPTION DAY	FLOAT / FIXED	MON / MON	DOW / DOM	WOM / YEAR	DAY PLAN
1	FIXED	1	1	0	2
2	FIXED	7	4	0	2
3	FIXED	44	11	0	2
4	FIXED	12	24	0	2
5	FIXED	12	25	0	2
6	FLOAT	1	2	3	2
7	FLOAT	2	2	3	2
8	FLOAT	5	2	5	2
9	FLOAT	9	2	1	2
10	FLOAT	11	5	4	2
11					
12					
13					
14					
15					
16					
17					
18					
19					
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31					
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33					
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35					
36					

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

DETECTOR SUBMENU

6-1. VEHICLE DETECTOR PHASE ASSIGNMENT

VEHICLE DETECTOR PLAN NUMBER		1															
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	X															
2	2		X														
3	2		X														
4	2		X														
5	2		X														
6	2		X														
7	4				X												
8	4				X												
9	6						X										
10	6						X										
11	6						X										
12	6						X										
13	0																
14	0																
15	0																
16	0																
17	0																
18	0																
19	0																
20	0																
21	0																
22	0																
23	0																
24	0																
25	0																
26	0																
27	0																
28	0																
29	0																
30	0																
31	0																
32	0																
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44	0																
45	0																
46	0																
47	0																
48	0																
49	0																
50	0																
51	0																
52	0																
53	0																
54	0																
55	0																
56	0																
57	0																
58	0																
59	0																
60	0																
61	0																
62	0																
63	0																
64	0																

FOUR VEHICLE DETECTOR PLANS AVAILABLE

PROGRAM REFERENCE CARD

INTERSECTION:

CENTRAL AV @ N. ARTESIA BL

Date Prepared: 9-13-10 PD By: EJ

T.S. No.: 4158

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

DETECTOR SUBMENU

6-2. VEHICLE DETECTOR SETUP

DETECTOR NUMBER		1																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
		X																			
EXTEND TIME		0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		NO		X-SWITCH PHASE		0															
QUEUE OPTION		NO		QUEUE LIMIT		0															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		NO		RED LOCK		NO															

DETECTOR NUMBER		5																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
			X																		
EXTEND TIME		1.0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		NO		X-SWITCH PHASE		0															
QUEUE OPTION		YES		QUEUE LIMIT		25															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		NO		RED LOCK		NO															

DETECTOR NUMBER		2																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
		X																			
EXTEND TIME		0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		YES		X-SWITCH PHASE		0															
QUEUE OPTION		NO		QUEUE LIMIT		0															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		YES		RED LOCK		YES															

DETECTOR NUMBER		6																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
			X																		
EXTEND TIME		1.0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		NO		X-SWITCH PHASE		0															
QUEUE OPTION		YES		QUEUE LIMIT		25															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		NO		RED LOCK		NO															

DETECTOR NUMBER		3																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
		X																			
EXTEND TIME		0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		YES		X-SWITCH PHASE		0															
QUEUE OPTION		NO		QUEUE LIMIT		0															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		YES		RED LOCK		YES															

DETECTOR NUMBER		7																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
				X																	
EXTEND TIME		0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		YES		X-SWITCH PHASE		0															
QUEUE OPTION		NO		QUEUE LIMIT		0															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		YES		RED LOCK		YES															

DETECTOR NUMBER		4																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
		X																			
EXTEND TIME		1.0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		NO		X-SWITCH PHASE		0															
QUEUE OPTION		YES		QUEUE LIMIT		25															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		NO		RED LOCK		NO															

DETECTOR NUMBER		8																			
ECPI TYPE				TS2 DETECTOR																	
VEH DETECTOR PLAN #		1		ECPI LOG																NO	
DETECTOR	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
			X																		
EXTEND TIME		2.0		DELAY TIME		0															
CALL OPTION		YES		PASSAGE OPTION		YES															
ADDED OPTION		NO		X-SWITCH PHASE		0															
QUEUE OPTION		YES		QUEUE LIMIT		20															
NTCIP OCCUPANCY		NO		NTCIP VOLUME		NO															
YELLOW LOCK		NO		RED LOCK		NO															

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: [Signature]  
T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

DETECTOR SUBMENU

6-2. VEHICLE DETECTOR SETUP

DETECTOR NUMBER		9	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		0	
CALL OPTION		YES	
ADDED OPTION		YES	
QUEUE OPTION		NO	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		YES	

DETECTOR NUMBER		13	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		0	
CALL OPTION		YES	
ADDED OPTION		YES	
QUEUE OPTION		NO	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		YES	

DETECTOR NUMBER		10	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		0	
CALL OPTION		YES	
ADDED OPTION		YES	
QUEUE OPTION		NO	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		YES	

DETECTOR NUMBER		14	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		0	
CALL OPTION		YES	
ADDED OPTION		YES	
QUEUE OPTION		NO	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		YES	

DETECTOR NUMBER		11	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		1.0	
CALL OPTION		YES	
ADDED OPTION		NO	
QUEUE OPTION		YES	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		NO	

DETECTOR NUMBER		15	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		0	
CALL OPTION		YES	
ADDED OPTION		NO	
QUEUE OPTION		YES	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		NO	

DETECTOR NUMBER		12	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		1.0	
CALL OPTION		YES	
ADDED OPTION		NO	
QUEUE OPTION		YES	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		NO	

DETECTOR NUMBER		16	
ECPI TYPE		TS2 DETECTOR	
VEH DETECTOR PLAN #		1	
DETECTOR PHASE		ECPI LOG	
		NO	
DETECTOR	PHASE	1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
			X
EXTEND TIME		0	
CALL OPTION		YES	
ADDED OPTION		NO	
QUEUE OPTION		YES	
NTCIP OCCUPANCY		NO	
YELLOW LOCK		NO	





PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: E1

T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

DETECTOR SUBMENU

6-5. VEHICLE DETECTOR DIAGNOSTICS

VEHICLE DIAGNOSTIC PLAN NUMBER					FAILED							FAILED	
DETECTOR	COUNTS	ACT	PRES	MULTIPLIER	TIME	CL DELAY	DETECTOR	COUNTS	ACT	PRES	MULTIPLIER	TIME	CL DELAY
1							33						
2							34						
3							35						
4							36						
5							37						
6							38						
7							39						
8							40						
9							41						
10							42						
11							43						
12							44						
13							45						
14							46						
15							47						
16							48						
17							49						
18							50						
19							51						
20							52						
21							53						
22							54						
23							55						
24							56						
25							57						
26							58						
27							59						
28							60						
29							61						
30							62						
31							63						
32							64						

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: EI

T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

DETECTOR SUBMENU

6-6. PEDESTRIAN DETECTOR DIAGNOSTICS

PEDESTRIAN DIAGNOSTIC PLAN NUMBER				1
DETECTOR	COUNTS	ACT	PRES	MULTIPLIER
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PEDESTRIAN DIAGNOSTIC PLAN NUMBER				3
DETECTOR	COUNTS	ACT	PRES	MULTIPLIER
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PEDESTRIAN DIAGNOSTIC PLAN NUMBER				2
DETECTOR	COUNTS	ACT	PRES	MULTIPLIER
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PEDESTRIAN DIAGNOSTIC PLAN NUMBER				4
DETECTOR	COUNTS	ACT	PRES	MULTIPLIER
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AV @ N. ARTESIA BL Date Prepared: 9-13-10 PD By: EJ  
T.S. No.: 4158 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**DETECTOR ASSIGNMENT SUMMARY WORKSHEET**  
(INFORMATION ONLY WORKSHEET)

APPR	LANE(S)	DESCRIPTION	DESIGNATION	DETECTOR NUMBER	DETECTOR TYPE	ASSIGNED PHASE(S)	DELAY TIME	EXTEND TIME	QUEUE LIMIT TIME
S	LT	H - 6'X50'	1-S-Ø1	1	0	1			
N	1	A - 6'X6'	1-N-Ø2	2	0	2			
N	2	A - 6'X6'	2-N-Ø2	3	0	2			
N	1	Q - 6'X50'	3-N-Ø2	4	5	2		1.0	25
N	2	Q - 6'X50'	4-N-Ø2	5	5	2		1.0	25
N	3	Q - 6'X50'	5-N-Ø2	6	5	2		1.0	25
E	ALL	A - 3 - 6'X6'	1-E-Ø4	7	0	4			
E	ALL	Q - 6 - 6'X6'	2-E-Ø4	8	5	4		2.0	20
S	1	A - 6'X6'	1-S-Ø6	9	0	6			
S	2	A - 6'X6'	2-S-Ø6	10	0	6			
S	1	Q - 6'X50'	3-S-Ø6	11	5	6		1.0	25
S	2	Q - 6'X50'	4-S-Ø6	12	5	6		1.0	25
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				28					
				29					
				30					
				31					
				32					

COMMENTS:

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL

Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159

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	9	10						
RING 2	5	6	7	8	11	12						
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						
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			11	6	X
4	4		12		
5			13		
6	6		14		
7			15		
8			16		

4. SDLC OPTIONS/ENABLES

	BIU NUMBER							
	1	2	3	4	5	6	7	8
TERM & FACIL								
DETECTOR RACK	X							
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)
6)	7)	8)	9)	10)				

5. PORT 2 CONFIGURATION

PORT 2 PROTOCOL	Terminal
PORT 2 ENABLE	YES
AB3418 ADDRESS	0
AB3418 GROUP ADDRESS	0
AB3418 RESPONSE DELAY	0
AB3418 SINGLE FLAG ENABLE	NO
AB3418 DROP-OUT TIME	0
AB3418 TOD SF SELECT	0
DATA RATE (BPS)	1200 bps
DATA, PARITY, STOP	8,0,1

6. PORT 3 CONFIGURATION

PORT 3 PROTOCOL	Telemetry
PORT 3 ENABLE	NO
TELEMETRY ADDRESS	0
SYSTEM DETECTOR 9-16 ADDRESS	0
TELEMETRY RESPONSE DELAY	8000
AB3418 ADDRESS	0
AB3418 GROUP ADDRESS	0
AB3418 RESPONSE DELAY	0
AB3418 SINGLE FLAG ENABLE	NO
AB3418 DROP-OUT TIME	0
AB3418 TOD SF SELECT	0
DUPLEX -- HALF OR FULL	FULL
MODEM DATA RATE (BPS)	1200 bps
DATA, PARITY, STOP	8,0,1

8. UTILITIES SUBMENU

5. SIGN ON

SOFTWARE ASSY		VERSION
BOOT	32783	1.23
MAIN PROGRAM	32787	1.56
HELP	32789	1.47
CONFIGURATION	32790	C8022



PROGRAM REFERENCE CARD

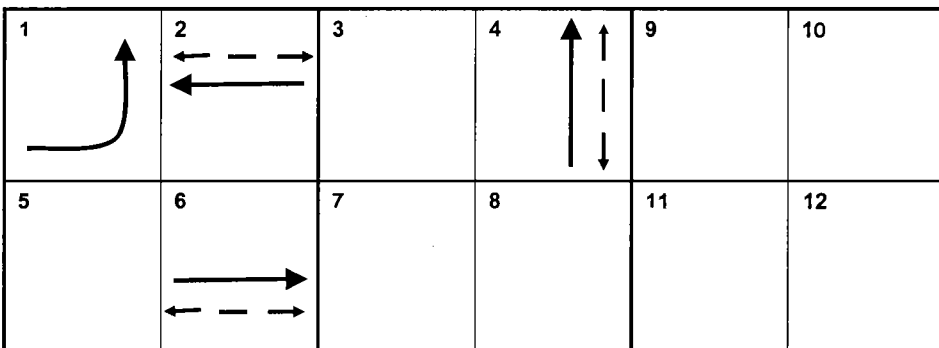
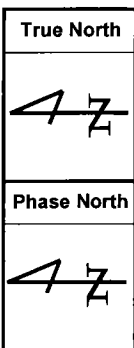
INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

2. CONTROLLER SUBMENU

1. CONTROLLER TIMING DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MIN GREEN	4	10		4		10						
BIKE GREEN	0	0		0		0						
CS MIN GREEN	0	0		0		0						
WALK	0	7		7		7						
PED CLEAR	0	10		22		10						
VEH EXT	2.0	4.0		4.0		4.0						
VEH EXT 2	0.0	0.0		0.0		0.0						
MAX EXT	0	0		0		0						
MAX 1	20	50		30		50						
MAX 2	20	100		30		100						
MAX 3	0	0		0		0						
DET MAX	0	0		0		0						
YELLOW	4.0	4.0		4.5		4.0						
RED CLEAR	1.0	1.0		1.0		1.0						
RED REVERT	2.0	2.0		2.0		2.0						
ACT B4	0	0		0		0						
SEC/ACT	0.0	2.2		2.2		2.2						
MAX INITIAL	0	25		20		25						
TIME B4 REDUCTION	0	15		15		15						
CARS WT	0	255		255		255						
TIME TO REDUCE	0	15		15		15						
MIN GAP	2.0	3.0		3.0		3.0						



COMMENTS:







PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

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						6						
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 OVL P FLASH						SIMULTANEOUS GAP GROUP 1						ON
LOCK DETECTORS IN RED ONLY						SIMULTANEOUS GAP GROUP 2						ON
RESERVED						SIMULTANEOUS GAP GROUP 3						

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL

Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

3. COORDINATOR SUBMENU

TIME OF DAY OPERATION SUMMARY			
PLAN 1	0900-1500; 1830-2100 M-F	PLAN 4	
PLAN 2	0600 - 0900 M - F	PLAN 5	
PLAN 3	1500 - 1830 M - F	PLAN 6	
PLAN 7		PLAN 8	
PLAN 9		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	OFF	MANUAL PATTERN	0
SPLIT DEMAND:		DEMAND 1	DEMAND 2
DEMAND CALL TIME			
DEMAND CYCLE COUNT			
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	
2	10	8	
3		9	
4	4	10	
5		11	
6	10	12	

