OPERATIONS NOISE STUDY
FOR A PROPOSED FAST5XPRESS CAR WASH
IN THE CITY OF GARDEN GROVE

Revision 5

September 14, 2018

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1. Introduction

At the request of Mr. Don Vogel (Fast5Xpress), and in compliance with requirements of the city of Garden Grove (City), a noise study has been conducted by Advanced Engineering Acoustics (AEA). Fast5Xpress has plans to construct an express car wash at 12101 Valley View Street in Garden Grove, CA (see Figure 1). In order to document the level of potential noise from the new express car wash operations for this new commercial business, AEA has conducted noise monitoring at several existing express car washes, idling car wash patron vehicles, compressed air nozzle car wash noise, and obtained noise measurements of the proposed operating dryer system and vacuum equipment for the proposed car wash facility. This report gives the existing ambient noise and predicted express car wash operations noise at the nearest sensitive receivers.

Figure 1. Revised Project Site Vicinity Aerial View

2. Sound Fundamentals

Physically, sound pressure magnitude is measured and quantified in terms of the decibel (dB), which is associated with a logarithmic scale based on the ratio of a measured sound pressure to the reference sound pressure of 20 micropascal (20 μPa = 20 x 10^{-6} N/m^2). However, the decibel system can be very confusing. For example, doubling or halving the number of sources of equal noise output (a 2-fold change in acoustic *energy*) changes the noise level at the receptor by only 3 dB, which is a barely perceptible sound change for humans. While doubling or halving the sound *loudness* at the receptor results in a 10 dB change and also represents a 10-fold change in the acoustic *energy*.

The human hearing system is not equally sensitive to sound at all frequencies. Because of this variability, a frequency-dependent adjustment called "A-weighting" has been devised so that

sound may be measured in a manner similar to the way the human hearing system responds. The A-weighted sound level is abbreviated "dBA". Figure 2 gives typical A-weighted sound levels for various noise sources and the typical responses of people to these levels.

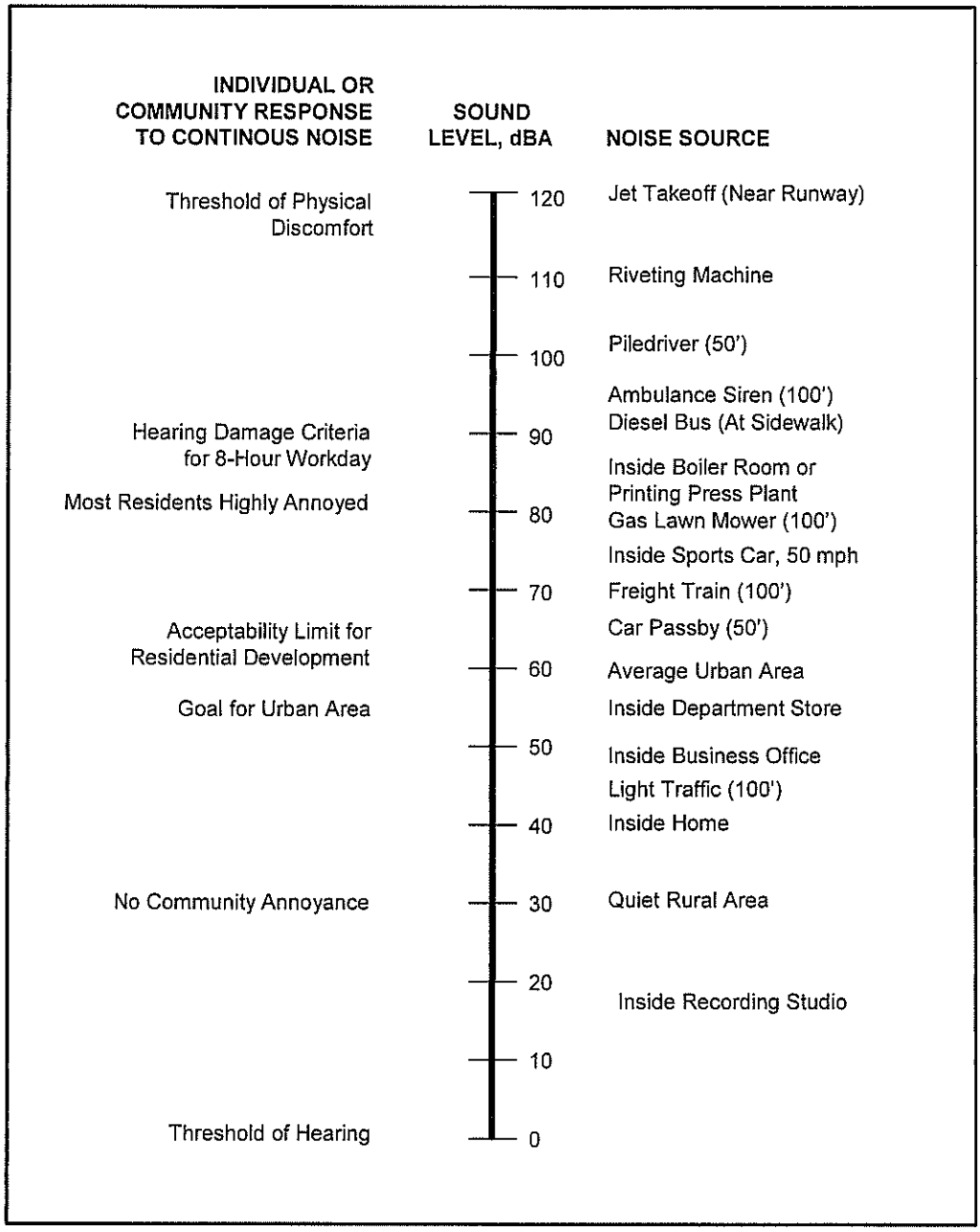

Figure 2 - Typical Sound Levels and their Effect on People

Normally, ambient sounds change with the daily cycle of human activities. To account for these changes, the time-weighted statistical sound levels have been adopted and these sound descriptors are used by the City and in this report. The time-weighted sound level limits are

defined as the continuous A-weighted sound level that is not exceeded, in the specified contiguous periods of time (1 minute, 5 minutes, 15 minutes, 30 minutes or the maximum sound level in any hour).

3. City Noise Standards

The city of Garden Grove has established stationary source noise limits to ensure that all segments of the community will be protected from excessive noise intrusion. The applicable noise standards are contained within *Chapter 8.47* of the City of Garden Grove municipal code, as follows.

8.47.040 Ambient Base Noise Levels

The ambient base noise levels contained in the following chart shall be utilized as the basis for determining noise levels in excess of those allowed by this chapter unless the actual measured ambient noise level occurring at the same time as the noise under review is being investigated exceeds the ambient base noise level contained in the chart. When the actual measured ambient noise level exceeds the ambient base noise level, the actual measured ambient noise level shall be utilized as the basis for determining whether or not the subject noise exceeds the level allowed by this section. In situations where two adjoining properties exist within two different use designations, the most restrictive ambient base noise level will apply. This section permits any noise level that does not exceed either the ambient base noise level or the actual measured ambient noise level by 5 dB(A), as measured at the property line of the noise generation property.

USE CATEGORIES	*USE DESIGNATIONS*	*AMBIENT BASE NOISE LEVELS*	*TIME OF DAY*
Sensitive	*Residential Use*	*55 dB(A)*	*7:00 a.m.—10:00 p.m.*
		50 dB(A)	*10:00 p.m.—7:00 a.m.*
Conditionally Sensitive	*Institutional Use*	*65 dB(A)*	*Any Time*
	Office-Professional Use	*65 dB(A)*	*Any Time*
	Hotels & Motels	*65 dB(A)*	*Any Time*
Non-Sensitive	*Commercial Uses*	*70 dB(A)*	*Any Time*
	Commercial/ Industrial Uses within 150 feet of Residential	*65 dB(A)*	*7:00 a.m.—10:00 p.m.*
		50 dB(A)	*10:00 p.m.—7:00 a.m.*
	Industrial Use	*70 dB(A)*	*Any Time*

(2802 § 1, 2011; 2660 § 2, 2005)

8.47.050 General Noise Regulation

A. NOISE DISTURBANCE CRITERIA. It shall be unlawful for any person to willfully make, continue, or cause to be made or continued, any loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitiveness.

B. The criteria that shall be utilized in determining whether a violation of the provisions of this section exists shall include, but not be limited to, the following:

1. The level of the noise.

2. *The frequency of occurrence of the noise.*
3. *Whether the nature of the noise is usual or unusual.*
4. *The level and intensity of the background noise, if any.*
5. *The proximity of the noise to residential sleeping facilities.*
6. *The nature and zoning of the area within which the noise emanates.*
7. *The density of the inhabitation of the area within which the noise is received.*
8. *The time of day or night the noise occurs.*
9. *The duration of the noise.*

C. DURATION OF NOISE. The following criteria shall be used whenever the noise level exceeds:

1. *The noise standard for a cumulative period of more than 30 minutes in any hour;*
2. *The noise standard plus five dB(A) for a cumulative period of more than 15 minutes in any hour;*
3. *The noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour;*
4. *The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour; or*
5. *The noise standard plus 20 dB(A) for any period of time.*

D. In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. (2802 § 1, 2011; 2660 § 2, 2005)

8.47.060 Special Noise Sources

...

C. MACHINERY, EQUIPMENT, FANS, AND AIR CONDITIONING. It shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise that would cause the noise level at the property line of any property to exceed either the ambient base noise level or the actual measured ambient noise level by more than five decibels.

D. CONSTRUCTION OF BUILDINGS AND PROJECTS. It shall be unlawful for any person within a residential area, or within a radius of 500 feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects, or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 10:00 p.m. of one day and 7:00 a.m. of the next day in such a manner that a person of normal sensitiveness, as determined utilizing the criteria established in Section 8.47.050(B), is caused discomfort or annoyance unless such operations are of an emergency nature.

The most restrictive case of the City noise ordinance would therefore be when the actual ambient noise at any location would be equal to or less than the ambient base noise levels given in Section 8.47.040 of the noise ordinance. In this case the most restrictive maximum project noise limit would be the designated ambient base noise level plus 5 dB(A).

4. Unabated Project Noise Modeling Results

The planned hours of operation of the proposed car wash are from 7 a.m. to 8 p.m. in summer (March to October) and 7 a.m. to 7 p.m. in winter (November to February), seven (7) days a week. The revised layout of the planned car wash project is shown in Figure 3.