INTERSECTION: \_\_\_\_\_

CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL

Date Prepared: 9-14-10 PD By: [E]

T.S. No.: 4159

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

3. COORDINATION SUBMENU (Continued)

4. PATTERN DATA

-OFF		
COORD PATTERN	1	
CYCLE LENGTH	90	111
OFFSET	5	
		C/O/S

-AM		
COORD PATTERN	2	
CYCLE LENGTH	90	211
OFFSET	1	
		C/O/S

3. COORDINATION SUBMENU (Continued)

SPLITS												
PHASE 1	19	PHASE 2	36	PHASE 3		PHASE 4	35					
PHASE 5		PHASE 6	36	PHASE 7		PHASE 8						
PHASE 9		PHASE 10		PHASE 11		PHASE 12						
VEH PERMISSIVE	[1]			[2]								
VEH PERM 2 DISP												
PHASE RESERVE												
SPLIT EXTENSION/RING	[1]	0	[2]	0								
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												
ALTERNATE SEQUENCE	A	B	C	D	E	F						

SPLITS												
PHASE 1	19	PHASE 2	33	PHASE 3		PHASE 4	38					
PHASE 5		PHASE 6	33	PHASE 7		PHASE 8						
PHASE 9		PHASE 10		PHASE 11		PHASE 12						
VEH PERMISSIVE	[1]			[2]								
VEH PERM 2 DISP												
PHASE RESERVE												
SPLIT EXTENSION/RING	[1]	0	[2]	0								
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												
ALTERNATE SEQUENCE	A	B	C	D	E	F						

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL

Date Prepared: 9-14-10 AD By: [Signature]

T.S. No.: 4159

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

3. COORDINATION SUBMENU (Continued)

4. PATTERN DATA (Continued)

.PM

COORD PATTERN	3	C/O/S	
CYCLE LENGTH	90		311
OFFSET	33		

COORD PATTERN												
CYCLE LENGTH												
OFFSET												

SPLITS	PHASE 1	PHASE 2	PHASE 3	PHASE 4								
PHASE 1	17	29	29	44								
PHASE 5		29										
PHASE 9												
VEH PERMISSIVE	[1]											
VEH PERM 2 DISP												
PHASE RESERVE												
SPLIT EXTENSION/RING	[1]	0	[2]	0								
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												
ALTERNATE SEQUENCE	A	B	C	D	E	F						

SPLITS	PHASE 1	PHASE 2	PHASE 3	PHASE 4								
PHASE 1												
PHASE 5												
PHASE 9												
VEH PERMISSIVE	[1]			[2]								
VEH PERM 2 DISP												
PHASE RESERVE												
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												
ALTERNATE SEQUENCE	A	B	C	D	E	F						





PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159 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	00:00
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	FLOAT	1	2	3	2
7	FLOAT	2	2	3	2
8	FLOAT	5	2	5	2
9	FLOAT	9	2	1	2
10	FLOAT	11	5	4	2
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					





INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL

Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159

Date Implemented: \_\_\_\_\_

By: \_\_\_\_\_

5. NIC/TOD SUBMENU (Continued)

TOD PROGRAM STEP																	
DAY PGM NUMBER																	
STEP BEGINS																	
FLASH																	
RED REST																	
SPARE 5																	
SPARE 3																	
TYPE 0 DELAY ENABLE																	
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																	
RED REST																	
SPARE 5																	
SPARE 3																	
TYPE 0 DELAY ENABLE																	
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																	
RED REST																	
SPARE 5																	
SPARE 3																	
TYPE 0 DELAY ENABLE																	
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 - 6)				

TOD PROGRAM STEP																	
DAY PGM NUMBER																	
STEP BEGINS																	
FLASH																	
RED REST																	
SPARE 5																	
SPARE 3																	
TYPE 0 DELAY ENABLE																	
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)				

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

6. DETECTORS SUBMENU

1. DETECTOR TYPE/TIMERS

DETECTOR	TYPE	LOCK	EXTEND	DELAY	NO RESET	LOG ENABLE
1	0					
2	0					
3	5		2.0			
4	5		2.0			
5	0					
6	0					
7	0					
8						
9						
10						
11	0					
12	0					
13	0					
14	0					
15	5		1.0			
16	5		1.0			
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

2. DETECTOR PHASE ASSIGNMENT

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



**PROGRAM REFERENCE CARD**

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL

Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159

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			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			

PROGRAM REFERENCE CARD

INTERSECTION: CENTRAL AVE @ ALBERTONI ST/S. ARTESIA BL Date Prepared: 9-14-10 PD By: [Signature]

T.S. No.: 4159 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

DETECTOR ASSIGNMENT WORK SHEET

LOOP LOCATION	LANE	DET ASSIGN	DET TYP #	PHASE												DET DELAY	DET EXTEND	QUEUE MAX	REMARKS			
				1	2	3	4	5	6	7	8	9	10	11	12							
1-S-Φ2	1	1	0		X																	A - 6' X 6'
2-S-Φ2	2	2	0		X																	A - 6' X 6'
3-S-Φ2	1,2	3	5		X															2.0	20	Q - 2 - 6' X 6'
4-S-Φ2	RT1,RT2	4	5		X															2.0	20	Q - 2 - 6' X 6'
1-W-Φ4	LT	5	0				X															A - 6' X 6'
2-W-Φ4	LT/TH	6	0				X															A - 6' X 6'
3-W-Φ4	TH/RT	7	0				X															A - 6' X 6'
		8																				
		9																				
		10																				
1-N-Φ1	LT1	11	0	X																		F - VIDEO
2-N-Φ1	LT2	12	0	X																		F - VIDEO
1-N-Φ6	1	13	0						X													A - VIDEO
2-N-Φ6	2	14	0						X													A - VIDEO
3-N-Φ6	1	15	5						X											1.0	20	Q - VIDEO
4-N-Φ6	2	16	5						X											1.0	20	Q - VIDEO

DETECTOR ASSIGNMENT DEFINITIONS

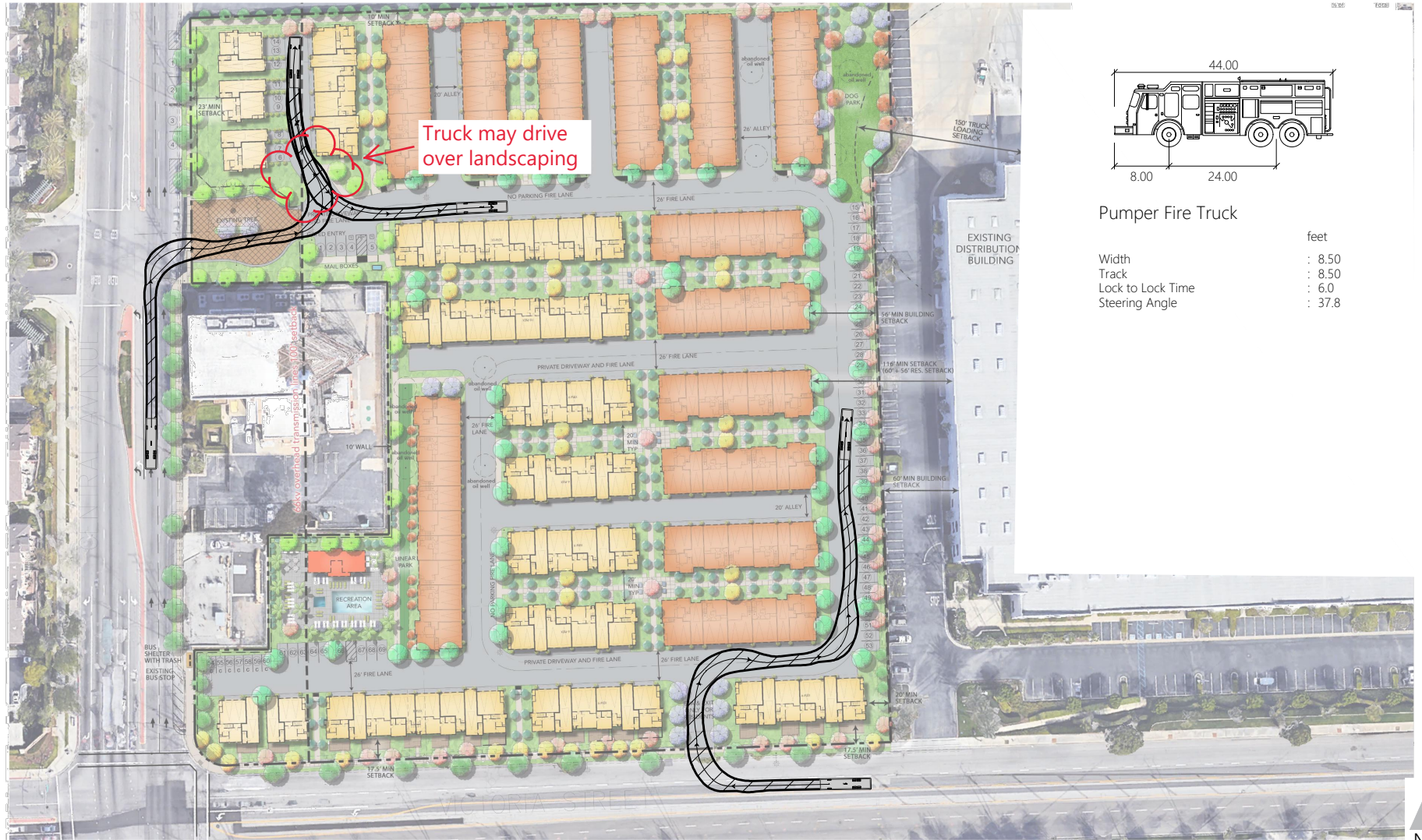
CONTROLLER	CONNECTOR'S A,B,C								CONNECTOR D								CONNECTOR TELEMETRY								CONNECTOR TYPE 1							
	DETECTOR								DETECTOR								DETECTOR								INPUT TYPE 1 ONLY							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
ASC-2																																

\* = 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 G:  
TRUCK TURN ANALYSIS**



Pumper Fire Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

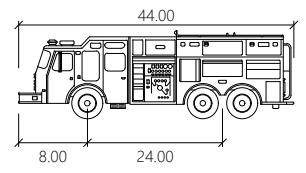
Appendix G Figure 1

## Pumper Fire Truck Ingress Turns Victoria Greens Project, Carson, CA



CONCEPTUAL - NOT FOR CONSTRUCTION  
 DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED





Pumper Fire Truck

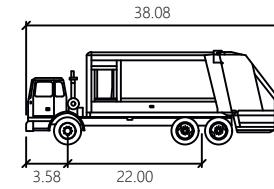
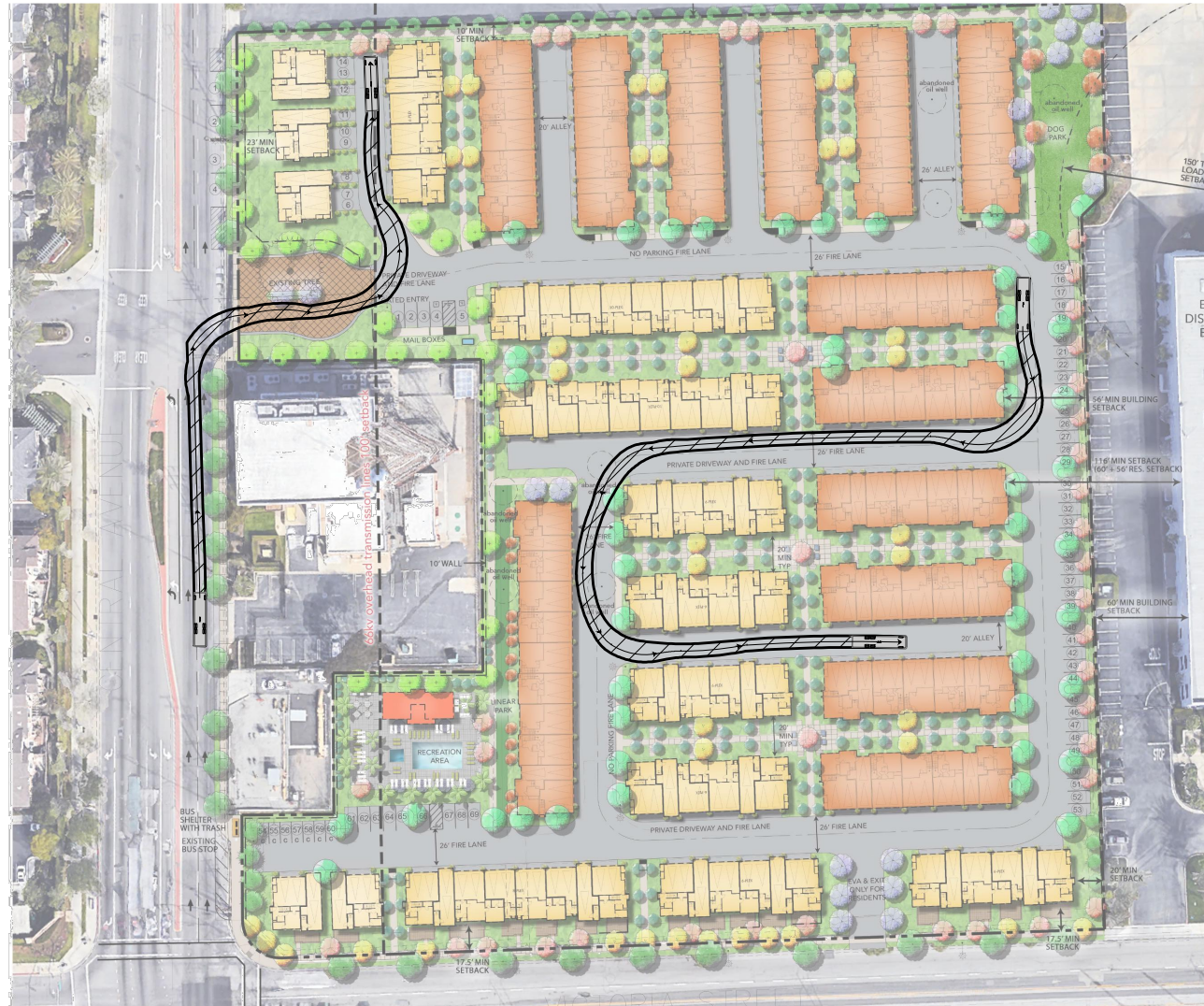
	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 37.8