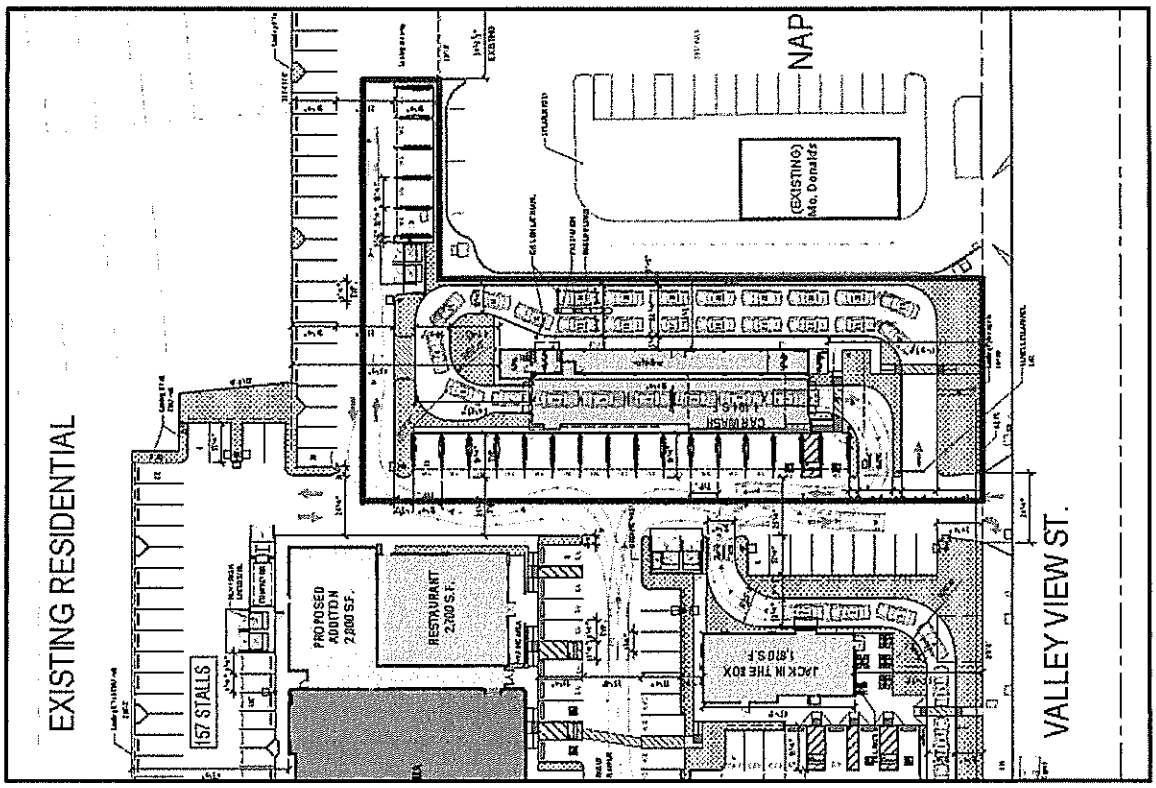

Figure 3. Revised Noise Model Layout with Noise Sources and Nearby Receivers

The project layout noise model has the most idling patron vehicles queued up to pay for a car wash at a time as sixteen (16). In addition, there are twenty (20) vacuum stations and twenty (20) air nozzles. An equipment room contains small pumps and the central vacuum tank. Computer modeling was conducted of the interior car wash equipment noise (transmitted through the car wash tunnel exit opening, entrance opening, the tunnel walls and tunnel roof) and the external vacuums and air nozzles. On-site patron vehicles have been modeled assuming a worst-case scenario of 16 queued idling vehicles, 6 vehicles in the tunnel and 19 low speed vehicle movements approaching (6) and departing (13) the tunnel. Also, it is assumed there are 20 vehicles being vacuumed and 20 air nozzles operating simultaneously. Figure 4 shows the noise model layout. Modeling was conducted using the SoundPLAN™, Version 7.4, community noise modeling software. Table 1 shows the predicted as-designed project noise near the three modeled car wash residential sites and commercial locations. It is very unlikely that the worst-case conditions would actually occur, but the results of such an occurrence are given in Table 1 and Figure 4, which shows the worst-case scenario noise contours for the car wash operations. Ambient noise is not factored into the noise model, but is included in the overall noise results. The unabated express car wash equipment noise modeling shows that all nearby receivers would be in compliance with the respective zone use noise limits.

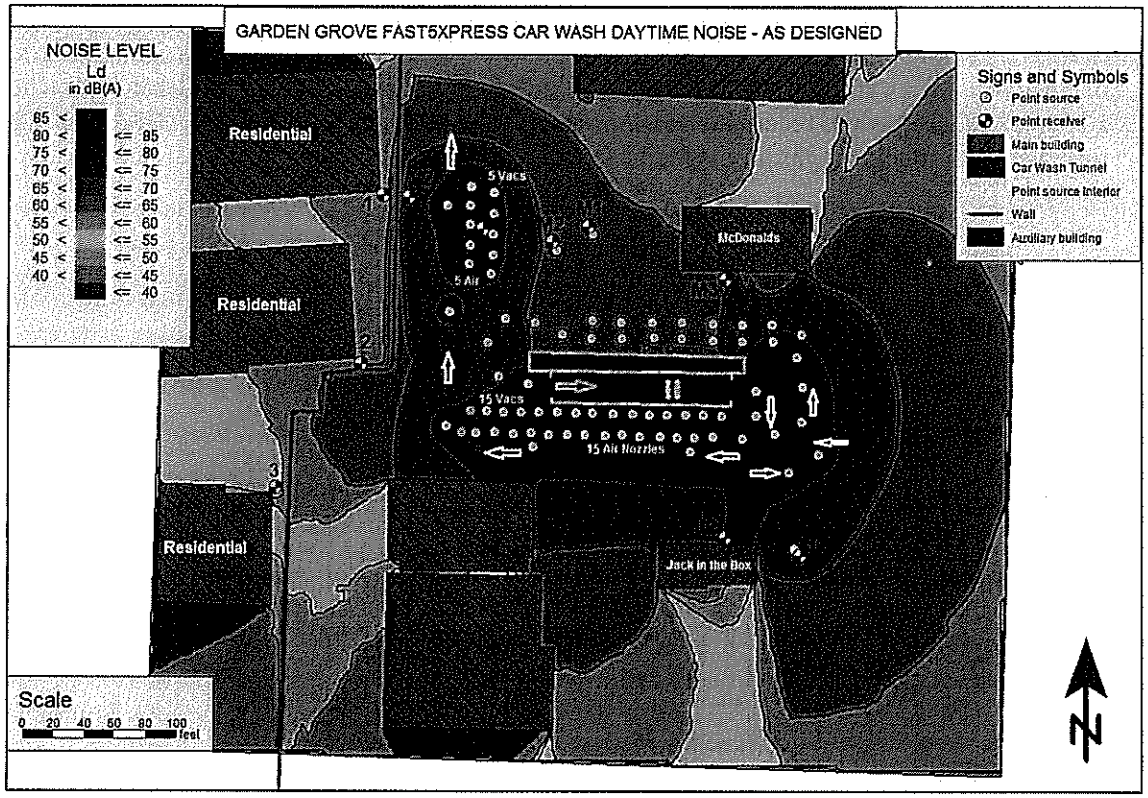

Figure 4. As-Designed Wash Worst-Case Noise Contours with Receptor Locations

Table 1. As-Designed Worst-Case Car Wash Noise* at Model Receptors

Site	L(max)	L(1min/hr)	L(5min/hr)	L(15min/hr)	L(30min/hr)
Res. Base Noise Limit >	***80***	***75***	***70***	***65***	***60***
Site 1	75.4	70.4	65.4	60.4	55.4
Site 2	77.2	72.2	67.2	62.2	57.1
Site 3	71.2	66.2	61.2	56.2	51.2
Comm. Base Noise Limit >	***95***	***90***	***85***	***80***	***75***
Site 4	81.2	76.2	71.2	66.2	61.2
Site 5	71.9	66.9	61.9	56.9	51.9
Order Box M1 Level > **	83	--	--	--	63.0
Vacuum site test at 3 feet	82	--	--	--	--
Vacuum site test at M1	62	--	--	--	--
Order Box M2 Level > **	80	--	--	--	64.7
Vacuum site test at 3 feet	82	--	--	--	--
Vacuum site test at M2	63	--	--	--	--
Take-Out Window M3	--	--	--	--	64.3

*Neither ambient base noise nor actual ambient noise are included in the projected car wash noise.
** Order Box Level noise is actual measured noise 3 feet from speaker M1 and M2. Vacuum site test noise was measured 3 feet from the special test noise source (loud shaker box and multiple car door slams).

5. Project Vacuum Site Test Noise Measurements at Drive-Thru Order Boxes

A vacuum site noise test was conducted the evening of August 2, 2018 at the two nearby Garden Grove McDonalds restaurant drive-thru order stations, we call M1 and M2. Figures 5 and 6 show the test noise at the nearest vacuum locations and at order boxes M1 and M2. The modeled as-designed car wash noise plot of Figure 4 shows noise from all vacuums and air nozzles totaling about 63-64 dBA at the ordering boxes. That is about the same noise level as our special test produced at those sites (see Figure 4 data between 20:44 and 20:48 and Figure

5 between 20:52 and 20:53 and between 20:54 and 20:55) when there was no order speaker noises. The much higher noise levels at the order boxes are caused by the box PA speakers themselves. This validates our tests and confirms the non-interference for order takers (who all wear headsets) while receiving and confirming customer drive-thru orders. No order takers raised any complaints regarding test interference with their work.

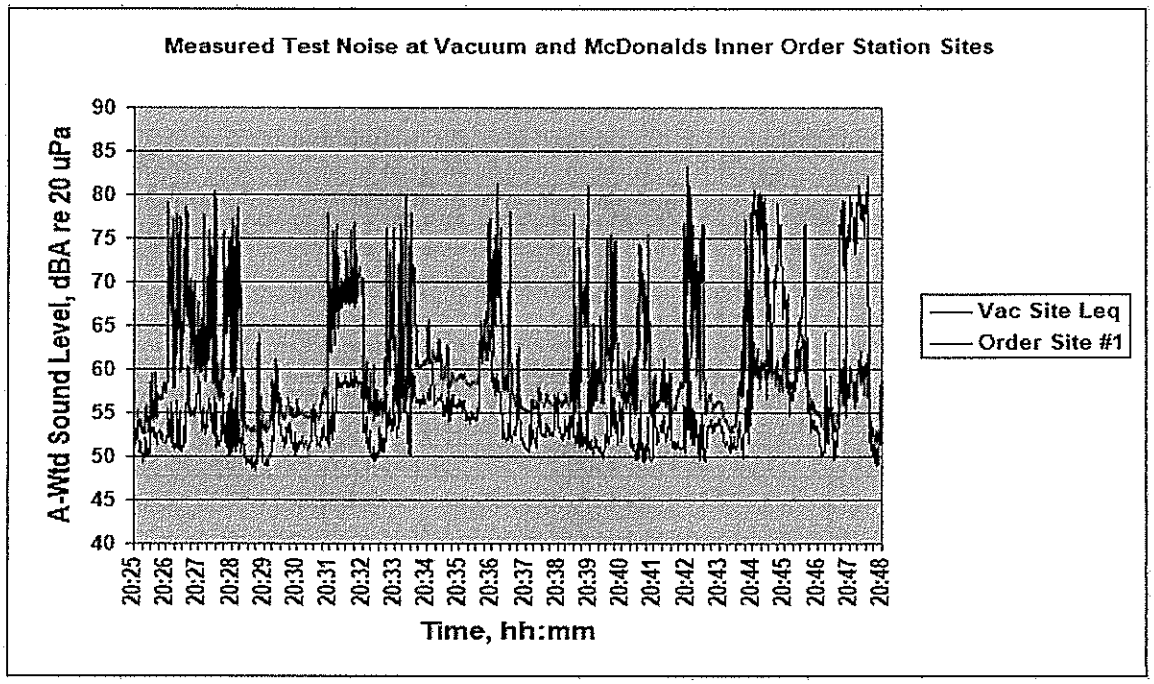

Figure 5. Test Noise at Vacuum Site and Order Site M1

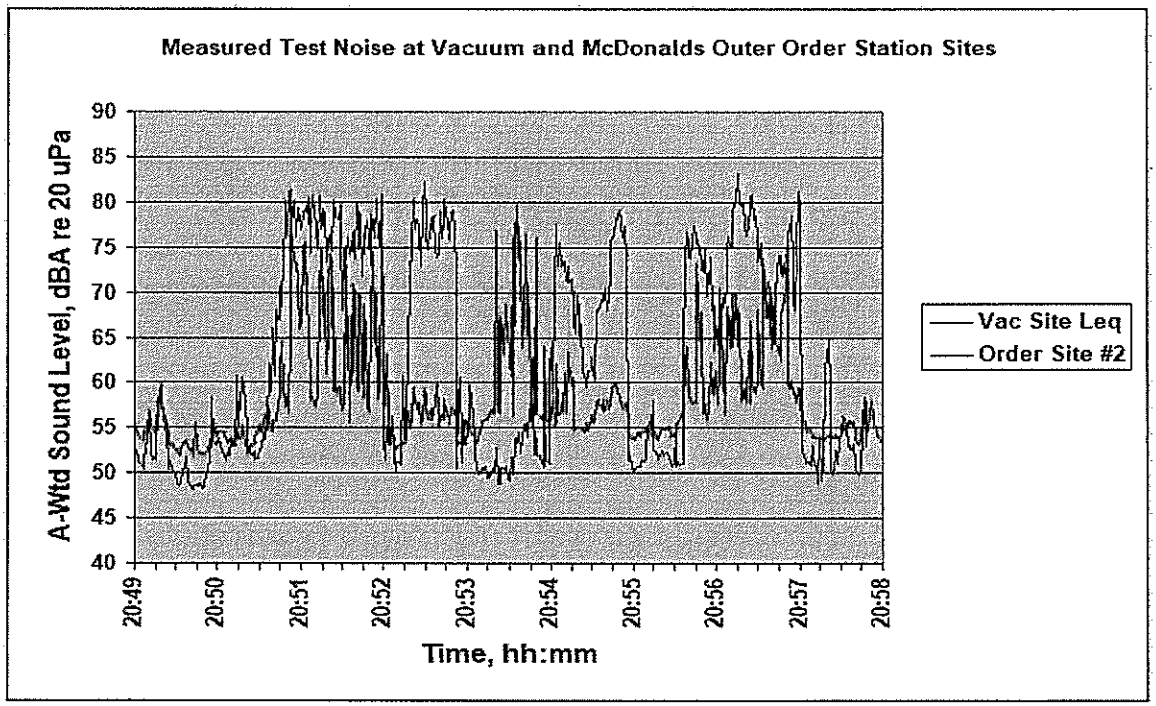

Figure 6. Test Noise at Vacuum Site and Order Site M2

6. Project Site Area Ambient Noise Measurements

Ambient noise measurements were conducted the day of September 4, 2018 at two locations west of the alley behind the McDonalds restaurant. Figure 7 shows the ambient noise for the residential side (Site 1) and alley wall side location west of the drive-thru order boxes M1 and M2. The residential site noise measurement began at 12:36 p.m. and ended at 1:22 p.m. The alley wall gave an order box speaker and distant noise sources (e.g., traffic noise) noise reduction of approximately 5.1 dB. The maximum, average, and minimum measured ambient noise at Site 1 was 58.1, 49.9 and 46.1 dBA, respectively, all below the Base Noise Limits.

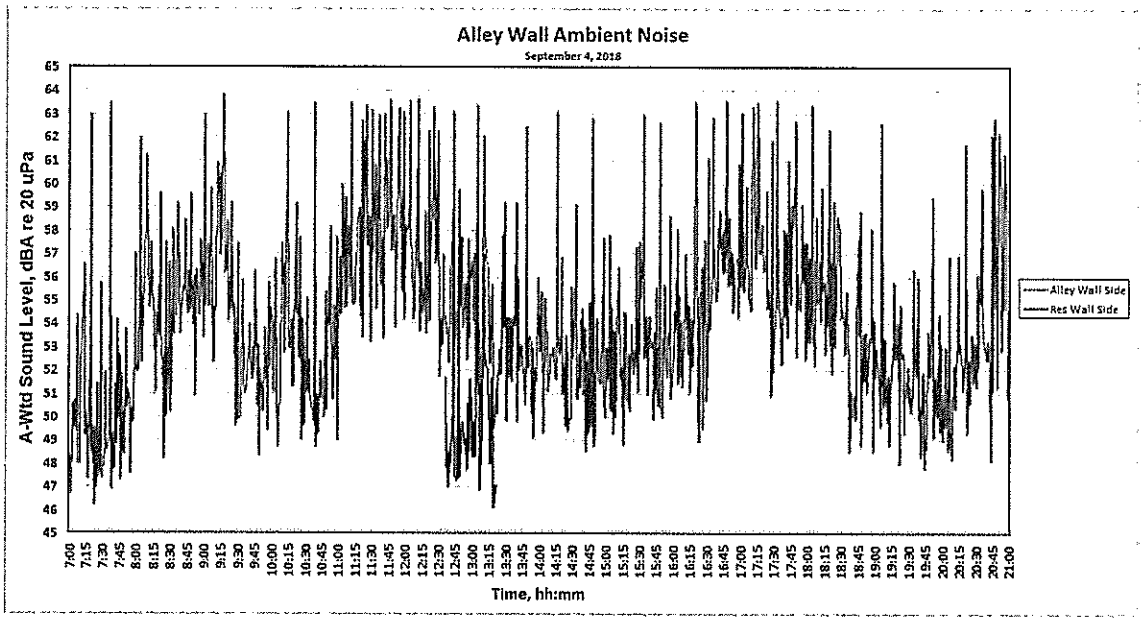

Figure 7. Area Ambient Noise

7. Project Conclusions and Recommendation

Based on our noise modeling experience and measurements at similar car washes, we have shown that the proposed car express wash revised layout will be less noisy than the daytime limits of the City noise code. Primarily this conclusion is based on the fact that the proposed car wash tunnel noise has been shown to generate less noise operating at full capacity throughout the entire daytime period. Since the proposed project is not planning to operate after 10 p.m., the proposed express car wash operations would not cause the nighttime residential noise limits to be exceeded. In addition, there would be no nearby vacuum and air nozzle noise interference for McDonalds drive-thru order takers while receiving and confirming customer drive-thru orders. Thus, the project noise study finds that no additional car wash noise abatement would be necessary. However, AEA does recommend the following noise nuisance abatement measure: (1) that patron car radios be turned off while at the car wash vacuuming stations. The only exception would be to allow Bluetooth-enabled headsets while patrons are vacuuming and using the compressed air nozzles to strip off excess water. Signage should state these conditions and request patron cooperation as a consideration for the neighbors to assure that the car wash would not introduce any intrusive nuisance noise at the adjacent residences and McDonalds restaurant.

Traffic Impact Study

for the proposed

Starlight Cinema Plaza Expansion

on

Valley View Street

Submitted to

September 2018

Submitted by

ALBERT GROVER & ASSOCIATES

TRANSPORTATION CONSULTING ENGINEERS

ALBERT GROVER & ASSOCIATES

September 10, 2018

Mr. Dai Vu
Associate Engineer, Traffic Division
City of Garden Grove
11222 Acacia Parkway
Garden Grove, California 92842

RE: Traffic Impact Study for the proposed expansion of the Starlight Cinema Plaza on Valley View Street

Dear Mr. Vu:

Albert Grover & Associates (AGA) is pleased to present to the City of Garden Grove this Traffic Impact Study (TIS) for the proposed expansion of the Starlight Cinema Plaza located within the 12000 block of Valley View Street in the City of Garden Grove. The project proposes to expand the existing cinema by one screen as well as construct a new 2,700 square-foot (sf) casual restaurant, 1,870 sf Jack in the Box restaurant with drive-through window, and 4,194 sf Fast Express Car Wash.

This TIS has been prepared in accordance with industry-standard traffic engineering practices, including ongoing collaboration with City staff and our professional evaluations of traffic factors pertinent to the study area. This study provides an assessment of the most probable traffic and transportation outcomes should the proposed project be approved, constructed, and fully occupied. In addition to traffic operations analysis, a queuing analysis has also been conducted for the proposed drive-throughs.

We trust that these analyses will be of assistance to you, the City, and others. Should you have any questions regarding this study or its conclusions, please do not hesitate to contact me or Ms. Kawai Mang at our office.

Respectfully submitted,

ALBERT GROVER & ASSOCIATES

David A. Roseman, TE
Principal Transportation Engineer

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I. INTRODUCTION

Purpose

The purpose of this traffic impact study (TIS) is to evaluate potential traffic impacts of a proposed project at the Starlight Cinemas plaza on Valley View Street in the City of Garden Grove, and to provide decision makers with a complete assessment of the most probable traffic and transportation outcomes should the proposed project be approved, constructed, and fully occupied. This study has been prepared in accordance with standard traffic engineering practices and is based on recent traffic data, information provided by the applicant and/or their representatives, discussions with City staff, field review of the study area, and pertinent reference materials.