CONCEPTUAL - NOT FOR CONSTRUCTION  
 DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED

Appendix G Figure 2  
 Pumper Fire Truck Egress Turns  
 Victoria Greens Project, Carson, CA





Rear-Load Garbage Truck

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 30



CONCEPTUAL - NOT FOR CONSTRUCTION  
 DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED

Appendix G Figure 3  
 Rear-Load Garbage Truck Ingress Turns  
 Victoria Greens Project, Carson, CA





Appendix G Figure 4

## Rear-Load Garbage Truck Egress Turns Victoria Greens Project, Carson, CA



CONCEPTUAL - NOT FOR CONSTRUCTION  
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED

**APPENDIX H:  
RAMP INTERSECTION LOS SHEETS,  
QUEUE REPORTS, AND SIGNAL  
TIMING REPORTS**

**RAMP INTERSECTION LOS SHEETS**

# HCM 6th Signalized Intersection Summary

## 4: Central Avenue & Artesia Boulevard





















06/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↑↑			↑↑↑	
Traffic Volume (veh/h)	0	0	0	688	213	304	268	683	0	0	852	195
Future Volume (veh/h)	0	0	0	688	213	304	268	683	0	0	852	195
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				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				750	230	230	291	742	0	0	926	212
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				1034	249	249	304	1983	0	0	1387	316
Arrive On Green				0.30	0.30	0.30	0.36	1.00	0.00	0.00	0.70	0.70
Sat Flow, veh/h				3421	822	822	1711	3503	0	0	4152	910
Grp Volume(v), veh/h				750	0	460	291	742	0	0	758	380
Grp Sat Flow(s),veh/h/ln				1711	0	1644	1711	1706	0	0	1635	1631
Q Serve(g_s), s				17.6	0.0	24.4	15.0	0.0	0.0	0.0	11.9	12.0
Cycle Q Clear(g_c), s				17.6	0.0	24.4	15.0	0.0	0.0	0.0	11.9	12.0
Prop In Lane				1.00		0.50	1.00		0.00	0.00		0.56
Lane Grp Cap(c), veh/h				1034	0	497	304	1983	0	0	1137	567
V/C Ratio(X)				0.73	0.00	0.93	0.96	0.37	0.00	0.00	0.67	0.67
Avail Cap(c_a), veh/h				1045	0	502	304	1983	0	0	1137	567
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	1.00	0.75	0.75	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.1	0.0	30.4	28.7	0.0	0.0	0.0	10.8	10.8
Incr Delay (d2), s/veh				2.7	0.0	23.4	33.3	0.4	0.0	0.0	3.1	6.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.4	0.0	12.5	7.3	0.1	0.0	0.0	3.1	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.8	0.0	53.8	62.0	0.4	0.0	0.0	13.9	16.9
LnGrp LOS				C	A	D	E	A	A	A	B	B
Approach Vol, veh/h					1210			1033			1138	
Approach Delay, s/veh					39.5			17.8			14.9	
Approach LOS					D			B			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	21.0	36.3		32.7		57.3						
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0						
Max Green Setting (Gmax), s	16.0	31.0		27.5		52.0						
Max Q Clear Time (g_c+I1), s	17.0	14.0		26.4		2.0						
Green Ext Time (p_c), s	0.0	9.0		0.8		8.4						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				24.6								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	122	529	0	0	0	0	570	339	390	1150	0
Future Volume (veh/h)	386	122	529	0	0	0	0	570	339	390	1150	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	365	210	542				0	620	108	424	1250	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	618	649	547				0	1097	860	482	1782	0
Arrive On Green	0.36	0.36	0.36				0.00	0.32	0.32	0.29	1.00	0.00
Sat Flow, veh/h	1711	1796	1516				0	3503	2675	3319	3503	0
Grp Volume(v), veh/h	365	210	542				0	620	108	424	1250	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1516				0	1706	1337	1659	1706	0
Q Serve(g_s), s	15.6	7.6	32.0				0.0	13.6	2.6	11.0	0.0	0.0
Cycle Q Clear(g_c), s	15.6	7.6	32.0				0.0	13.6	2.6	11.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	618	649	547				0	1097	860	482	1782	0
V/C Ratio(X)	0.59	0.32	0.99				0.00	0.57	0.13	0.88	0.70	0.00
Avail Cap(c_a), veh/h	618	649	547				0	1097	860	516	1782	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.54	0.54	0.00
Uniform Delay (d), s/veh	23.4	20.8	28.6				0.0	25.3	21.6	31.2	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.4	35.9				0.0	2.1	0.3	8.5	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.2	16.5				0.0	5.5	0.8	4.1	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	21.2	64.4				0.0	27.4	21.9	39.7	1.3	0.0
LnGrp LOS	C	C	E				A	C	C	D	A	A
Approach Vol, veh/h		1117						728			1674	
Approach Delay, s/veh		43.5						26.6			11.0	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	18.1	33.9	38.0	52.0								
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0								
Max Green Setting (Gmax), s	14.0	28.0	32.5	47.0								
Max Q Clear Time (g_c+I1), s	13.0	15.6	34.0	2.0								
Green Ext Time (p_c), s	0.1	4.7	0.0	17.5								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			C									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

# HCM 6th Signalized Intersection Summary

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↗	↔		↖	↑↑			↑↑↑	
Traffic Volume (veh/h)	0	0	0	479	128	352	324	770	0	0	690	220
Future Volume (veh/h)	0	0	0	479	128	352	324	770	0	0	690	220
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		0.99
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				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				558	88	256	352	837	0	0	750	239
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				913	108	313	375	2104	0	0	1261	397
Arrive On Green				0.27	0.27	0.27	0.44	1.00	0.00	0.00	0.68	0.68
Sat Flow, veh/h				3421	404	1175	1711	3503	0	0	3847	1161
Grp Volume(v), veh/h				558	0	344	352	837	0	0	664	325
Grp Sat Flow(s),veh/h/ln				1711	0	1579	1711	1706	0	0	1635	1578
Q Serve(g_s), s				12.9	0.0	18.4	17.7	0.0	0.0	0.0	9.7	9.9
Cycle Q Clear(g_c), s				12.9	0.0	18.4	17.7	0.0	0.0	0.0	9.7	9.9
Prop In Lane				1.00		0.74	1.00		0.00	0.00		0.74
Lane Grp Cap(c), veh/h				913	0	421	375	2104	0	0	1118	540
V/C Ratio(X)				0.61	0.00	0.82	0.94	0.40	0.00	0.00	0.59	0.60
Avail Cap(c_a), veh/h				1045	0	482	380	2104	0	0	1118	540
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	1.00	0.49	0.49	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.9	0.0	30.9	24.7	0.0	0.0	0.0	10.9	10.9
Incr Delay (d2), s/veh				1.1	0.0	10.2	18.8	0.3	0.0	0.0	2.3	4.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.3	0.0	8.0	6.8	0.1	0.0	0.0	2.7	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.0	0.0	41.2	43.5	0.3	0.0	0.0	13.2	15.8
LnGrp LOS				C	A	D	D	A	A	A	B	B
Approach Vol, veh/h					902			1189			989	
Approach Delay, s/veh					34.3			13.1			14.1	
Approach LOS					C			B			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.7	35.8		29.5		60.5						
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0						
Max Green Setting (Gmax), s	20.0	27.0		27.5		52.0						
Max Q Clear Time (g_c+I1), s	19.7	11.9		20.4		2.0						
Green Ext Time (p_c), s	0.0	7.3		3.5		9.9						

### Intersection Summary

HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

### Notes





















User approved volume balancing among the lanes for turning movement.



# HCM 6th Signalized Intersection Summary

## 5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	806	194	0	0	0	0	822	493	271	891	0
Future Volume (veh/h)	294	806	194	0	0	0	0	822	493	271	891	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.99	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	320	876	187				0	893	445	295	968	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	655	1097	234				0	1148	895	360	1708	0
Arrive On Green	0.38	0.38	0.38				0.00	0.34	0.34	0.22	1.00	0.00
Sat Flow, veh/h	1711	2867	612				0	3503	2659	3319	3503	0
Grp Volume(v), veh/h	320	549	514				0	893	445	295	968	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1682				0	1706	1330	1659	1706	0
Q Serve(g_s), s	12.8	24.4	24.5				0.0	21.2	12.0	7.6	0.0	0.0
Cycle Q Clear(g_c), s	12.8	24.4	24.5				0.0	21.2	12.0	7.6	0.0	0.0
Prop In Lane	1.00		0.36				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	655	688	644				0	1148	895	360	1708	0
V/C Ratio(X)	0.49	0.80	0.80				0.00	0.78	0.50	0.82	0.57	0.00
Avail Cap(c_a), veh/h	732	768	720				0	1148	895	443	1708	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.64	0.64	0.00
Uniform Delay (d), s/veh	21.1	24.7	24.7				0.0	26.8	23.8	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.8	5.9	6.3				0.0	5.2	2.0	5.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	11.0	10.4				0.0	8.9	3.8	2.9	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	30.6	31.0				0.0	32.0	25.8	39.7	0.9	0.0
LnGrp LOS	C	C	C				A	C	C	D	A	A
Approach Vol, veh/h		1383						1338			1263	
Approach Delay, s/veh		28.7						30.0			9.9	
Approach LOS		C						C			A	
Timer - Assigned Phs	1	2		4								6
Phs Duration (G+Y+Rc), s	14.8	35.3		40.0								50.0
Change Period (Y+Rc), s	5.0	5.0		5.5								5.0
Max Green Setting (Gmax), s	12.0	24.0		38.5								41.0
Max Q Clear Time (g_c+I1), s	9.6	23.2		26.5								2.0
Green Ext Time (p_c), s	0.1	0.7		8.0								11.6
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			23.2									
HCM 6th LOS			C									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
 4: Central Avenue & Artesia Boulevard

06/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↑↑			↑↑↑	
Traffic Volume (veh/h)	0	0	0	690	213	304	285	689	0	0	854	195
Future Volume (veh/h)	0	0	0	690	213	304	285	689	0	0	854	195
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No		No			No
Adj Sat Flow, veh/h/ln				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				751	231	230	310	749	0	0	928	212
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				1035	249	248	304	1982	0	0	1387	316
Arrive On Green				0.30	0.30	0.30	0.36	1.00	0.00	0.00	0.69	0.69
Sat Flow, veh/h				3421	824	821	1711	3503	0	0	4154	909
Grp Volume(v), veh/h				751	0	461	310	749	0	0	759	381
Grp Sat Flow(s),veh/h/ln				1711	0	1645	1711	1706	0	0	1635	1632
Q Serve(g_s), s				17.7	0.0	24.4	16.0	0.0	0.0	0.0	11.9	12.0
Cycle Q Clear(g_c), s				17.7	0.0	24.4	16.0	0.0	0.0	0.0	11.9	12.0
Prop In Lane				1.00		0.50	1.00		0.00	0.00		0.56
Lane Grp Cap(c), veh/h				1035	0	498	304	1982	0	0	1136	567
V/C Ratio(X)				0.73	0.00	0.93	1.02	0.38	0.00	0.00	0.67	0.67
Avail Cap(c_a), veh/h				1045	0	503	304	1982	0	0	1136	567
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	1.00	0.74	0.74	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.0	0.0	30.4	29.0	0.0	0.0	0.0	10.8	10.8
Incr Delay (d2), s/veh				2.7	0.0	23.6	49.4	0.4	0.0	0.0	3.1	6.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.4	0.0	12.6	8.9	0.1	0.0	0.0	3.1	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.8	0.0	54.0	78.4	0.4	0.0	0.0	13.9	17.0
LnGrp LOS				C	A	D	F	A	A	A	B	B
Approach Vol, veh/h					1212			1059			1140	
Approach Delay, s/veh					39.6			23.2			14.9	
Approach LOS					D			C			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	21.0	36.3		32.7		57.3						
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0						
Max Green Setting (Gmax), s	16.0	31.0		27.5		52.0						
Max Q Clear Time (g_c+I1), s	18.0	14.0		26.4		2.0						
Green Ext Time (p_c), s	0.0	9.0		0.8		8.5						