Project Description

A project to expand the theatre facility and construct several new businesses is proposed within the Starlight Cinemas plaza on Valley View Street between Chapman Avenue and Belgrave Avenue in the City of Garden Grove (**Figure 1**). The proposed project site comprises approximately 2.7 acres located on the southwest corner of the intersection of Valley View Street and Chapman Avenue and currently includes Starlight Cinemas, an existing five-screen theatre, as well as a vacant building of approximately 6,000 square feet (sf) and their associated parking spaces. The proposed project would demolish the existing vacant building and construct a 2,800 sf one-screen addition to the movie theatre as well as a 2,700 sf restaurant, 1,870 sf Jack in the Box fast-food restaurant with drive-through service, and 4,194 sf drive-through Fast Express Car Wash. It is expected to be completed and open for business in 2020.

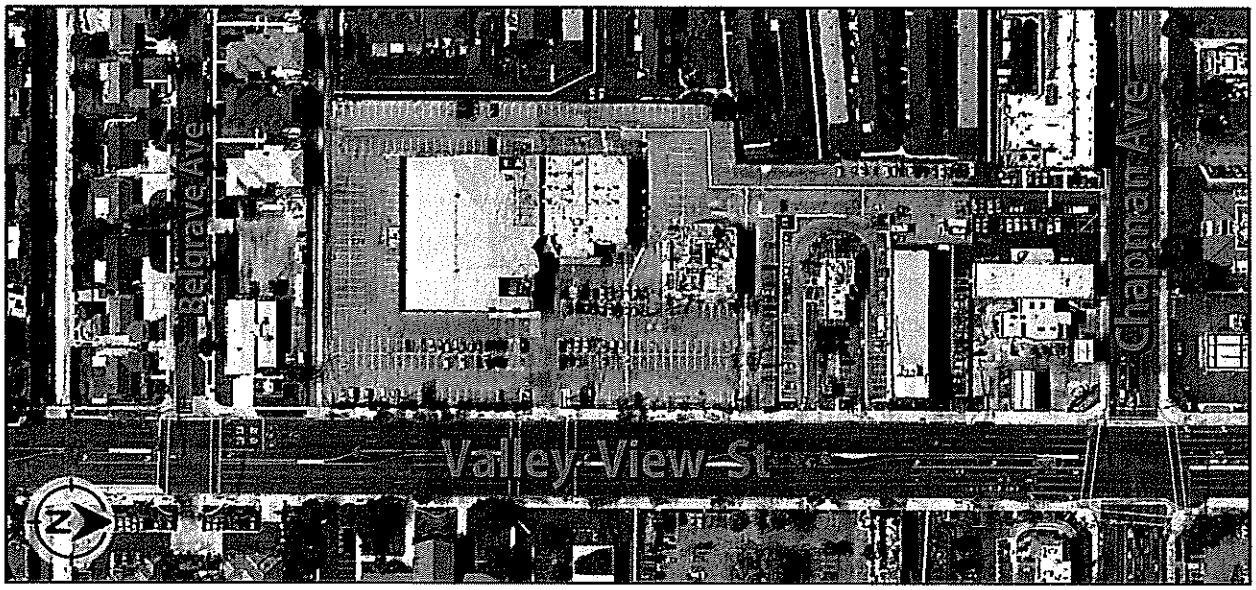

Figure 1: Study Area and Proposed Project Location

The project site is flanked by AMF Valley View Lanes, a bowling alley, to the south and a McDonald's restaurant with drive-through service to the north. The site is accessible from adjacent parking lots via

several existing driveways serving the cinema and adjacent businesses. The proposed project site plan (**Figure 2**, details in **Appendix A**) would maintain these driveways and the adjacent parking lots in their existing configuration. This study considers the two driveways along the project frontage on Valley View Street to be the primary project access points.

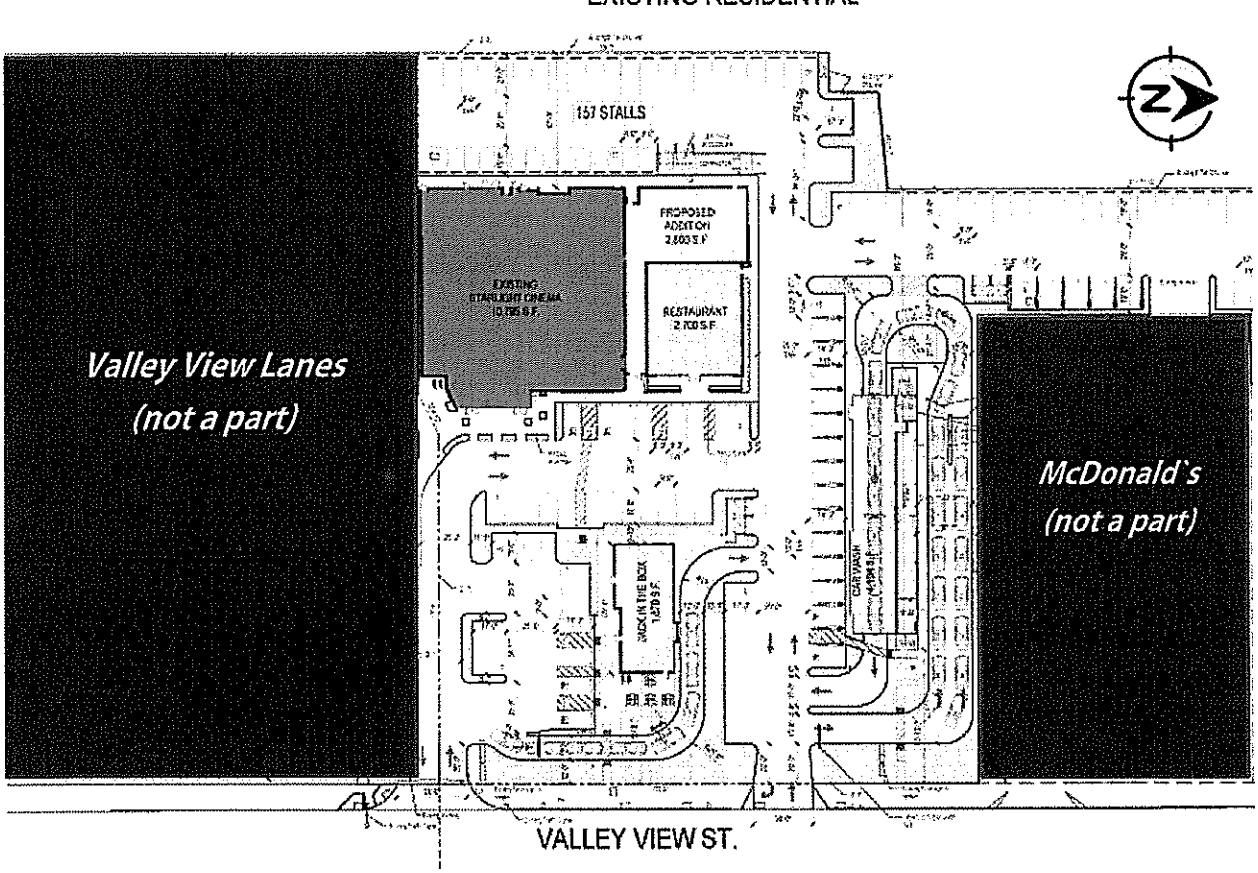

Figure 2: Proposed Project Site Plan

The drive-through for the proposed Jack in the Box restaurant provides storage for eight vehicles, which is generally considered adequate for typical drive-through fast-food restaurants. The drive-through for the proposed Fast Express Car Wash provides storage for up to 28 vehicles, with two storage lanes available for vehicle queues of up to 17 vehicles before the wash tunnel. It is expected that the peak drive-through queues for both the Jack-in-the-Box and the Fast Express Car Wash would be contained on-site, without impeding any driveways.

Per the applicable City of Garden Grove parking codes, the proposed project would require 179 on-site parking spaces. The proposed site plan would provide 159 parking spaces within the on-site parking lots, including 6 ADA-compliant parking spaces and 10 electric-vehicle charging spaces. Combined with the storage capacity of the drive-through lanes, the proposed project site plan provides for on-site storage of 179 vehicles without impacting driveway access or adjacent roadways.

Study Intersections

Based on a review of the proposed project, street network, and anticipated project traffic generation, the following driveways and intersections (**Figure 3**) were selected for analysis and approved by City staff:

	Intersection	Traffic Control
1.	Valley View Street @ Chapman Avenue	Traffic Signal
2.	Valley View Street @ Cinema Driveway	Traffic Signal
3.	Valley View Street @ Belgrave Avenue	Traffic Signal
4.	Valley View Street @ Lampson Avenue	Traffic Signal
5.	Valley View Street @ Cerulean Avenue	Traffic Signal
6.	Project driveway @ Valley View Street	One-Way Stop Control

The following turn restrictions currently exist at the study intersections:

- **(No. 1) Valley View St @ Chapman Ave:** U-turns prohibited on Chapman Avenue.
- **(No. 6) project dwy @ Valley View St:** right-turn-only ingress and egress.

Figure 3 shows the existing lane geometrics, intersection traffic control types, and turning-movement restrictions within the study area.

Intersection Analysis Methodology

This traffic study performs intersection Level-Of-Service (LOS) analyses via Synchro software for the following scenarios for both the weekday morning (AM) and afternoon (PM) peak hours:

- Existing conditions (year 2018)
  - Without project scenario
  - With project scenario
- Opening day conditions (year 2020)
  - Without project scenario
  - With project scenario

To evaluate traffic operations at the signalized study intersections, this study employs the *Intersection Capacity Utilization* (ICU) methodology, which uses lane geometrics, traffic signal timing, and traffic volumes to determine the ratios of peak-hour intersection traffic volumes to the corresponding lane capacities, known as volume-to-capacity (v/c) ratios. These v/c ratios are then used to assign intersection LOS rankings ranging from LOS A (optimal operations) to LOS F (congested conditions), in a similar fashion to educational grading systems (**Table 1**). Intersection operations from LOS A through LOS D are generally considered to be acceptable operational conditions, while LOS E and LOS F are typically defined as over-capacity conditions.

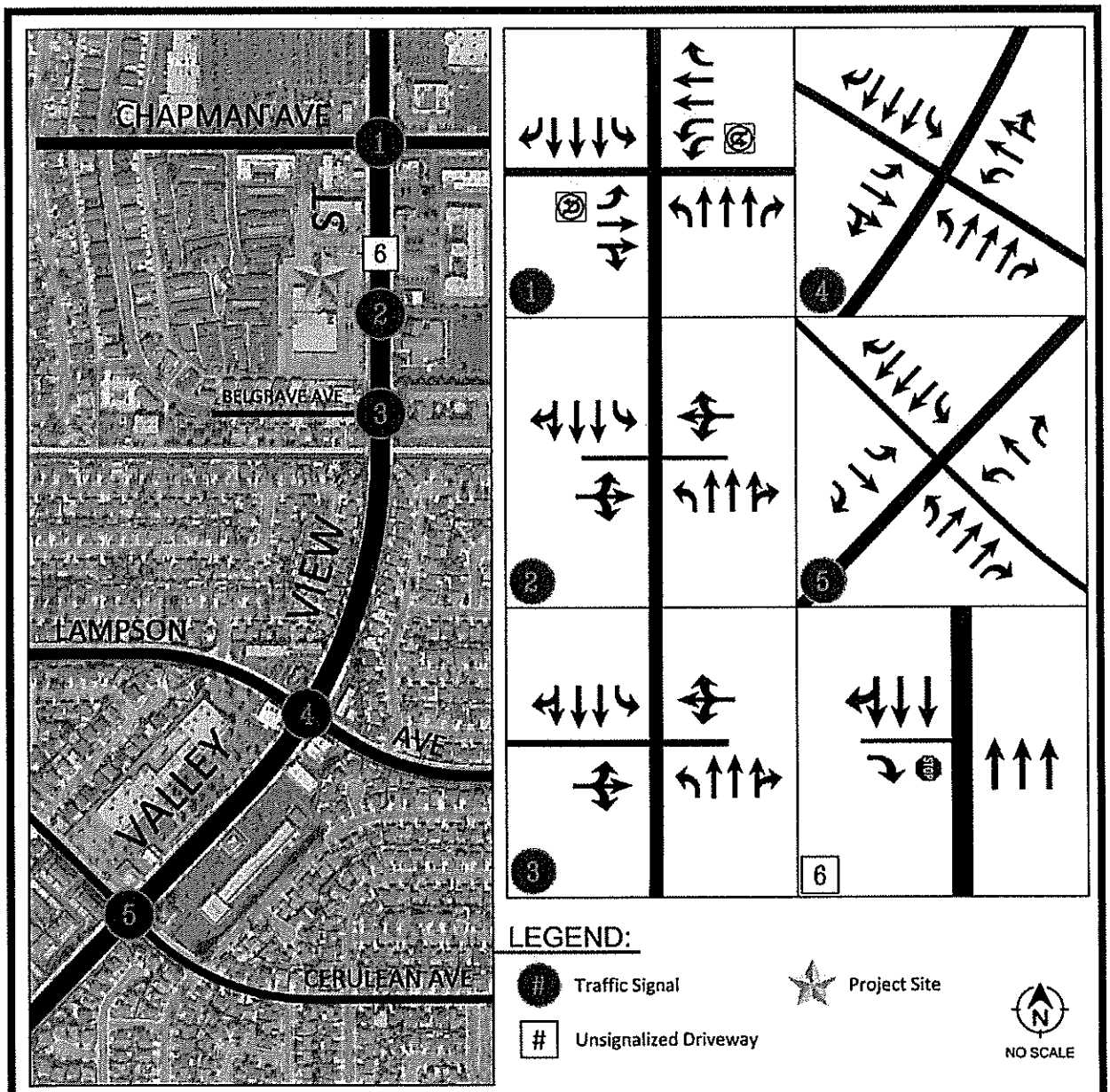

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FIGURE 3: STUDY INTERSECTIONS

Table 1: Level of Service

Intersection Capacity Utilization (ICU) Method

Signalized Intersections

Volume/Capacity Ratio (V/C)	LOS	Description
0% - 60%	A	The intersection has no congestion.
60% - 70%	B	The intersection has very little congestion.
70% - 80%	C	The intersection has no major congestion.
80% - 90%	D	The intersection normally has no congestion.
90% - 100%	E	The intersection is on the verge of congested conditions.
100% +	F	The intersection is over capacity.

The Synchro LOS analysis for the single unsignalized, stop-controlled study intersection assesses traffic operations by determining average vehicle delay for the stopped approach based on traffic volumes traveling through the intersection (**Table 2**). Typically, traffic operations at unsignalized intersections are evaluated largely to determine the potential need and feasibility of a new traffic signal installation.

Table 2: Level of Service

Highway Capacity Manual (HCM) Method

Stop-Controlled Intersections

Average Delay per Vehicle (s)	LOS	Description
0 - 10	A	Usually no conflicting traffic
10 - 15	B	Occasionally some delay
15 - 25	C	Delay noticeable, but not inconveniencing
25 - 35	D	Delay noticeable and irritating
35 - 50	E	Delay approaches tolerance level
50 +	F	Delay exceeds tolerance level

Significant Impact Criteria

In June 1990, the passage of California Proposition 111 instituted a requirement that each urbanized area in the state with a population of 50,000 or greater adopt a Congestion Management Program (CMP). In accordance with State legislation, the 2015 Orange County CMP has established a minimum LOS of LOS E for intersections along Valley View Street within the City of Garden Grove. Therefore, this study uses a minimum acceptable LOS of E for all study intersections.

For this study, the project is considered to have a significant traffic impact under the following scenarios:

- At signalized intersections with a **pre-project LOS of E or better**, the addition of the proposed project traffic results in an LOS of F.
- At signalized intersections with a **pre-project LOS of F**, the addition of the proposed project traffic increases the v/c ratio by 0.01 or more.
- At **unsignalized intersections**, the addition of the proposed project traffic to the opening day scenario is expected to result in the need for a new traffic signal installation. Further engineering analysis may be required to determine the feasibility of the new traffic signal installation.

II. PROPOSED PROJECT TRAFFIC PROJECTIONS

Project Trip Generation

The Institute of Transportation Engineers (ITE) *Trip Generation Manual* – 10th Edition (2017) uses thousands of studies across the nation to determine common trip generation characteristics by land use. Using the *Manual*, the anticipated project trip generation was determined using parameters given by the appropriate ITE land use codes (**Table 3**). It is also common to determine the trip generation for the existing land use(s) at the project site and deduct those trips from the project trips to determine the net new trips generated. In this case, however, the project is proposing all new construction to replace a parking lot area and vacant building. Therefore, the existing traffic volumes do not include activity at existing facilities and thus the analysis applies no trip reductions for the prior activity at the site. Per the ITE trip generation rates, 110 vehicle trips and 211 vehicle trips are expected to access the project in the AM and PM peak hours, respectively.

Typically, a portion of trips accessing new commercial developments may be vehicles already present on the roadway system. Such trips are referred to as "pass-by" trips; i.e., vehicles already on the roadway that will make an intermediate stop at the development before continuing on their original routes. Pass-by trip percentages can range from a few percent for some specialized retail uses to as high as 80% for fast-food and/or coffee shops with drive-through lanes. Per the ITE *Trip Generation Handbook*, generalized traffic study data for land uses similar to those within the proposed project provided average pass-by trip rates of about 50% for the restaurant uses. Per discussions with City staff, a 20% pass-by trip reduction rate is also applied to the calculated car wash trip generation, while no pass-by trip reductions are applied to the cinema trips in order to provide a conservative "worst-case" analysis. However, per standard traffic engineering practices and typical project traffic characteristics, no pass-by trip reductions are applied at the project driveways.

Additionally, businesses located within commercial centers typically experience what is referred to as "internal trip capture," where some trips are made to more than one business at the site (e.g., a pharmacy and a laundromat, or a restaurant and a cinema, etc.). In some cases, the internal trip capture can result in a total trip reduction of as much as 15-20%. The proposed project site is located within an existing commercial area, where it is likely that patrons of the proposed project would enter the adjacent parking lots once and patronize several businesses in one trip. For this study, no internal trip capture rate is applied to provide a conservative "worst-case" analysis.

After determining the appropriate project trip generation and pass-by trip reductions, it is expected that the proposed project will generate approximately **71 net new trips in the AM peak hour and 153 net new trips in the PM peak hour**, with approximately equal proportions of inbound and outbound trips.

Table 3 gives the ITE land use codes and project trip generation, and trip reduction credits applied to this project for the typical weekday 24-hour, AM peak hour, and PM peak hour periods.

Table 3: Proposed Project Trip Generation

Project Trip Generation									
Project Portion	ITE Land Use Code *	Gross Floor Area (sq. ft.)	Daily	AM Peak Hour (one hour 7-9am)			PM Peak Hour (one hour 4-6pm)		
				In	Out	Total	In	Out	Total
Starlight Cinema Expansion	444 : Movie Theater	2,800	220	0	0	**0**	25	21	**46**
Restaurant	932 : High-Turnover (Sit-Down) Restaurant	2,700	303	15	12	**27**	16	10	**26**
Jack in the Box (drive-through)	934 : Fast-Food Restaurant w. Drive-Through Window	1,870	881	38	37	**75**	32	29	**61**
Fast Express Car Wash	948 : Automated Car Wash	4,194	156	5	3	**8**	39	39	**78**
Total Project Trip Generation		**11,564**	**1,560**	**58**	**52**	**110**	**112**	**99**	**211**

Project Trip Generation with Pass-By Trip Credits											
Project Portion	ITE Pass-By Trip Rates *			Gross Floor Area (sq. ft.)	Daily	AM Peak Hour (one hour 7-9am)			PM Peak Hour (one hour 4-6pm)		
	Daily	AM	PM			In	Out	Total	In	Out	Total
Starlight Cinema Expansion	-			2,800	0	0	0	**0**	0	0	**0**
Restaurant	43%	-	43%	2,700	130	0	0	**0**	7	4	**11**
Jack in the Box (drive-through)	50%	49%	50%	1,870	436	19	18	**37**	16	15	**31**
Fast Express Car Wash	20%			4,194	31	1	1	**2**	8	8	**16**
Total Pass-By Trip Credits					*597*	*20*	*19*	***39***	*31*	*27*	***58***
Net New Project Trips					**963**	**38**	**33**	**71**	**81**	**72**	**153**

* Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Ed. (2017)

Project Trip Distribution and Assignment

Once it is determined how many trips the proposed project is anticipated to generate, those vehicle trips are distributed over the nearby roadway network. Per the prevailing area traffic patterns and discussions with City staff, the project trips are assigned to the various movements at the study intersections in roughly similar proportions to the north and south of the project site. A graphical summary of the project trip distribution is given by percentage (**Figure 4**) as well as trip volumes (**Figure 5**).