Intersection Summary





















HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	122	534	0	0	0	0	593	346	390	1154	0
Future Volume (veh/h)	386	122	534	0	0	0	0	593	346	390	1154	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	367	207	547				0	645	116	424	1254	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	618	649	547				0	1097	860	482	1782	0
Arrive On Green	0.36	0.36	0.36				0.00	0.32	0.32	0.29	1.00	0.00
Sat Flow, veh/h	1711	1796	1516				0	3503	2675	3319	3503	0
Grp Volume(v), veh/h	367	207	547				0	645	116	424	1254	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1516				0	1706	1337	1659	1706	0
Q Serve(g_s), s	15.7	7.5	32.5				0.0	14.2	2.8	11.0	0.0	0.0
Cycle Q Clear(g_c), s	15.7	7.5	32.5				0.0	14.2	2.8	11.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	618	649	547				0	1097	860	482	1782	0
V/C Ratio(X)	0.59	0.32	1.00				0.00	0.59	0.13	0.88	0.70	0.00
Avail Cap(c_a), veh/h	618	649	547				0	1097	860	516	1782	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.54	0.54	0.00
Uniform Delay (d), s/veh	23.4	20.8	28.7				0.0	25.6	21.7	31.2	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.4	38.3				0.0	2.3	0.3	8.5	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.1	17.0				0.0	5.8	0.9	4.1	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	21.2	67.0				0.0	27.9	22.0	39.7	1.3	0.0
LnGrp LOS	C	C	E				A	C	C	D	A	A
Approach Vol, veh/h		1121						761			1678	
Approach Delay, s/veh		44.9						27.0			11.0	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	18.1	33.9	38.0	52.0								
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0								
Max Green Setting (Gmax), s	14.0	28.0	32.5	47.0								
Max Q Clear Time (g_c+I1), s	13.0	16.2	34.5	2.0								
Green Ext Time (p_c), s	0.1	4.7	0.0	17.6								

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 4: Central Avenue & Artesia Boulevard

06/11/2019





















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↑↑			↑↑↑	
Traffic Volume (veh/h)	0	0	0	486	128	352	334	774	0	0	696	220
Future Volume (veh/h)	0	0	0	486	128	352	334	774	0	0	696	220
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		0.99
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				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				561	92	256	363	841	0	0	757	239
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				918	112	312	380	2099	0	0	1246	389
Arrive On Green				0.27	0.27	0.27	0.44	1.00	0.00	0.00	0.45	0.45
Sat Flow, veh/h				3421	418	1163	1711	3503	0	0	3856	1154
Grp Volume(v), veh/h				561	0	348	363	841	0	0	669	327
Grp Sat Flow(s),veh/h/ln				1711	0	1581	1711	1706	0	0	1635	1579
Q Serve(g_s), s				12.9	0.0	18.6	18.4	0.0	0.0	0.0	14.0	14.2
Cycle Q Clear(g_c), s				12.9	0.0	18.6	18.4	0.0	0.0	0.0	14.0	14.2
Prop In Lane				1.00		0.74	1.00		0.00	0.00		0.73
Lane Grp Cap(c), veh/h				918	0	424	380	2099	0	0	1102	532
V/C Ratio(X)				0.61	0.00	0.82	0.95	0.40	0.00	0.00	0.61	0.61
Avail Cap(c_a), veh/h				1045	0	483	380	2099	0	0	1102	532
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.33	1.33
Upstream Filter(I)				1.00	0.00	1.00	0.46	0.46	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.8	0.0	30.9	24.6	0.0	0.0	0.0	20.3	20.4
Incr Delay (d2), s/veh				1.1	0.0	10.5	20.8	0.3	0.0	0.0	2.5	5.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.3	0.0	8.1	7.1	0.1	0.0	0.0	4.8	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				29.9	0.0	41.4	45.4	0.3	0.0	0.0	22.8	25.6
LnGrp LOS				C	A	D	D	A	A	A	C	C
Approach Vol, veh/h					909			1204			996	
Approach Delay, s/veh					34.3			13.9			23.7	
Approach LOS					C			B			C	
Timer - Assigned Phs	1	2		4			6					
Phs Duration (G+Y+Rc), s	25.0	35.3		29.7			60.3					
Change Period (Y+Rc), s	5.0	5.0		5.5			5.0					
Max Green Setting (Gmax), s	20.0	27.0		27.5			52.0					
Max Q Clear Time (g_c+I1), s	20.4	16.2		20.6			2.0					
Green Ext Time (p_c), s	0.0	5.9		3.4			10.0					
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.0								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

# HCM 6th Signalized Intersection Summary

## 5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	806	211	0	0	0	0	835	497	271	905	0
Future Volume (veh/h)	294	806	211	0	0	0	0	835	497	271	905	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.99	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	320	876	205				0	908	449	295	984	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	662	1088	254				0	1135	884	360	1695	0
Arrive On Green	0.39	0.39	0.39				0.00	0.33	0.33	0.22	0.99	0.00
Sat Flow, veh/h	1711	2812	658				0	3503	2659	3319	3503	0
Grp Volume(v), veh/h	320	559	522				0	908	449	295	984	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1674				0	1706	1330	1659	1706	0
Q Serve(g_s), s	12.7	25.0	25.0				0.0	21.8	12.2	7.6	0.4	0.0
Cycle Q Clear(g_c), s	12.7	25.0	25.0				0.0	21.8	12.2	7.6	0.4	0.0
Prop In Lane	1.00		0.39				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	662	695	647				0	1135	884	360	1695	0
V/C Ratio(X)	0.48	0.81	0.81				0.00	0.80	0.51	0.82	0.58	0.00
Avail Cap(c_a), veh/h	732	768	716				0	1135	884	443	1695	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.62	0.62	0.00
Uniform Delay (d), s/veh	20.8	24.6	24.6				0.0	27.3	24.1	34.4	0.2	0.0
Incr Delay (d2), s/veh	0.8	6.2	6.7				0.0	6.0	2.1	5.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	11.3	10.6				0.0	9.2	3.9	2.9	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	30.8	31.3				0.0	33.3	26.2	39.5	1.1	0.0
LnGrp LOS	C	C	C				A	C	C	D	A	A
Approach Vol, veh/h		1401						1357			1279	
Approach Delay, s/veh		28.9						30.9			9.9	
Approach LOS		C						C			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	14.8	34.9	40.3	49.7								
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0								
Max Green Setting (Gmax), s	12.0	24.0	38.5	41.0								
Max Q Clear Time (g_c+I1), s	9.6	23.8	27.0	2.4								
Green Ext Time (p_c), s	0.1	0.2	7.8	11.8								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			23.6									
HCM 6th LOS			C									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
 4: Central Avenue & Artesia Boulevard

06/11/2019























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔		↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	844	216	314	349	735	0	0	914	198
Future Volume (veh/h)	0	0	0	844	216	314	349	735	0	0	914	198
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				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				917	235	241	379	799	0	0	993	215
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				1099	260	267	380	1919	0	0	1148	248
Arrive On Green				0.32	0.32	0.32	0.44	1.00	0.00	0.00	0.57	0.57
Sat Flow, veh/h				3421	811	832	1711	3503	0	0	4197	872
Grp Volume(v), veh/h				917	0	476	379	799	0	0	804	404
Grp Sat Flow(s),veh/h/ln				1711	0	1643	1711	1706	0	0	1635	1638
Q Serve(g_s), s				22.4	0.0	24.9	19.9	0.0	0.0	0.0	18.8	18.9
Cycle Q Clear(g_c), s				22.4	0.0	24.9	19.9	0.0	0.0	0.0	18.8	18.9
Prop In Lane				1.00		0.51	1.00		0.00	0.00		0.53
Lane Grp Cap(c), veh/h				1099	0	528	380	1919	0	0	930	466
V/C Ratio(X)				0.83	0.00	0.90	1.00	0.42	0.00	0.00	0.86	0.87
Avail Cap(c_a), veh/h				1121	0	538	380	1919	0	0	930	466
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	1.00	0.61	0.61	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.3	0.0	29.2	25.0	0.0	0.0	0.0	17.9	18.0
Incr Delay (d2), s/veh				5.7	0.0	18.6	35.2	0.4	0.0	0.0	10.5	19.1
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				9.7	0.0	12.2	8.9	0.1	0.0	0.0	5.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				34.1	0.0	47.8	60.2	0.4	0.0	0.0	28.5	37.0
LnGrp LOS				C	A	D	E	A	A	A	C	D
Approach Vol, veh/h					1393			1178			1208	
Approach Delay, s/veh					38.8			19.6			31.3	
Approach LOS					D			B			C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	25.0	30.6		34.4		55.6						
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0						
Max Green Setting (Gmax), s	20.0	25.0		29.5		50.0						
Max Q Clear Time (g_c+I1), s	21.9	20.9		26.9		2.0						
Green Ext Time (p_c), s	0.0	3.0		2.0		9.3						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				30.4								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

# HCM 6th Signalized Intersection Summary

## 5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	392	124	718	0	0	0	0	698	441	401	1362	0
Future Volume (veh/h)	392	124	718	0	0	0	0	698	441	401	1362	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	426	135	747				0	759	219	436	1480	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	641	673	568				0	1037	813	496	1737	0
Arrive On Green	0.37	0.37	0.37				0.00	0.30	0.30	0.30	1.00	0.00
Sat Flow, veh/h	1711	1796	1516				0	3503	2675	3319	3503	0
Grp Volume(v), veh/h	426	135	747				0	759	219	436	1480	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1516				0	1706	1337	1659	1706	0
Q Serve(g_s), s	18.7	4.6	33.7				0.0	17.9	5.6	11.2	0.0	0.0
Cycle Q Clear(g_c), s	18.7	4.6	33.7				0.0	17.9	5.6	11.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	641	673	568				0	1037	813	496	1737	0
V/C Ratio(X)	0.67	0.20	1.32				0.00	0.73	0.27	0.88	0.85	0.00
Avail Cap(c_a), veh/h	641	673	568				0	1037	813	553	1737	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.21	0.21	0.00
Uniform Delay (d), s/veh	23.4	19.0	28.2				0.0	28.0	23.7	30.8	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.2	154.3				0.0	4.6	0.8	3.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	1.9	35.9				0.0	7.5	1.8	3.8	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	19.2	182.4				0.0	32.6	24.6	34.0	1.2	0.0
LnGrp LOS	C	B	F				A	C	C	C	A	A
Approach Vol, veh/h		1308						978			1916	
Approach Delay, s/veh		114.8						30.8			8.7	
Approach LOS		F						C			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	18.4	32.4	39.2	50.8								
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0								
Max Green Setting (Gmax), s	15.0	25.8	33.7	45.8								
Max Q Clear Time (g_c+I1), s	13.2	19.9	35.7	2.0								
Green Ext Time (p_c), s	0.2	3.5	0.0	22.2								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			46.9									
HCM 6th LOS			D									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												



HCM 6th Signalized Intersection Summary  
 4: Central Avenue & Artesia Boulevard

06/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷		↶	↷			↶↷	
Traffic Volume (veh/h)	0	0	0	599	129	361	496	833	0	0	748	222
Future Volume (veh/h)	0	0	0	599	129	361	496	833	0	0	748	222
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		0.99
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				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				651	140	265	539	905	0	0	813	241
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				983	159	301	513	2035	0	0	902	265
Arrive On Green				0.29	0.29	0.29	0.40	0.79	0.00	0.00	0.08	0.08
Sat Flow, veh/h				3421	554	1048	1711	3503	0	0	3912	1103
Grp Volume(v), veh/h				651	0	405	539	905	0	0	708	346
Grp Sat Flow(s),veh/h/ln				1711	0	1602	1711	1706	0	0	1635	1585
Q Serve(g_s), s				15.1	0.0	21.7	27.0	7.6	0.0	0.0	19.3	19.5
Cycle Q Clear(g_c), s				15.1	0.0	21.7	27.0	7.6	0.0	0.0	19.3	19.5
Prop In Lane				1.00		0.65	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				983	0	460	513	2035	0	0	787	381
V/C Ratio(X)				0.66	0.00	0.88	1.05	0.44	0.00	0.00	0.90	0.91
Avail Cap(c_a), veh/h				1026	0	481	513	2035	0	0	787	381
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.32	0.32	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.2	0.0	30.6	27.0	4.6	0.0	0.0	40.4	40.4
Incr Delay (d2), s/veh				1.8	0.0	17.1	37.0	0.2	0.0	0.0	15.3	27.9
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				6.2	0.0	10.3	14.3	1.9	0.0	0.0	10.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.0	0.0	47.7	64.0	4.8	0.0	0.0	55.7	68.3
LnGrp LOS				C	A	D	F	A	A	A	E	E
Approach Vol, veh/h					1056			1444			1054	
Approach Delay, s/veh					36.8			26.9			59.8	
Approach LOS					D			C			E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	32.0	26.7		31.3		58.7						
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0						
Max Green Setting (Gmax), s	27.0	20.5		27.0		52.5						
Max Q Clear Time (g_c+I1), s	29.0	21.5		23.7		9.6						
Green Ext Time (p_c), s	0.0	0.0		2.1		10.8						

Intersection Summary

HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D





















Notes

User approved volume balancing among the lanes for turning movement.