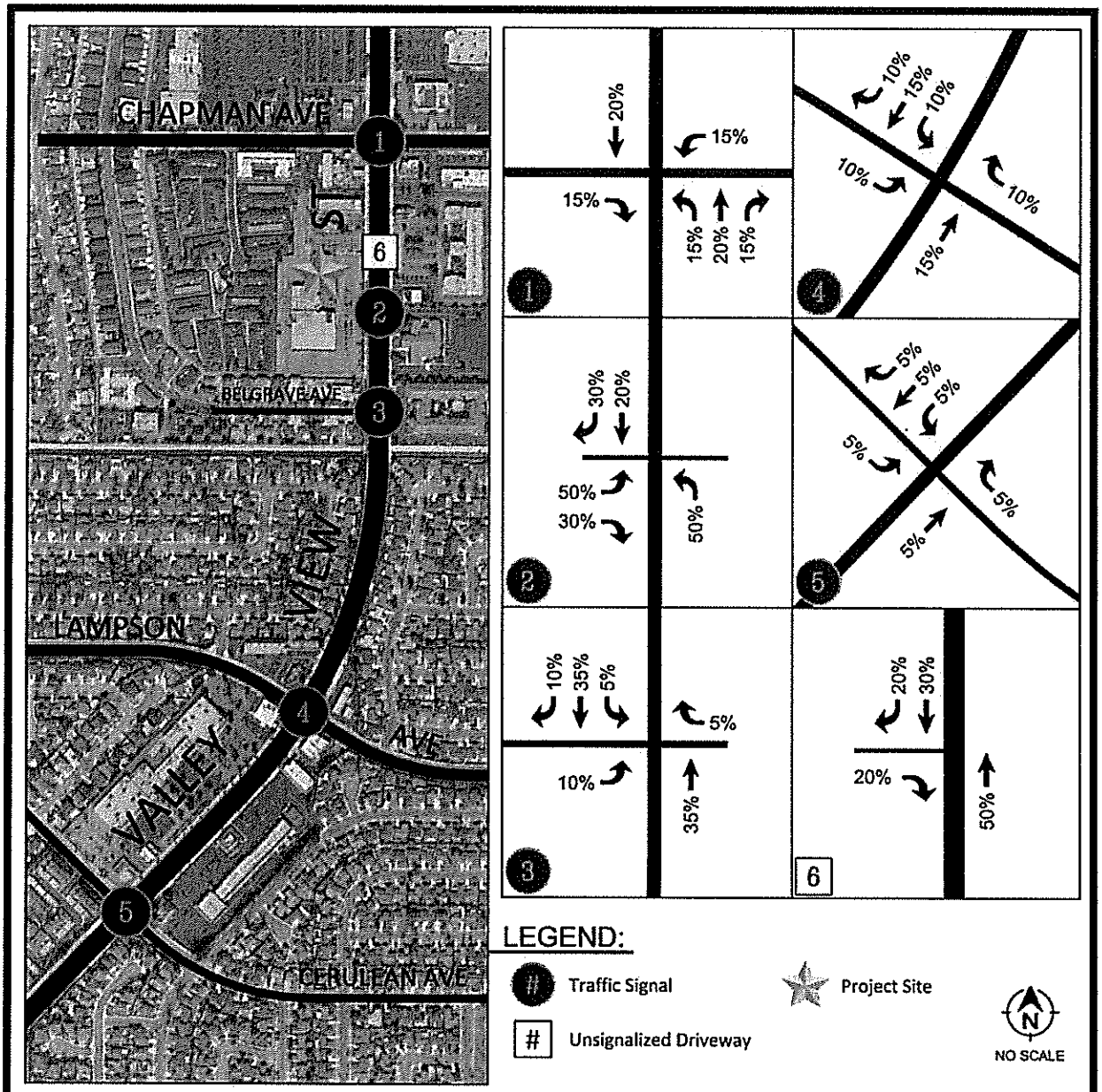

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FIGURE 4: PROJECT TRIP DISTRIBUTION

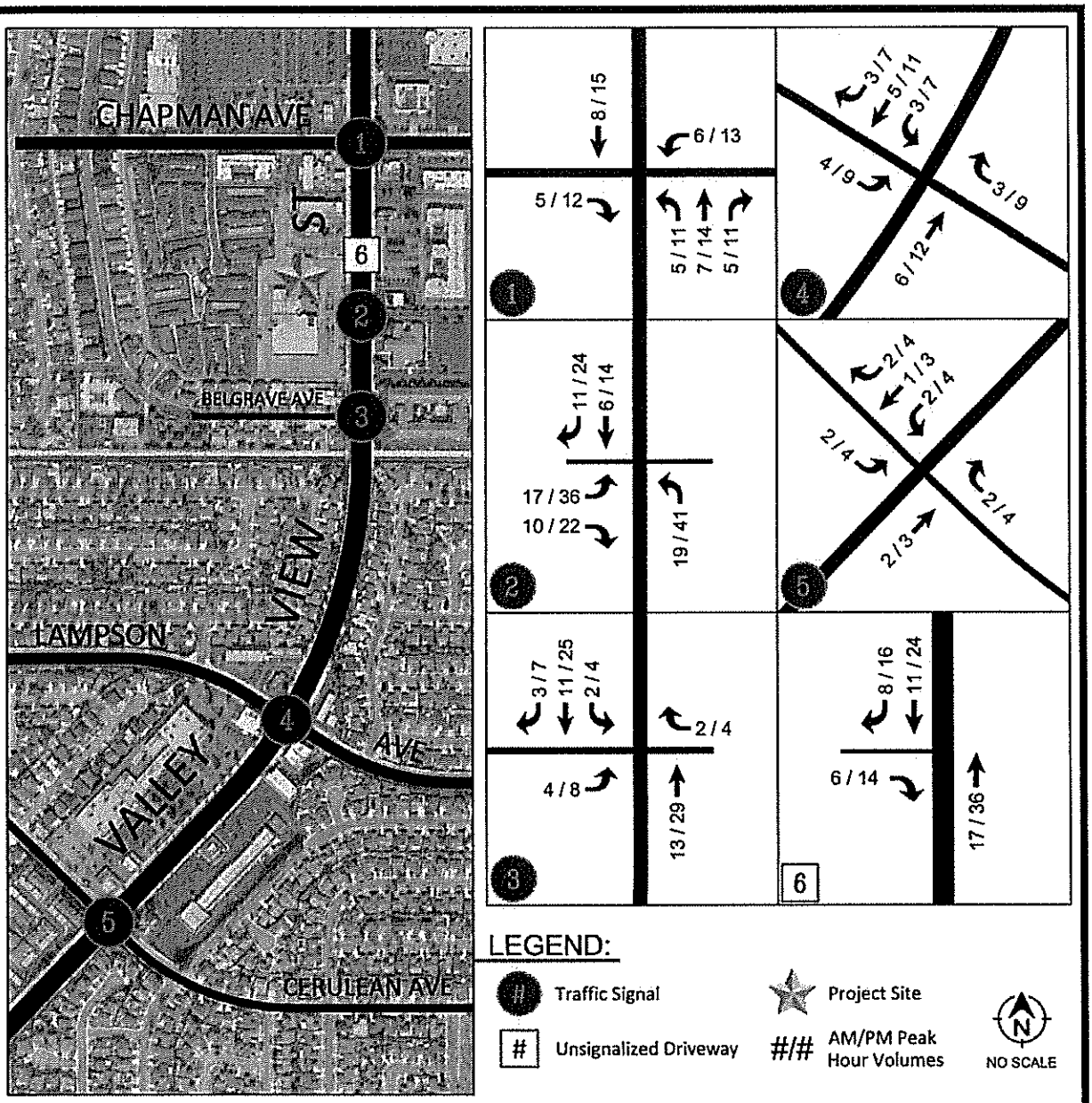

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FIGURE 5: PROPOSED PROJECT TRAFFIC VOLUMES

III. EXISTING (YEAR 2018) LEVEL OF SERVICE ANALYSIS

Existing Conditions

The proposed project site is located within the existing commercial plaza on the southwest corner of the intersection of Valley View Street and Chapman Avenue. All study intersections (Figure 3) are signalized locations along Valley View Street, except the northerly project driveway (intersection no. 6) which is stop-controlled.

In the vicinity of the proposed project, Valley View Street is a six-lane, north-south roadway divided by a raised, landscaped median and designated by the City of Garden Grove General Plan as a major arterial. It provides access to the Interstate 405 (I-405) and State Route 22 (SR-22) freeways to the south of the study area. Chapman Avenue is a four-lane, east-west roadway designated as a primary arterial with a raised, landscaped median west of Valley View Street and a two-way left-turn median lane east of Valley View Street. Lampson Avenue is a four-lane, east-west roadway designated as a secondary arterial with a two-way left-turn median lane west of Valley View Street and a raised median east of Valley View Street. Both Belgrave Avenue and Cerulean Avenue are two-lane, undivided, east-west roadways providing access to residential areas and featuring on-street parking.

To establish a baseline analysis for existing conditions (year 2018), 24-hour roadway traffic counts and intersection turning movement counts—including pedestrian and bicyclist counts—were conducted within the study area (**Appendix B**). 24-hour roadway traffic volumes were collected on Tuesday, July 10, 2018, on Valley View Street both north and south of the proposed project site as well as on Chapman Avenue east of Valley View Street (**Table 4**). In the vicinity of the proposed project, Valley View Street carries approximately 50,000 vehicles daily in both directions as a major regional roadway. Chapman Avenue, also an arterial roadway, carries relatively low traffic volumes of about 12,000 daily vehicles.

Table 4: 24-hour Roadway Traffic Volumes

Roadway	Location	Orientation	24-hour Volumes		
			NB/EB	SB/WB	*Total*
Valley View Street	north of Chapman Avenue	North-South	29,256	23,956	***53,212***
	south of Chapman Avenue		24,699	25,374	***50,073***
	south of Lampson Avenue		24,826	23,724	***48,550***
Chapman Avenue	east of Valley View Street	East-West	6,044	6,342	***12,386***

As indicated by the 24-hour roadway volume data, traffic patterns within the study area reflect the most activity along Valley View Street. Turning movement data also collected on Tuesday, July 10, 2018, at the study intersections show that a significant proportion of traffic along Valley View Street within the study area accesses the I-405 and SR-22 freeways to the south of the project site. Currently, both project driveways on Valley View Street have relatively light traffic, with less than 30 inbound and outbound vehicles at either driveway in the AM and PM peak hours.

As a precaution, since the study data was collected during the summertime, when schools are out of session, the volumes at the major intersection of Valley View Street and Chapman Avenue were also compared to previous data from older studies within the project vicinity. Based on the comparison between 2018 data and traffic volumes collected in May and December of 2014, no consistent, significant deviations were observed in prevailing traffic patterns for either the AM or PM peak hours. That is, nearby schools and regional colleges being out of session did not provide a measurable seasonal increase or decrease in traffic volumes within the study area. Therefore, no seasonal traffic factor was applied to the traffic volume data.

Figure 6 shows the existing traffic volumes during the AM and PM peak hours. The existing intersection LOS is summarized in **Table 5**, with detailed analysis worksheets provided in **Appendix C**. Under existing conditions, all study intersections operate at LOS D or better during both AM and PM peak hours.