HCM 6th Signalized Intersection Summary  
 5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	814	376	0	0	0	0	1049	651	274	1066	0
Future Volume (veh/h)	297	814	376	0	0	0	0	1049	651	274	1066	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.99	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	323	885	385				0	1140	617	298	1159	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	673	935	404				0	1156	901	317	1671	0
Arrive On Green	0.39	0.39	0.39				0.00	0.34	0.34	0.03	0.16	0.00
Sat Flow, veh/h	1711	2376	1026				0	3503	2659	3319	3503	0
Grp Volume(v), veh/h	323	668	602				0	1140	617	298	1159	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1605				0	1706	1330	1659	1706	0
Q Serve(g_s), s	12.7	32.3	32.8				0.0	29.9	18.0	8.1	28.9	0.0
Cycle Q Clear(g_c), s	12.7	32.3	32.8				0.0	29.9	18.0	8.1	28.9	0.0
Prop In Lane	1.00		0.64				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	673	707	632				0	1156	901	317	1671	0
V/C Ratio(X)	0.48	0.94	0.95				0.00	0.99	0.69	0.94	0.69	0.00
Avail Cap(c_a), veh/h	675	709	633				0	1156	901	317	1671	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.17	0.17	0.00
Uniform Delay (d), s/veh	20.4	26.3	26.5				0.0	29.6	25.6	43.3	31.3	0.0
Incr Delay (d2), s/veh	0.8	21.4	24.9				0.0	23.4	4.2	9.8	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	17.2	16.2				0.0	15.0	5.8	3.8	13.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	47.7	51.4				0.0	53.0	29.9	53.1	31.8	0.0
LnGrp LOS	C	D	D				A	D	C	D	C	A
Approach Vol, veh/h		1593						1757			1457	
Approach Delay, s/veh		43.7						44.9			36.1	
Approach LOS		D						D			D	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	13.6	35.5	40.9	49.1								
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0								
Max Green Setting (Gmax), s	8.6	30.4	35.5	44.0								
Max Q Clear Time (g_c+I1), s	10.1	31.9	34.8	30.9								
Green Ext Time (p_c), s	0.0	0.0	0.6	8.0								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			41.8									
HCM 6th LOS			D									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
4: Central Avenue & Artesia Boulevard

06/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↑↑			↑↑↑	
Traffic Volume (veh/h)	0	0	0	846	216	314	366	741	0	0	916	198
Future Volume (veh/h)	0	0	0	846	216	314	366	741	0	0	916	198
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				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				920	235	241	398	805	0	0	996	215
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				1099	260	267	380	1919	0	0	1148	247
Arrive On Green				0.32	0.32	0.32	0.44	1.00	0.00	0.00	0.57	0.57
Sat Flow, veh/h				3421	811	832	1711	3503	0	0	4200	870
Grp Volume(v), veh/h				920	0	476	398	805	0	0	806	405
Grp Sat Flow(s),veh/h/ln				1711	0	1643	1711	1706	0	0	1635	1639
Q Serve(g_s), s				22.5	0.0	24.9	20.0	0.0	0.0	0.0	18.9	19.0
Cycle Q Clear(g_c), s				22.5	0.0	24.9	20.0	0.0	0.0	0.0	18.9	19.0
Prop In Lane				1.00		0.51	1.00		0.00	0.00		0.53
Lane Grp Cap(c), veh/h				1099	0	528	380	1919	0	0	930	466
V/C Ratio(X)				0.84	0.00	0.90	1.05	0.42	0.00	0.00	0.87	0.87
Avail Cap(c_a), veh/h				1121	0	538	380	1919	0	0	930	466
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	1.00	0.58	0.58	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.4	0.0	29.2	25.0	0.0	0.0	0.0	18.0	18.0
Incr Delay (d2), s/veh				5.9	0.0	18.6	48.0	0.4	0.0	0.0	10.7	19.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.7	0.0	12.1	10.3	0.1	0.0	0.0	5.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				34.2	0.0	47.8	73.0	0.4	0.0	0.0	28.7	37.3
LnGrp LOS				C	A	D	F	A	A	A	C	D
Approach Vol, veh/h					1396			1203			1211	
Approach Delay, s/veh					38.8			24.4			31.5	
Approach LOS					D			C			C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	25.0	30.6		34.4		55.6						
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0						
Max Green Setting (Gmax), s	20.0	25.0		29.5		50.0						
Max Q Clear Time (g_c+I1), s	22.0	21.0		26.9		2.0						
Green Ext Time (p_c), s	0.0	3.0		2.0		9.4						

Intersection Summary





















HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	392	124	723	0	0	0	0	721	448	401	1366	0
Future Volume (veh/h)	392	124	723	0	0	0	0	721	448	401	1366	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	426	135	753				0	784	227	436	1485	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	641	673	568				0	1037	813	496	1737	0
Arrive On Green	0.37	0.37	0.37				0.00	0.30	0.30	0.30	1.00	0.00
Sat Flow, veh/h	1711	1796	1516				0	3503	2675	3319	3503	0
Grp Volume(v), veh/h	426	135	753				0	784	227	436	1485	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1516				0	1706	1337	1659	1706	0
Q Serve(g_s), s	18.7	4.6	33.7				0.0	18.7	5.8	11.2	0.0	0.0
Cycle Q Clear(g_c), s	18.7	4.6	33.7				0.0	18.7	5.8	11.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	641	673	568				0	1037	813	496	1737	0
V/C Ratio(X)	0.67	0.20	1.33				0.00	0.76	0.28	0.88	0.86	0.00
Avail Cap(c_a), veh/h	641	673	568				0	1037	813	553	1737	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.21	0.21	0.00
Uniform Delay (d), s/veh	23.4	19.0	28.2				0.0	28.3	23.8	30.8	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.2	158.8				0.0	5.1	0.9	3.2	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	1.9	36.6				0.0	7.9	1.8	3.8	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	19.2	186.9				0.0	33.4	24.7	34.0	1.3	0.0
LnGrp LOS	C	B	F				A	C	C	C	A	A
Approach Vol, veh/h		1314						1011			1921	
Approach Delay, s/veh		117.7						31.5			8.7	
Approach LOS		F						C			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	18.4	32.4	39.2	50.8								
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0								
Max Green Setting (Gmax), s	15.0	25.8	33.7	45.8								
Max Q Clear Time (g_c+I1), s	13.2	20.7	35.7	2.0								
Green Ext Time (p_c), s	0.2	3.2	0.0	22.3								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			47.8									
HCM 6th LOS			D									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
 4: Central Avenue & Artesia Boulevard

06/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↑↑			↑↑↑	
Traffic Volume (veh/h)	0	0	0	606	129	361	506	837	0	0	754	222
Future Volume (veh/h)	0	0	0	606	129	361	506	837	0	0	754	222
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		0.99
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				1796	1796	1796	1796	1796	0	0	1796	1796
Adj Flow Rate, veh/h				659	140	265	550	910	0	0	820	241
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				7	7	7	7	7	0	0	7	7
Cap, veh/h				983	159	301	513	2034	0	0	904	264
Arrive On Green				0.29	0.29	0.29	0.40	0.79	0.00	0.00	0.08	0.08
Sat Flow, veh/h				3421	554	1048	1711	3503	0	0	3920	1096
Grp Volume(v), veh/h				659	0	405	550	910	0	0	712	349
Grp Sat Flow(s),veh/h/ln				1711	0	1602	1711	1706	0	0	1635	1586
Q Serve(g_s), s				15.3	0.0	21.7	27.0	7.7	0.0	0.0	19.5	19.6
Cycle Q Clear(g_c), s				15.3	0.0	21.7	27.0	7.7	0.0	0.0	19.5	19.6
Prop In Lane				1.00		0.65	1.00		0.00	0.00		0.69
Lane Grp Cap(c), veh/h				983	0	460	513	2034	0	0	786	381
V/C Ratio(X)				0.67	0.00	0.88	1.07	0.45	0.00	0.00	0.91	0.91
Avail Cap(c_a), veh/h				1026	0	481	513	2034	0	0	786	381
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.30	0.30	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.3	0.0	30.6	27.0	4.6	0.0	0.0	40.4	40.5
Incr Delay (d2), s/veh				1.9	0.0	17.0	43.8	0.2	0.0	0.0	16.0	28.8
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				6.3	0.0	10.3	15.3	1.9	0.0	0.0	10.2	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.2	0.0	47.6	70.9	4.8	0.0	0.0	56.4	69.3
LnGrp LOS				C	A	D	F	A	A	A	E	E
Approach Vol, veh/h					1064			1460			1061	
Approach Delay, s/veh					36.8			29.7			60.7	
Approach LOS					D			C			E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	32.0	26.6		31.4		58.6						
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0						
Max Green Setting (Gmax), s	27.0	20.5		27.0		52.5						
Max Q Clear Time (g_c+I1), s	29.0	21.6		23.7		9.7						
Green Ext Time (p_c), s	0.0	0.0		2.1		10.9						

Intersection Summary





















HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
5: Central Avenue & Albertoni Street

06/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	814	393	0	0	0	0	1062	655	274	1080	0
Future Volume (veh/h)	297	814	393	0	0	0	0	1062	655	274	1080	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.99	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	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	323	885	403				0	1154	621	298	1174	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	675	923	417				0	1153	898	317	1669	0
Arrive On Green	0.39	0.39	0.39				0.00	0.34	0.34	0.03	0.16	0.00
Sat Flow, veh/h	1711	2340	1056				0	3503	2659	3319	3503	0
Grp Volume(v), veh/h	323	678	610				0	1154	621	298	1174	0
Grp Sat Flow(s),veh/h/ln	1711	1796	1600				0	1706	1330	1659	1706	0
Q Serve(g_s), s	12.7	33.0	33.6				0.0	30.4	18.2	8.1	29.3	0.0
Cycle Q Clear(g_c), s	12.7	33.0	33.6				0.0	30.4	18.2	8.1	29.3	0.0
Prop In Lane	1.00		0.66				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	675	709	631				0	1153	898	317	1669	0
V/C Ratio(X)	0.48	0.96	0.97				0.00	1.00	0.69	0.94	0.70	0.00
Avail Cap(c_a), veh/h	675	709	631				0	1153	898	317	1669	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.15	0.15	0.00
Uniform Delay (d), s/veh	20.3	26.5	26.7				0.0	29.8	25.7	43.3	31.6	0.0
Incr Delay (d2), s/veh	0.8	23.7	27.9				0.0	26.8	4.4	8.9	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	18.0	17.0				0.0	15.8	5.9	3.8	13.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	50.2	54.6				0.0	56.6	30.1	52.2	32.0	0.0
LnGrp LOS	C	D	D				A	F	C	D	C	A
Approach Vol, veh/h		1611						1775			1472	
Approach Delay, s/veh		46.0						47.3			36.1	
Approach LOS		D						D			D	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	13.6	35.4	41.0	49.0								
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0								
Max Green Setting (Gmax), s	8.6	30.4	35.5	44.0								
Max Q Clear Time (g_c+I1), s	10.1	32.4	35.6	31.3								
Green Ext Time (p_c), s	0.0	0.0	0.0	7.9								
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			43.5									
HCM 6th LOS			D									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

## **RAMP INTERSECTION QUEUE REPORTS**

# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	449	861	291	742	1138
v/c Ratio	0.96	0.86	0.97	0.38	0.70
Control Delay	64.9	35.1	89.4	10.2	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	64.9	35.1	89.4	10.2	28.4
Queue Length 50th (ft)	273	217	182	102	202
Queue Length 95th (ft)	#482	#329	m#338	127	252
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	469	1002	299	1949	1618
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.96	0.86	0.97	0.38	0.70

### 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.

Queues

5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	378	750	620	368	424	1250
v/c Ratio	0.74	1.15dr	0.54	0.33	0.85	0.67
Control Delay	35.8	31.3	26.9	3.5	49.1	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	35.8	31.3	26.9	3.5	49.1	15.7
Queue Length 50th (ft)	196	188	155	0	136	214
Queue Length 95th (ft)	310	260	211	33	m#174	m286
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	554	1043	1153	1129	513	1854
Starvation Cap Reductn	0	0	0	0	0	94
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.72	0.54	0.33	0.83	0.71

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.

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



# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	359	684	352	837	989
v/c Ratio	0.81	0.72	0.94	0.42	0.67
Control Delay	45.2	26.4	66.4	15.3	29.8
Queue Delay	0.0	0.0	0.0	0.2	0.0
Total Delay	45.2	26.4	66.4	15.5	29.8
Queue Length 50th (ft)	202	143	218	153	182
Queue Length 95th (ft)	#348	209	m#278	m173	230
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	469	996	379	2005	1473
Starvation Cap Reductn	0	0	0	481	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.77	0.69	0.93	0.55	0.67

### 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.

Queues

5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	288	1119	893	536	295	968
v/c Ratio	0.45	0.84	0.92	0.65	0.73	0.62
Control Delay	21.3	29.8	48.4	26.9	60.1	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	21.3	29.8	48.4	26.9	60.1	16.5
Queue Length 50th (ft)	123	291	266	122	94	136
Queue Length 95th (ft)	200	384	#398	186	m133	169
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	656	1358	968	819	436	1573
Starvation Cap Reductn	0	0	0	0	0	82
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.82	0.92	0.65	0.68	0.65

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.

# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	450	862	310	749	1140
v/c Ratio	0.96	0.86	1.04	0.38	0.70
Control Delay	65.3	35.2	104.1	10.0	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	35.2	104.1	10.0	28.4
Queue Length 50th (ft)	274	217	~201	101	202
Queue Length 95th (ft)	#485	#330	m#368	126	253
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	469	1001	299	1949	1618
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.96	0.86	1.04	0.38	0.70

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

# Queues

## 5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	378	755	645	376	424	1254
v/c Ratio	0.74	1.16dr	0.56	0.33	0.85	0.68
Control Delay	35.6	31.4	27.3	3.5	49.0	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	35.6	31.4	27.3	3.5	49.0	15.8
Queue Length 50th (ft)	196	190	163	0	136	215
Queue Length 95th (ft)	310	262	221	33	m#173	m287
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	554	1043	1150	1133	513	1852
Starvation Cap Reductn	0	0	0	0	0	93
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.72	0.56	0.33	0.83	0.71

### 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.

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

# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	364	686	363	841	996
v/c Ratio	0.81	0.72	0.96	0.42	0.69
Control Delay	45.2	26.2	69.0	15.4	30.5
Queue Delay	0.0	0.0	0.0	0.2	0.0
Total Delay	45.2	26.2	69.0	15.7	30.5
Queue Length 50th (ft)	205	144	225	154	184
Queue Length 95th (ft)	#356	210	m#284	m171	232
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	469	995	378	1995	1446
Starvation Cap Reductn	0	0	0	483	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.69	0.96	0.56	0.69

### 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.

# Queues

## 5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	288	1137	908	540	295	984
v/c Ratio	0.45	0.86	0.94	0.66	0.73	0.63
Control Delay	21.2	30.5	51.3	27.1	59.7	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	21.2	30.5	51.3	27.1	59.7	16.6
Queue Length 50th (ft)	123	298	~276	123	94	138
Queue Length 95th (ft)	200	393	#408	188	m133	173
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	656	1357	964	816	436	1569
Starvation Cap Reductn	0	0	0	0	0	79
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.84	0.94	0.66	0.68	0.66

### 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.

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

# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	504	989	379	799	1208
v/c Ratio	1.00	0.95	1.01	0.43	0.92
Control Delay	72.9	45.2	88.6	11.5	44.8
Queue Delay	5.6	1.5	0.0	0.0	0.2
Total Delay	78.5	46.7	88.6	11.5	45.0
Queue Length 50th (ft)	~313	273	~240	103	244
Queue Length 95th (ft)	#541	#413	m#396	m166	#332
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	503	1045	374	1874	1306
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	10	15	0	0	5
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.02	0.96	1.01	0.43	0.93

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

# Queues

## 5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	383	958	759	479	436	1480
v/c Ratio	0.67	1.45dr	0.76	0.43	0.84	0.86
Control Delay	30.6	40.4	34.9	3.8	45.7	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7
Total Delay	30.6	40.4	34.9	3.8	45.7	24.5
Queue Length 50th (ft)	195	273	208	0	140	306
Queue Length 95th (ft)	308	#406	277	38	m147	m338
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	574	1058	999	1105	545	1724
Starvation Cap Reductn	0	0	0	0	0	65
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.91	0.76	0.43	0.80	0.89

### 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.

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



# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	410	773	539	905	1054
v/c Ratio	0.90	0.80	1.05	0.46	0.99
Control Delay	55.7	31.3	77.4	23.5	62.2
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	55.7	31.3	77.4	24.2	62.2
Queue Length 50th (ft)	242	183	~354	233	220
Queue Length 95th (ft)	#431	259	m#394	m243	#316
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	460	972	512	1980	1060
Starvation Cap Reductn	0	0	0	685	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.80	1.05	0.70	0.99

### 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.

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

# Queues

## 5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	291	1326	1140	708	298	1159
v/c Ratio	0.48	1.07	1.00	0.76	0.96	0.70
Control Delay	23.7	75.4	57.9	29.4	78.3	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.3
Total Delay	23.7	75.4	57.9	29.4	78.3	17.4
Queue Length 50th (ft)	132	~457	~337	177	95	141
Queue Length 95th (ft)	214	#597	#485	253	m#106	m155
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	605	1234	1139	928	312	1649
Starvation Cap Reductn	0	0	0	0	0	272
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	1.07	1.00	0.76	0.96	0.84

### 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.

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

# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	506	990	398	805	1211
v/c Ratio	1.01	0.95	1.06	0.43	0.93
Control Delay	73.9	45.3	101.1	11.5	45.1
Queue Delay	5.8	1.6	0.0	0.0	0.2
Total Delay	79.6	47.0	101.1	11.5	45.3
Queue Length 50th (ft)	~317	273	~263	102	245
Queue Length 95th (ft)	#543	#413	m#412	m165	#333
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	503	1045	374	1874	1306
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	10	16	0	0	5
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.03	0.96	1.06	0.43	0.93

### 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.

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

# Queues

## 5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	383	964	784	487	436	1485
v/c Ratio	0.67	1.46dr	0.79	0.44	0.84	0.86
Control Delay	30.6	41.0	36.2	3.8	45.6	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7
Total Delay	30.6	41.0	36.2	3.8	45.6	24.7
Queue Length 50th (ft)	195	276	217	0	140	307
Queue Length 95th (ft)	308	#409	#289	38	m147	m338
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	574	1058	998	1110	545	1723
Starvation Cap Reductn	0	0	0	0	0	65
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.91	0.79	0.44	0.80	0.90

### 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.

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

# Queues

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	409	782	550	910	1061
v/c Ratio	0.90	0.81	1.07	0.46	1.00
Control Delay	55.5	32.0	83.7	23.6	63.8
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	55.5	32.0	83.7	24.3	63.8
Queue Length 50th (ft)	242	187	~368	235	~222
Queue Length 95th (ft)	#429	264	m#402	m243	#319
Internal Link Dist (ft)		807		364	483
Turn Bay Length (ft)			250		
Base Capacity (vph)	460	971	512	1981	1060
Starvation Cap Reductn	0	0	0	686	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.81	1.07	0.70	1.00

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

# Queues

## 5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	291	1344	1154	712	298	1174
v/c Ratio	0.48	1.09	1.01	0.77	0.96	0.71
Control Delay	23.7	82.0	60.9	29.6	78.0	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.4
Total Delay	23.7	82.0	60.9	29.6	78.0	17.6
Queue Length 50th (ft)	132	~471	~350	178	95	144
Queue Length 95th (ft)	214	#611	#494	255	m#106	m157
Internal Link Dist (ft)		1027	1364			364
Turn Bay Length (ft)				200	250	
Base Capacity (vph)	605	1230	1139	928	312	1649
Starvation Cap Reductn	0	0	0	0	0	271
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	1.09	1.01	0.77	0.96	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.

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

## **RAMP INTERSECTION SIGNAL TIMING REPORTS**

Lanes, Volumes, Timings  
 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↑↑			↑↑↑	
Traffic Volume (vph)	0	0	0	688	213	304	268	683	0	0	852	195
Future Volume (vph)	0	0	0	688	213	304	268	683	0	0	852	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00				1.00	
Frt					0.943						0.972	
Flt Protected				0.950	0.983		0.950					
Satd. Flow (prot)	0	0	0	1535	2977	0	1687	3374	0	0	4700	0
Flt Permitted				0.950	0.983		0.950					
Satd. Flow (perm)	0	0	0	1535	2977	0	1686	3374	0	0	4700	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					133							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	748	232	330	291	742	0	0	926	212
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	0	0	0	449	861	0	291	742	0	0	1138	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0



# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				33.0	33.0		21.0	57.0				36.0
Total Split (%)				36.7%	36.7%		23.3%	63.3%				40.0%
Maximum Green (s)				27.5	27.5		16.0	52.0				31.0
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effct Green (s)				27.5	27.5		16.0	52.0				31.0
Actuated g/C Ratio				0.31	0.31		0.18	0.58				0.34
v/c Ratio				0.96	0.86		0.97	0.38				0.70
Control Delay				64.9	35.1		89.4	10.2				28.4
Queue Delay				0.0	0.0		0.0	0.0				0.0
Total Delay				64.9	35.1		89.4	10.2				28.4
LOS				E	D		F	B				C
Approach Delay					45.3			32.5				28.4
Approach LOS					D			C				C

### Intersection Summary




















Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 36.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 72.5%  
 ICU Level of Service C  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	386	122	529	0	0	0	0	570	339	390	1150	0
Future Volume (vph)	386	122	529	0	0	0	0	570	339	390	1150	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		0.99							0.98	1.00		
Frt		0.885							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1535	2815	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1535	2815	0	0	0	0	0	3374	2596	3269	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42							368			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			5	5			6		1	1		6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	420	133	575	0	0	0	0	620	368	424	1250	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	378	750	0	0	0	0	0	620	368	424	1250	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

# Lanes, Volumes, Timings

## 5: Central Avenue & Albertoni Street

06/11/2019

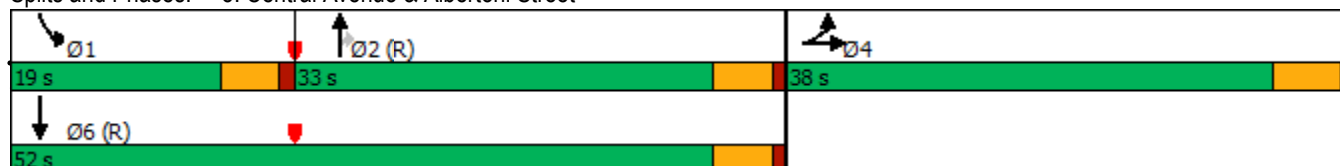


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	38.0	38.0						33.0	33.0	19.0	52.0	
Total Split (%)	42.2%	42.2%						36.7%	36.7%	21.1%	57.8%	
Maximum Green (s)	32.5	32.5						28.0	28.0	14.0	47.0	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	30.0	30.0						30.8	30.8	13.7	49.5	
Actuated g/C Ratio	0.33	0.33						0.34	0.34	0.15	0.55	
v/c Ratio	0.74	1.15dr						0.54	0.33	0.85	0.67	
Control Delay	35.8	31.3						26.9	3.5	49.1	15.5	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.1	
Total Delay	35.8	31.3						26.9	3.5	49.1	15.7	
LOS	D	C						C	A	D	B	
Approach Delay		32.8						18.1			24.1	
Approach LOS		C						B			C	

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 25.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 72.5%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

### Splits and Phases: 5: Central Avenue & Albertoni Street



Lanes, Volumes, Timings  
4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↙	↕			↕↔	
Traffic Volume (vph)	0	0	0	479	128	352	324	770	0	0	690	220
Future Volume (vph)	0	0	0	479	128	352	324	770	0	0	690	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00				0.99	
Frt					0.916						0.964	
Flt Protected				0.950	0.988		0.950					
Satd. Flow (prot)	0	0	0	1535	2899	0	1687	3374	0	0	4644	0
Flt Permitted				0.950	0.988		0.950					
Satd. Flow (perm)	0	0	0	1535	2899	0	1681	3374	0	0	4644	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					159							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	8		4	4		8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	521	139	383	352	837	0	0	750	239
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	0	0	0	359	684	0	352	837	0	0	989	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0

# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				33.0	33.0		25.0	57.0				32.0
Total Split (%)				36.7%	36.7%		27.8%	63.3%				35.6%
Maximum Green (s)				27.5	27.5		20.0	52.0				27.0
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effct Green (s)				26.0	26.0		19.9	53.5				28.6
Actuated g/C Ratio				0.29	0.29		0.22	0.59				0.32
v/c Ratio				0.81	0.72		0.94	0.42				0.67
Control Delay				45.2	26.4		66.4	15.3				29.8
Queue Delay				0.0	0.0		0.0	0.2				0.0
Total Delay				45.2	26.4		66.4	15.5				29.8
LOS				D	C		E	B				C
Approach Delay					32.8			30.6				29.8
Approach LOS					C			C				C

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 27 (30%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 31.1      Intersection LOS: C  
 Intersection Capacity Utilization 69.0%      ICU Level of Service C  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	294	806	194	0	0	0	0	822	493	271	891	0
Future Volume (vph)	294	806	194	0	0	0	0	822	493	271	891	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		1.00							0.97	1.00		
Frt		0.972							0.850			
Flt Protected	0.950	0.999								0.950		
Satd. Flow (prot)	1535	3127	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.999								0.950		
Satd. Flow (perm)	1535	3127	0	0	0	0	0	3374	2569	3260	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37							115			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			7				4		5	5		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	320	876	211	0	0	0	0	893	536	295	968	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	288	1119	0	0	0	0	0	893	536	295	968	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

Lanes, Volumes, Timings  
 5: Central Avenue & Albertoni Street

06/11/2019

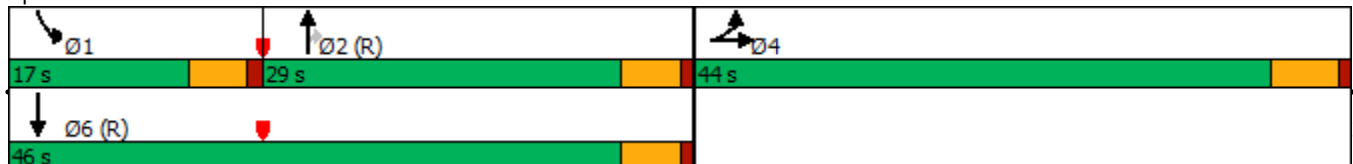


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	44.0	44.0						29.0	29.0	17.0	46.0	
Total Split (%)	48.9%	48.9%						32.2%	32.2%	18.9%	51.1%	
Maximum Green (s)	38.5	38.5						24.0	24.0	12.0	41.0	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	37.5	37.5						25.8	25.8	11.1	42.0	
Actuated g/C Ratio	0.42	0.42						0.29	0.29	0.12	0.47	
v/c Ratio	0.45	0.84						0.92	0.65	0.73	0.62	
Control Delay	21.3	29.8						48.4	26.9	60.1	16.3	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.1	
Total Delay	21.3	29.8						48.4	26.9	60.1	16.5	
LOS	C	C						D	C	E	B	
Approach Delay		28.1						40.3			26.7	
Approach LOS		C						D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 31.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 69.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Central Avenue & Albertoni Street



Lanes, Volumes, Timings  
4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↙	↕			↕↔	
Traffic Volume (vph)	0	0	0	690	213	304	285	689	0	0	854	195
Future Volume (vph)	0	0	0	690	213	304	285	689	0	0	854	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00					1.00
Frt					0.943							0.972
Flt Protected				0.950	0.983		0.950					
Satd. Flow (prot)	0	0	0	1535	2977	0	1687	3374	0	0	4700	0
Flt Permitted				0.950	0.983		0.950					
Satd. Flow (perm)	0	0	0	1535	2977	0	1686	3374	0	0	4700	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					132							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	750	232	330	310	749	0	0	928	212
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	0	0	0	450	862	0	310	749	0	0	1140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0



# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				33.0	33.0		21.0	57.0				36.0
Total Split (%)				36.7%	36.7%		23.3%	63.3%				40.0%
Maximum Green (s)				27.5	27.5		16.0	52.0				31.0
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effct Green (s)				27.5	27.5		16.0	52.0				31.0
Actuated g/C Ratio				0.31	0.31		0.18	0.58				0.34
v/c Ratio				0.96	0.86		1.04	0.38				0.70
Control Delay				65.3	35.2		104.1	10.0				28.4
Queue Delay				0.0	0.0		0.0	0.0				0.0
Total Delay				65.3	35.2		104.1	10.0				28.4
LOS				E	D		F	B				C
Approach Delay					45.6			37.6				28.4
Approach LOS					D			D				C

### Intersection Summary




















Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.04  
 Intersection Signal Delay: 37.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 87.9%  
 ICU Level of Service E  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	386	122	534	0	0	0	0	593	346	390	1154	0
Future Volume (vph)	386	122	534	0	0	0	0	593	346	390	1154	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		0.99							0.98	1.00		
Frt		0.885							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1535	2815	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1535	2815	0	0	0	0	0	3374	2596	3269	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42							376			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			5	5			6		1	1		6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	420	133	580	0	0	0	0	645	376	424	1254	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	378	755	0	0	0	0	0	645	376	424	1254	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019

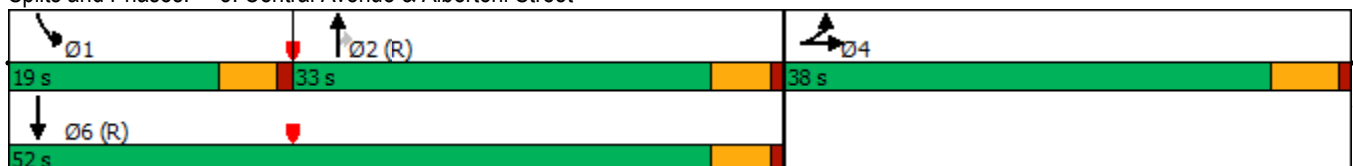


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	38.0	38.0						33.0	33.0	19.0	52.0	
Total Split (%)	42.2%	42.2%						36.7%	36.7%	21.1%	57.8%	
Maximum Green (s)	32.5	32.5						28.0	28.0	14.0	47.0	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	30.1	30.1						30.7	30.7	13.7	49.4	
Actuated g/C Ratio	0.33	0.33						0.34	0.34	0.15	0.55	
v/c Ratio	0.74	1.16dr						0.56	0.33	0.85	0.68	
Control Delay	35.6	31.4						27.3	3.5	49.0	15.6	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.1	
Total Delay	35.6	31.4						27.3	3.5	49.0	15.8	
LOS	D	C						C	A	D	B	
Approach Delay		32.8						18.5			24.2	
Approach LOS		C						B			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 25.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 87.9%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 5: Central Avenue & Albertoni Street



Lanes, Volumes, Timings  
 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↙	↕			↕↔	
Traffic Volume (vph)	0	0	0	486	128	352	334	774	0	0	696	220
Future Volume (vph)	0	0	0	486	128	352	334	774	0	0	696	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00				0.99	
Fr <sub>t</sub>					0.916						0.964	
Fl <sub>t</sub> Protected				0.950	0.988		0.950					
Satd. Flow (prot)	0	0	0	1535	2899	0	1687	3374	0	0	4644	0
Fl <sub>t</sub> Permitted				0.950	0.988		0.950					
Satd. Flow (perm)	0	0	0	1535	2899	0	1681	3374	0	0	4644	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					158							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	8		4	4		8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	528	139	383	363	841	0	0	757	239
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	0	0	0	364	686	0	363	841	0	0	996	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0

# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				33.0	33.0		25.0	57.0				32.0
Total Split (%)				36.7%	36.7%		27.8%	63.3%				35.6%
Maximum Green (s)				27.5	27.5		20.0	52.0				27.0
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effct Green (s)				26.3	26.3		20.2	53.2				28.0
Actuated g/C Ratio				0.29	0.29		0.22	0.59				0.31
v/c Ratio				0.81	0.72		0.96	0.42				0.69
Control Delay				45.2	26.2		69.0	15.4				30.5
Queue Delay				0.0	0.0		0.0	0.2				0.0
Total Delay				45.2	26.2		69.0	15.7				30.5
LOS				D	C		E	B				C
Approach Delay					32.8			31.8				30.5
Approach LOS					C			C				C

### Intersection Summary



















Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 27 (30%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 31.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 69.8%  
 ICU Level of Service C  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	294	806	211	0	0	0	0	835	497	271	905	0
Future Volume (vph)	294	806	211	0	0	0	0	835	497	271	905	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		1.00							0.97	1.00		
Frt		0.970							0.850			
Flt Protected	0.950	0.999								0.950		
Satd. Flow (prot)	1535	3120	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.999								0.950		
Satd. Flow (perm)	1535	3120	0	0	0	0	0	3374	2569	3260	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40							115			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			7				4		5	5		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	320	876	229	0	0	0	0	908	540	295	984	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	288	1137	0	0	0	0	0	908	540	295	984	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

# Lanes, Volumes, Timings

## 5: Central Avenue & Albertoni Street

06/11/2019

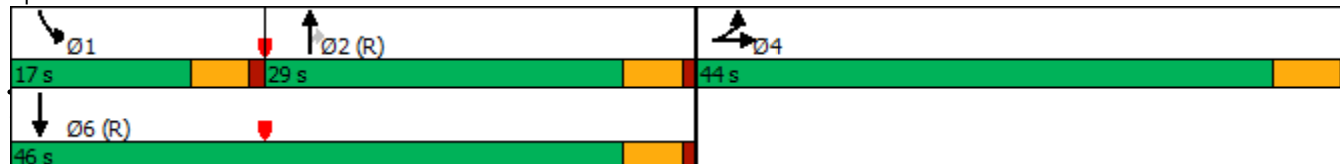


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	44.0	44.0						29.0	29.0	17.0	46.0	
Total Split (%)	48.9%	48.9%						32.2%	32.2%	18.9%	51.1%	
Maximum Green (s)	38.5	38.5						24.0	24.0	12.0	41.0	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	37.6	37.6						25.7	25.7	11.1	41.9	
Actuated g/C Ratio	0.42	0.42						0.29	0.29	0.12	0.47	
v/c Ratio	0.45	0.86						0.94	0.66	0.73	0.63	
Control Delay	21.2	30.5						51.3	27.1	59.7	16.5	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.1	
Total Delay	21.2	30.5						51.3	27.1	59.7	16.6	
LOS	C	C						D	C	E	B	
Approach Delay		28.6						42.3			26.6	
Approach LOS		C						D			C	

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 32.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 69.8%  
 ICU Level of Service C  
 Analysis Period (min) 15

### Splits and Phases: 5: Central Avenue & Albertoni Street



Lanes, Volumes, Timings  
4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↕			↕↔	
Traffic Volume (vph)	0	0	0	844	216	314	349	735	0	0	914	198
Future Volume (vph)	0	0	0	844	216	314	349	735	0	0	914	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00					1.00
Frt					0.948							0.973
Flt Protected				0.950	0.980		0.950					
Satd. Flow (prot)	0	0	0	1535	2986	0	1687	3374	0	0	4705	0
Flt Permitted				0.950	0.980		0.950					
Satd. Flow (perm)	0	0	0	1535	2986	0	1686	3374	0	0	4705	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					100							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	917	235	341	379	799	0	0	993	215
Shared Lane Traffic (%)				45%								
Lane Group Flow (vph)	0	0	0	504	989	0	379	799	0	0	1208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0



# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019

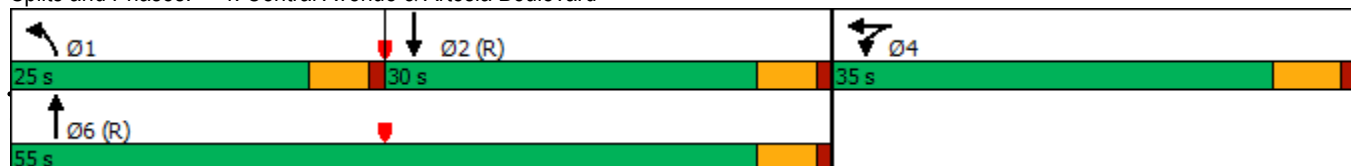


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				35.0	35.0		25.0	55.0				30.0
Total Split (%)				38.9%	38.9%		27.8%	61.1%				33.3%
Maximum Green (s)				29.5	29.5		20.0	50.0				25.0
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effct Green (s)				29.5	29.5		20.0	50.0				25.0
Actuated g/C Ratio				0.33	0.33		0.22	0.56				0.28
v/c Ratio				1.00	0.95		1.01	0.43				0.92
Control Delay				72.9	45.2		88.6	11.5				44.8
Queue Delay				5.6	1.5		0.0	0.0				0.2
Total Delay				78.5	46.7		88.6	11.5				45.0
LOS				E	D		F	B				D
Approach Delay					57.4			36.3				45.0
Approach LOS					E			D				D

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.01  
 Intersection Signal Delay: 47.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	392	124	718	0	0	0	0	698	441	401	1362	0
Future Volume (vph)	392	124	718	0	0	0	0	698	441	401	1362	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		0.99							0.98	1.00		
Frt		0.878							0.850			
Flt Protected	0.950	0.998								0.950		
Satd. Flow (prot)	1535	2794	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.998								0.950		
Satd. Flow (perm)	1535	2794	0	0	0	0	0	3374	2596	3270	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20							479			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			5	5			6		1	1		6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	426	135	780	0	0	0	0	759	479	436	1480	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	383	958	0	0	0	0	0	759	479	436	1480	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

# Lanes, Volumes, Timings

## 5: Central Avenue & Albertoni Street

06/11/2019

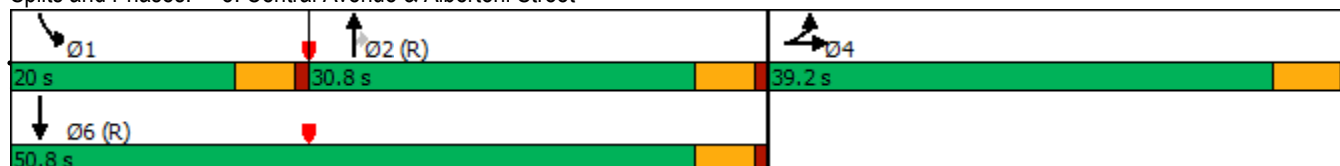


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	39.2	39.2						30.8	30.8	20.0	50.8	
Total Split (%)	43.6%	43.6%						34.2%	34.2%	22.2%	56.4%	
Maximum Green (s)	33.7	33.7						25.8	25.8	15.0	45.8	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	33.5	33.5						26.7	26.7	14.4	46.0	
Actuated g/C Ratio	0.37	0.37						0.30	0.30	0.16	0.51	
v/c Ratio	0.67	1.45dr						0.76	0.43	0.84	0.86	
Control Delay	30.6	40.4						34.9	3.8	45.7	23.8	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.7	
Total Delay	30.6	40.4						34.9	3.8	45.7	24.5	
LOS	C	D						C	A	D	C	
Approach Delay		37.6						22.9			29.3	
Approach LOS		D						C			C	

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 30.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 99.0%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

### Splits and Phases: 5: Central Avenue & Albertoni Street



Lanes, Volumes, Timings  
4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	599	129	361	496	833	0	0	748	222
Future Volume (vph)	0	0	0	599	129	361	496	833	0	0	748	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00				0.99	
Frt					0.924						0.966	
Flt Protected				0.950	0.985		0.950					
Satd. Flow (prot)	0	0	0	1535	2918	0	1687	3374	0	0	4655	0
Flt Permitted				0.950	0.985		0.950					
Satd. Flow (perm)	0	0	0	1535	2918	0	1681	3374	0	0	4655	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					139							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	8		4	4		8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	651	140	392	539	905	0	0	813	241
Shared Lane Traffic (%)				37%								
Lane Group Flow (vph)	0	0	0	410	773	0	539	905	0	0	1054	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0

# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019

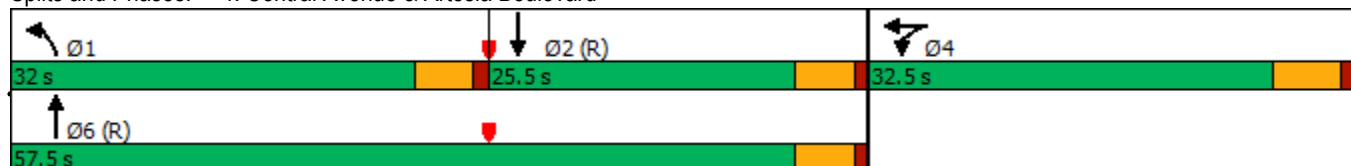


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				32.5	32.5		32.0	57.5				25.5
Total Split (%)				36.1%	36.1%		35.6%	63.9%				28.3%
Maximum Green (s)				27.0	27.0		27.0	52.5				20.5
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effct Green (s)				26.7	26.7		27.3	52.8				20.5
Actuated g/C Ratio				0.30	0.30		0.30	0.59				0.23
v/c Ratio				0.90	0.80		1.05	0.46				0.99
Control Delay				55.7	31.3		77.4	23.5				62.2
Queue Delay				0.0	0.0		0.0	0.7				0.0
Total Delay				55.7	31.3		77.4	24.2				62.2
LOS				E	C		E	C				E
Approach Delay					39.7			44.1				62.2
Approach LOS					D			D				E