Table 5: Existing Conditions Analysis (2018)

Intersection			AM Peak Hr		PM Peak Hr	
	Name	Control Type	V/C*	LOS	V/C*	LOS
1	*Valley View St @ Chapman Ave*	*Traffic Signal*	0.700	B	0.733	C
2	*Valley View St @ Cinema dwy*		0.646	B	0.607	B
3	*Valley View St @ Belgrave Ave*		0.583	A	0.672	B
4	*Valley View St @ Lampson Ave*		0.740	C	0.843	D
5	*Valley View St @ Cerulean Ave*		0.635	B	0.670	B

** V/C: volume-to-capacity ratio*

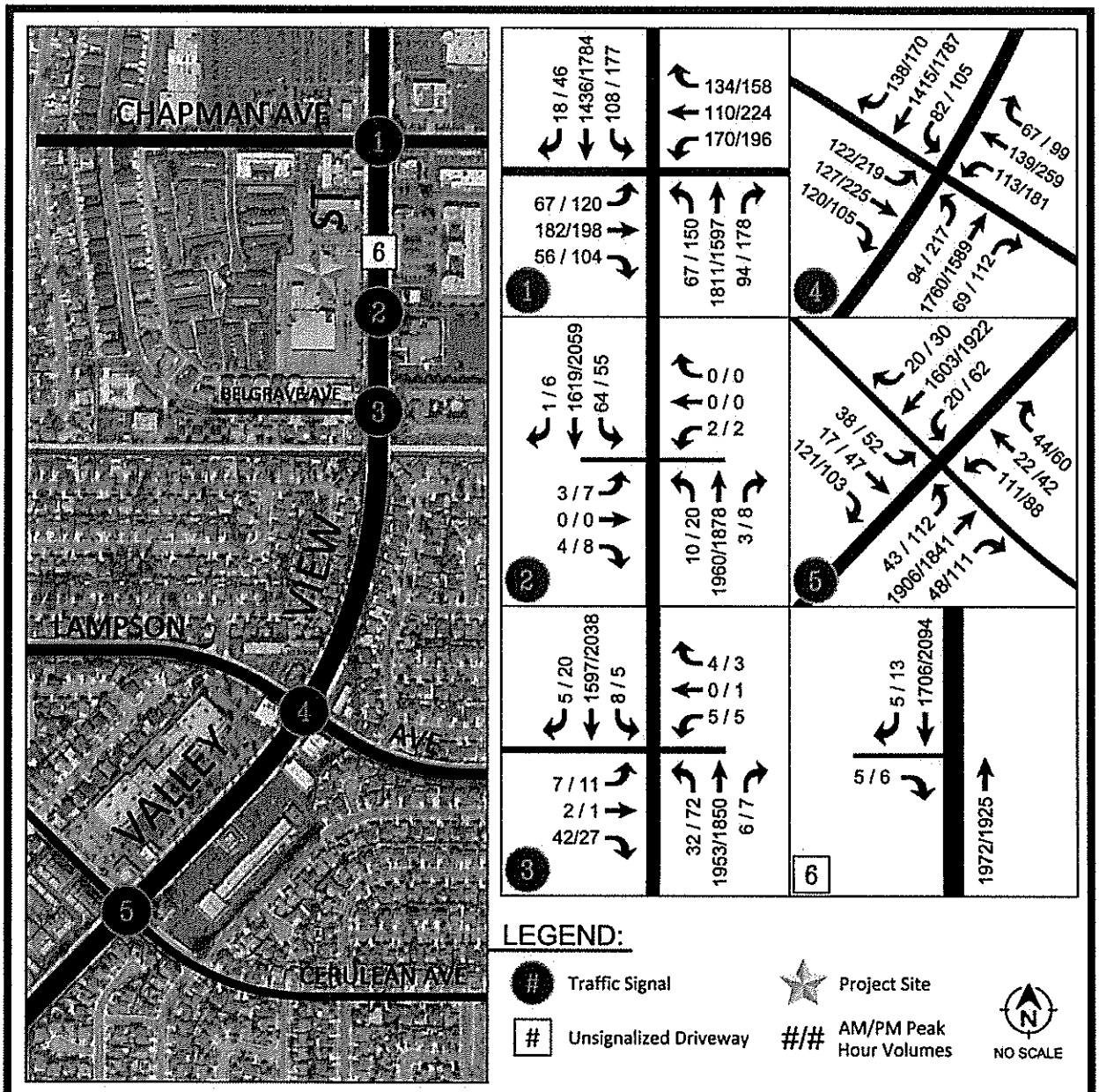

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FIGURE 6: EXISTING CONDITIONS TRAFFIC VOLUMES (2018)

Existing Conditions + Project Traffic

To analyze the "existing conditions + project traffic" scenario, the expected project trips are added to the existing traffic volumes at the study intersections according to the anticipated project trip distribution, while the pass-by project trips are added back into the traffic volumes only at the project driveways. The resulting traffic volumes are shown in **Figure 7**.

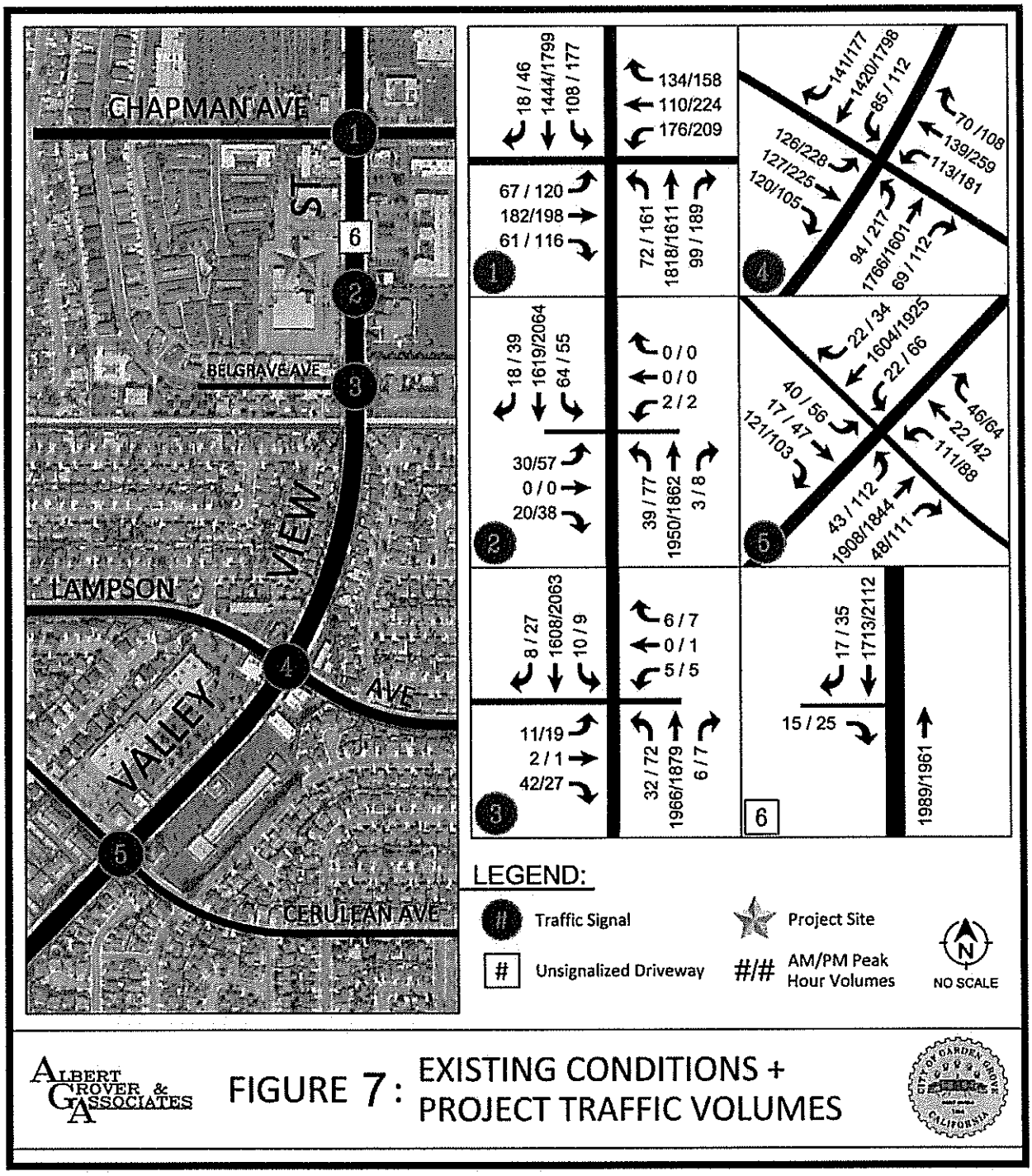

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FIGURE 7: EXISTING CONDITIONS + PROJECT TRAFFIC VOLUMES

The "existing conditions + project traffic" LOS analysis is summarized in **Table 6**, with detailed analysis worksheets provided in **Appendix C**.

Table 6: Existing Conditions + Project Traffic Analysis

Intersection		AM Peak Hr		PM Peak Hr	
Name	Control Type	V/C*	LOS	V/C*	LOS
1 Valley View St @ Chapman Ave	*Traffic Signal*	0.705	C	0.745	C
2 Valley View St @ Cinema dwy		0.644	B	0.674	B
3 Valley View St @ Belgrave Ave		0.586	A	0.678	B
4 Valley View St @ Lampson Ave		0.741	C	0.853	D
5 Valley View St @ Cerulean Ave		0.635	B	0.671	B

** V/C: volume-to-capacity ratio*

When adding the anticipated project trips to existing traffic flows, all study intersections are expected to continue operating at LOS D or better during both the AM and PM peak hours. The addition of the anticipated project trips is expected to have a minimal effect on traffic operations within the study area.

IV. Project Opening Day (Year 2019) Level of Service Analysis

Ambient Area Growth

Should the City approve the proposed project, it is expected to open for business (i.e., construction would be completed and the project fully occupied) in 2020. To assess the future anticipated traffic conditions, the baseline opening day traffic conditions consider additional traffic volumes attributable to ambient area growth. Per discussions with City staff, near-term traffic growth rates in the study area are expected to be approximately one percent per year. Therefore, existing traffic volumes were increased by two percent to reflect the anticipated regional ambient growth from 2018 to 2020.

Related Projects Analysis

Typically, additional traffic from planned and approved projects ("related projects") within the vicinity of the proposed project site that could be completed by the project opening year are also added to the opening day traffic volumes. A list detailing planned and approved projects—including land use type, project size, and expected trip generation—obtained from City staff revealed that no development projects are planned to be completed by the project opening year within a one-half-mile radius of the proposed project site. Therefore, no additional vehicle trips are added to the opening day analysis for related projects.