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 27 (30%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.05  
 Intersection Signal Delay: 47.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	814	376	0	0	0	0	1049	651	274	1066	0
Future Volume (vph)	297	814	376	0	0	0	0	1049	651	274	1066	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		0.99							0.97	1.00		
Frt		0.954							0.850			
Flt Protected	0.950	0.999								0.950		
Satd. Flow (prot)	1535	3063	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.999								0.950		
Satd. Flow (perm)	1535	3063	0	0	0	0	0	3374	2569	3264	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44							91			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			7				4		5	5		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	323	885	409	0	0	0	0	1140	708	298	1159	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	291	1326	0	0	0	0	0	1140	708	298	1159	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

# Lanes, Volumes, Timings

## 5: Central Avenue & Albertoni Street

06/11/2019

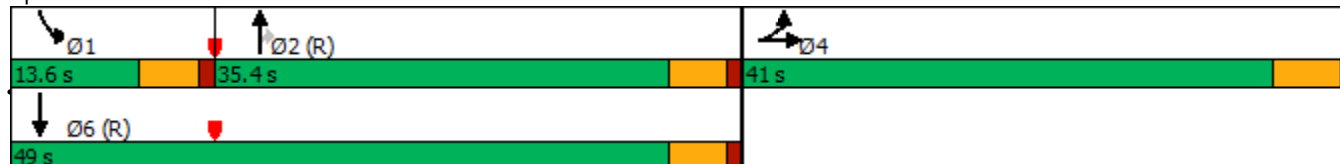


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	41.0	41.0						35.4	35.4	13.6	49.0	
Total Split (%)	45.6%	45.6%						39.3%	39.3%	15.1%	54.4%	
Maximum Green (s)	35.5	35.5						30.4	30.4	8.6	44.0	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	35.5	35.5						30.4	30.4	8.6	44.0	
Actuated g/C Ratio	0.39	0.39						0.34	0.34	0.10	0.49	
v/c Ratio	0.48	1.07						1.00	0.76	0.96	0.70	
Control Delay	23.7	75.4						57.9	29.4	78.3	16.1	
Queue Delay	0.0	0.0						0.0	0.0	0.0	1.3	
Total Delay	23.7	75.4						57.9	29.4	78.3	17.4	
LOS	C	E						E	C	E	B	
Approach Delay		66.1						47.0			29.9	
Approach LOS		E						D			C	

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.07  
 Intersection Signal Delay: 48.2  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

### Splits and Phases: 5: Central Avenue & Albertoni Street



Lanes, Volumes, Timings  
4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↙	↕			↕↔	
Traffic Volume (vph)	0	0	0	846	216	314	366	741	0	0	916	198
Future Volume (vph)	0	0	0	846	216	314	366	741	0	0	916	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00					1.00
Frt					0.948							0.973
Flt Protected				0.950	0.980		0.950					
Satd. Flow (prot)	0	0	0	1535	2986	0	1687	3374	0	0	4705	0
Flt Permitted				0.950	0.980		0.950					
Satd. Flow (perm)	0	0	0	1535	2986	0	1686	3374	0	0	4705	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					100							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	920	235	341	398	805	0	0	996	215
Shared Lane Traffic (%)				45%								
Lane Group Flow (vph)	0	0	0	506	990	0	398	805	0	0	1211	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0



# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				35.0	35.0		25.0	55.0				30.0
Total Split (%)				38.9%	38.9%		27.8%	61.1%				33.3%
Maximum Green (s)				29.5	29.5		20.0	50.0				25.0
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effect Green (s)				29.5	29.5		20.0	50.0				25.0
Actuated g/C Ratio				0.33	0.33		0.22	0.56				0.28
v/c Ratio				1.01	0.95		1.06	0.43				0.93
Control Delay				73.9	45.3		101.1	11.5				45.1
Queue Delay				5.8	1.6		0.0	0.0				0.2
Total Delay				79.6	47.0		101.1	11.5				45.3
LOS				E	D		F	B				D
Approach Delay					58.0			41.2				45.3
Approach LOS					E			D				D

### Intersection Summary



















Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.06  
 Intersection Signal Delay: 48.9      Intersection LOS: D  
 Intersection Capacity Utilization 99.8%      ICU Level of Service F  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	392	124	723	0	0	0	0	721	448	401	1366	0
Future Volume (vph)	392	124	723	0	0	0	0	721	448	401	1366	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		0.99							0.98	1.00		
Frt		0.878							0.850			
Flt Protected	0.950	0.998								0.950		
Satd. Flow (prot)	1535	2794	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.998								0.950		
Satd. Flow (perm)	1535	2794	0	0	0	0	0	3374	2596	3270	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20							487			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			5	5			6		1	1		6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	426	135	786	0	0	0	0	784	487	436	1485	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	383	964	0	0	0	0	0	784	487	436	1485	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019

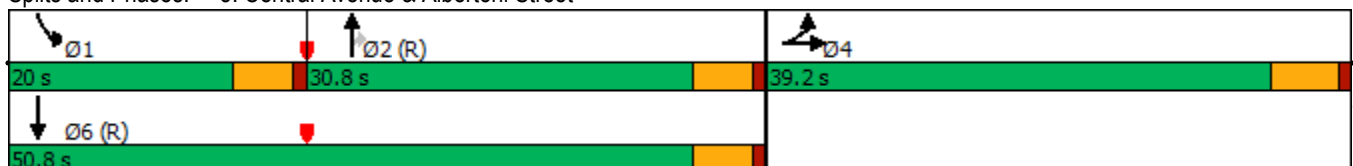


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	39.2	39.2						30.8	30.8	20.0	50.8	
Total Split (%)	43.6%	43.6%						34.2%	34.2%	22.2%	56.4%	
Maximum Green (s)	33.7	33.7						25.8	25.8	15.0	45.8	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	33.5	33.5						26.6	26.6	14.4	46.0	
Actuated g/C Ratio	0.37	0.37						0.30	0.30	0.16	0.51	
v/c Ratio	0.67	1.46dr						0.79	0.44	0.84	0.86	
Control Delay	30.6	41.0						36.2	3.8	45.6	23.9	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.7	
Total Delay	30.6	41.0						36.2	3.8	45.6	24.7	
LOS	C	D						D	A	D	C	
Approach Delay		38.0						23.8			29.4	
Approach LOS		D						C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 30.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 99.8%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 5: Central Avenue & Albertoni Street



Lanes, Volumes, Timings  
 4: Central Avenue & Artesia Boulevard

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↔		↘	↑↑			↑↑↑	
Traffic Volume (vph)	0	0	0	606	129	361	506	837	0	0	754	222
Future Volume (vph)	0	0	0	606	129	361	506	837	0	0	754	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor					0.99		1.00				0.99	
Frt					0.925						0.966	
Flt Protected				0.950	0.984		0.950					
Satd. Flow (prot)	0	0	0	1535	2918	0	1687	3374	0	0	4655	0
Flt Permitted				0.950	0.984		0.950					
Satd. Flow (perm)	0	0	0	1535	2918	0	1681	3374	0	0	4655	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					137							
Link Speed (mph)		30			30			40				40
Link Distance (ft)		902			887			444				563
Travel Time (s)		20.5			20.2			7.6				9.6
Confl. Peds. (#/hr)						4	8		4	4		8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	659	140	392	550	910	0	0	820	241
Shared Lane Traffic (%)				38%								
Lane Group Flow (vph)	0	0	0	409	782	0	550	910	0	0	1061	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2				2
Detector Template				Left	Thru		Left	Thru				Thru
Leading Detector (ft)				20	100		20	100				100
Trailing Detector (ft)				0	0		0	0				0
Detector 1 Position(ft)				0	0		0	0				0
Detector 1 Size(ft)				20	6		20	6				6
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0				0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0				0.0
Detector 2 Position(ft)					94			94				94
Detector 2 Size(ft)					6			6				6
Detector 2 Type					Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0

# Lanes, Volumes, Timings

## 4: Central Avenue & Artesia Boulevard

06/11/2019

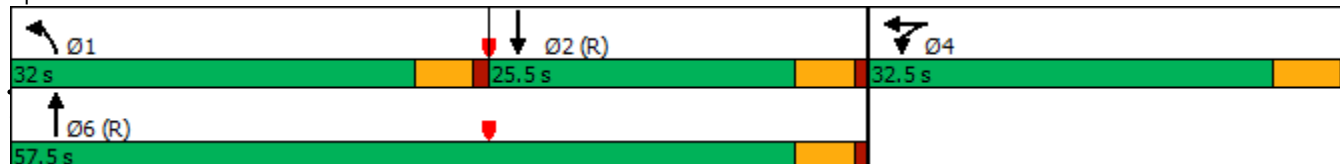


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Split	NA		Prot	NA				NA
Protected Phases				4	4		1	6				2
Permitted Phases												
Detector Phase				4	4		1	6				2
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	6.0				6.0
Minimum Split (s)				32.5	32.5		9.0	20.0				20.0
Total Split (s)				32.5	32.5		32.0	57.5				25.5
Total Split (%)				36.1%	36.1%		35.6%	63.9%				28.3%
Maximum Green (s)				27.0	27.0		27.0	52.5				20.5
Yellow Time (s)				4.5	4.5		4.0	4.0				4.0
All-Red Time (s)				1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)				0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)				5.5	5.5		5.0	5.0				5.0
Lead/Lag							Lead					Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)				4.0	4.0		1.5	4.0				4.0
Minimum Gap (s)				3.0	3.0		1.5	3.0				3.0
Time Before Reduce (s)				15.0	15.0		0.0	15.0				15.0
Time To Reduce (s)				15.0	15.0		0.0	15.0				15.0
Recall Mode				None	None		None	C-Max				C-Max
Walk Time (s)				7.0	7.0			7.0				7.0
Flash Dont Walk (s)				20.0	20.0			8.0				8.0
Pedestrian Calls (#/hr)				0	0			0				0
Act Effct Green (s)				26.7	26.7		27.3	52.8				20.5
Actuated g/C Ratio				0.30	0.30		0.30	0.59				0.23
v/c Ratio				0.90	0.81		1.07	0.46				1.00
Control Delay				55.5	32.0		83.7	23.6				63.8
Queue Delay				0.0	0.0		0.0	0.7				0.0
Total Delay				55.5	32.0		83.7	24.3				63.8
LOS				E	C		F	C				E
Approach Delay					40.1			46.7				63.8
Approach LOS					D			D				E

### Intersection Summary



















Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 27 (30%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.07  
 Intersection Signal Delay: 49.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 82.7%  
 ICU Level of Service E  
 Analysis Period (min) 15

### Splits and Phases: 4: Central Avenue & Artesia Boulevard



Lanes, Volumes, Timings  
5: Central Avenue & Albertoni Street

06/11/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	814	393	0	0	0	0	1062	655	274	1080	0
Future Volume (vph)	297	814	393	0	0	0	0	1062	655	274	1080	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		200	250		0
Storage Lanes	1		0	0		0	0		2	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor		0.99							0.97	1.00		
Frt		0.952							0.850			
Flt Protected	0.950	0.999								0.950		
Satd. Flow (prot)	1535	3056	0	0	0	0	0	3374	2656	3273	3374	0
Flt Permitted	0.950	0.999								0.950		
Satd. Flow (perm)	1535	3056	0	0	0	0	0	3374	2569	3264	3374	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42							91			
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1107			1069			1444			444	
Travel Time (s)		25.2			24.3			24.6			7.6	
Confl. Peds. (#/hr)			7				4		5	5		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	323	885	427	0	0	0	0	1154	712	298	1174	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	291	1344	0	0	0	0	0	1154	712	298	1174	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1	1	2	
Detector Template	Left	Thru						Thru	Right	Left	Thru	
Leading Detector (ft)	20	100						100	20	20	100	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	20	6						6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	

# Lanes, Volumes, Timings

## 5: Central Avenue & Albertoni Street

06/11/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						10.0	10.0	4.0	10.0	
Minimum Split (s)	34.5	34.5						22.5	22.5	9.5	22.5	
Total Split (s)	41.0	41.0						35.4	35.4	13.6	49.0	
Total Split (%)	45.6%	45.6%						39.3%	39.3%	15.1%	54.4%	
Maximum Green (s)	35.5	35.5						30.4	30.4	8.6	44.0	
Yellow Time (s)	4.5	4.5						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5						5.0	5.0	5.0	5.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0						4.0	4.0	2.0	4.0	
Minimum Gap (s)	3.0	3.0						3.0	3.0	2.0	3.0	
Time Before Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Time To Reduce (s)	15.0	15.0						15.0	15.0	0.0	15.0	
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0						7.0	7.0		7.0	
Flash Dont Walk (s)	22.0	22.0						10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	35.5	35.5						30.4	30.4	8.6	44.0	
Actuated g/C Ratio	0.39	0.39						0.34	0.34	0.10	0.49	
v/c Ratio	0.48	1.09						1.01	0.77	0.96	0.71	
Control Delay	23.7	82.0						60.9	29.6	78.0	16.2	
Queue Delay	0.0	0.0						0.0	0.0	0.0	1.4	
Total Delay	23.7	82.0						60.9	29.6	78.0	17.6	
LOS	C	F						E	C	E	B	
Approach Delay		71.6						48.9			29.8	
Approach LOS		E						D			C	

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 50.8  
 Intersection Capacity Utilization 82.7%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service E

### Splits and Phases: 5: Central Avenue & Albertoni Street