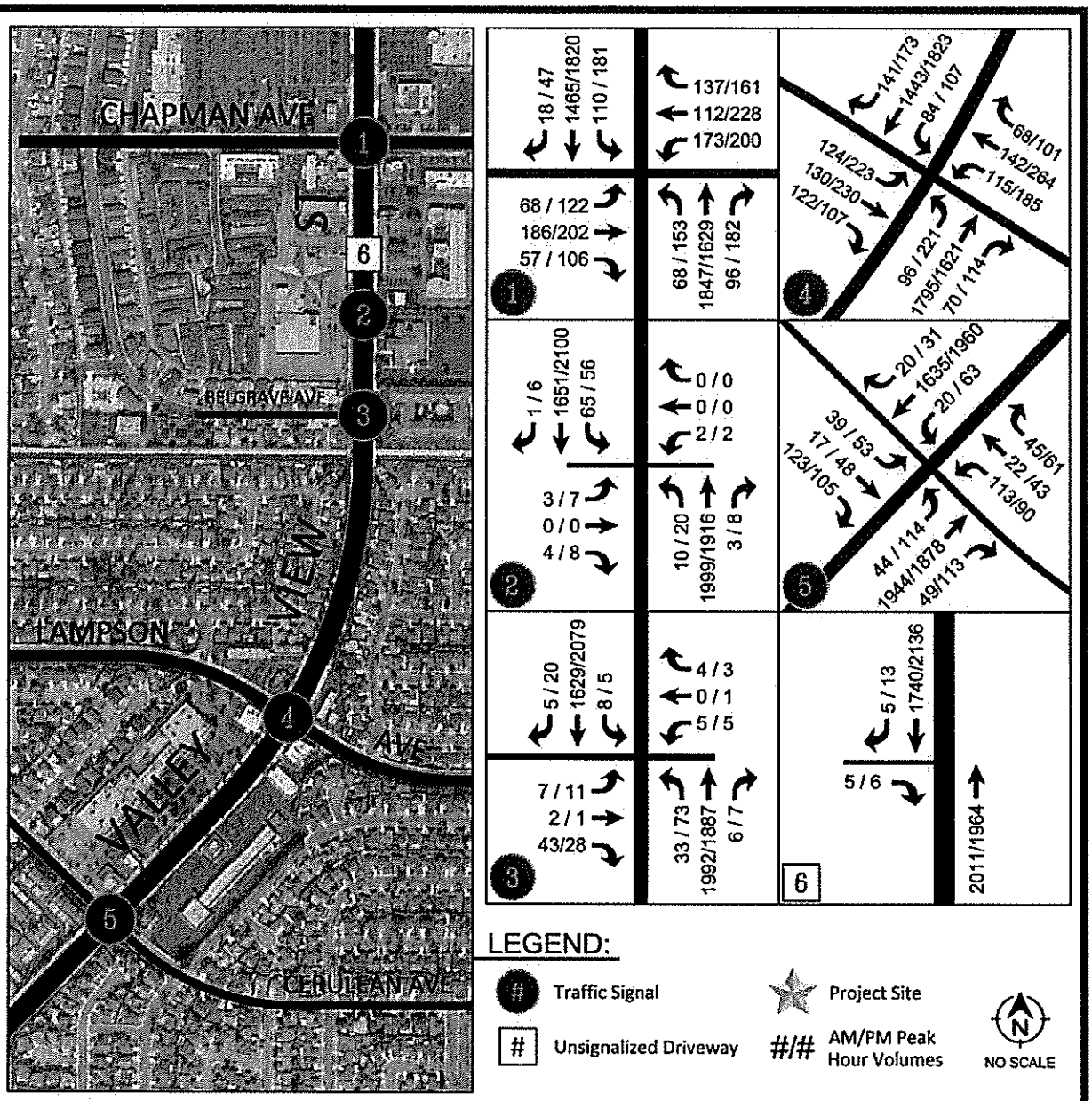
Opening Day Conditions (without Project)

With the anticipated traffic from the ambient area growth added to the existing traffic volumes (**Figure 8**), all study intersections are still expected to operate at LOS D or better during both the AM and PM peak hours (**Table 7**).

Table 7: Opening Day Conditions Analysis (2020)

Intersection			AM Peak Hr		PM Peak Hr	
Name	Control Type		V/C*	LOS	V/C*	LOS
1 *Valley View St @ Chapman Ave*	*Traffic Signal*		0.709	C	0.743	C
2 *Valley View St @ Cinema dwy*			0.654	B	0.615	B
3 *Valley View St @ Belgrave Ave*			0.589	A	0.679	B
4 *Valley View St @ Lampson Ave*			0.747	C	0.856	D
5 *Valley View St @ Cerulean Ave*			0.642	B	0.679	B

** V/C: volume-to-capacity ratio*

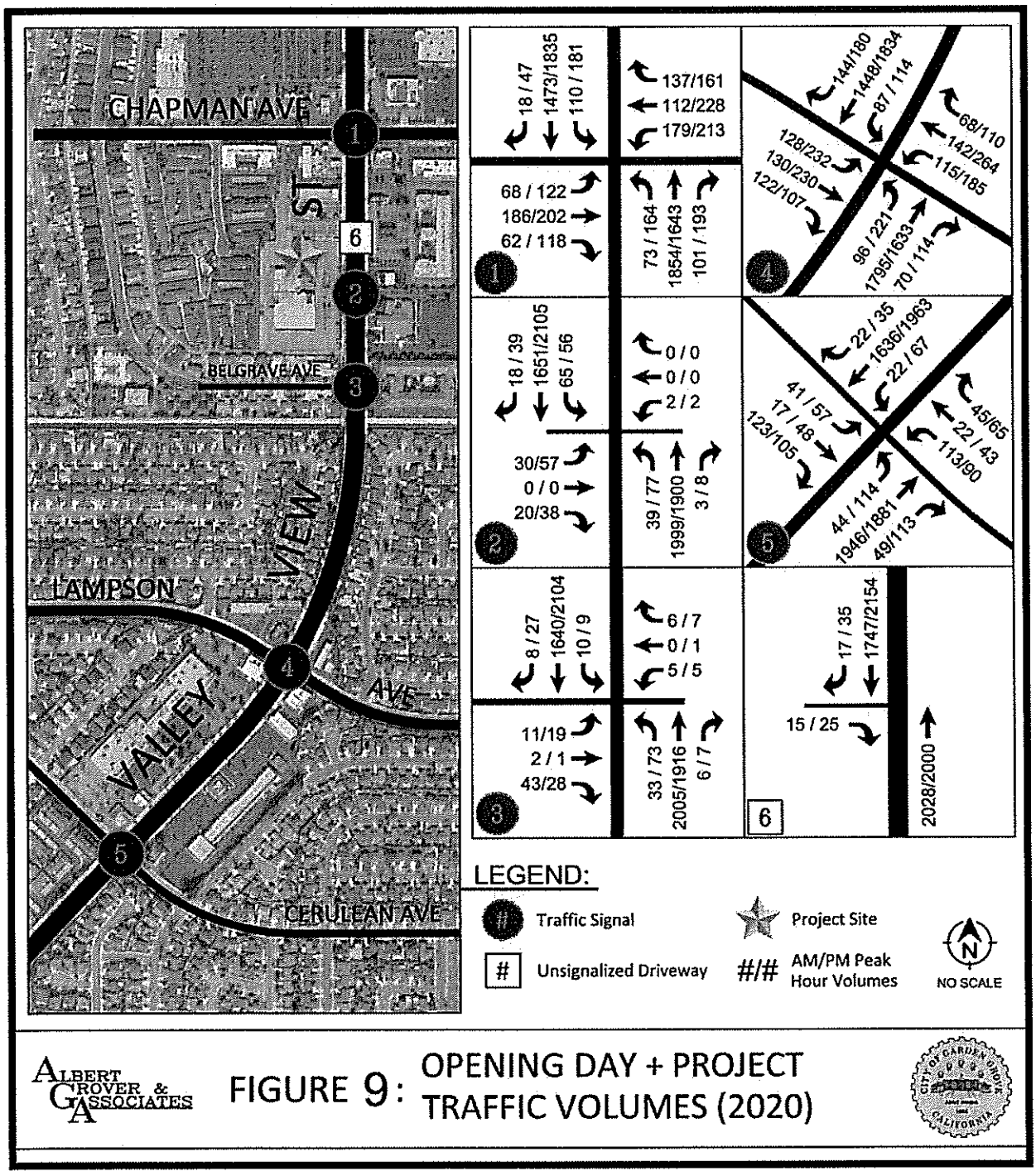


ALBERT GROVER & ASSOCIATES

FIGURE 8: OPENING DAY CONDITIONS TRAFFIC VOLUMES (2020)

Opening Day Conditions + Project Traffic

To assess the anticipated impacts of the proposed project on its opening day (year 2020), the anticipated project trips (Figure 5) are added to the "opening day without project" analysis, which includes expected traffic volumes from ambient area growth and related regional projects (**Figure 9**).



ALBERT GROVER & ASSOCIATES

FIGURE 9: OPENING DAY + PROJECT TRAFFIC VOLUMES (2020)

The intersection LOS analysis for the "opening day + project traffic" scenario is summarized in **Table 8**, with detailed analysis worksheets provided in **Appendix C**.

Table 8: Opening Day + Project Traffic Analysis

Intersection			AM Peak Hr		PM Peak Hr	
	Name	Control Type	V/C*	LOS	V/C*	LOS
1	*Valley View St @ Chapman Ave*	*Traffic Signal*	0.714	C	0.756	C
2	*Valley View St @ Cinema dwy*		0.654	B	0.682	B
3	*Valley View St @ Belgrave Ave*		0.592	A	0.686	B
4	*Valley View St @ Lampson Ave*		0.748	C	0.866	D
5	*Valley View St @ Cerulean Ave*		0.643	B	0.679	B

** V/C: volume-to-capacity ratio*

With the anticipated traffic from the proposed project and ambient area growth added to the existing traffic volumes, all study intersections are expected to continue operating at LOS D or better during both the AM and PM peak hours. The addition of the anticipated project trips is expected to have a minimal effect on opening day traffic operations within the study area, with at most a 0.013 increase in v/c ratio at any study location.

V. DRIVE-THROUGH QUEUING ANALYSIS

Due to the proximity of the proposed Jack in the Box and Fast Express Car Wash drive-through entrances to the project site driveways, an analysis of anticipated drive-through queues was also conducted.

Proposed Jack in the Box Drive-Through

The proposed project site plan includes a fast-food restaurant drive-through service with one approach lane, providing storage capacity for up to eight vehicles from the pickup window to the back of the queue lane. In order to determine anticipated drive-through queues for the proposed Jack in the Box, a queuing analysis was conducted at the existing Jack in the Box restaurant with drive-through service located at 8971 Garden Grove Boulevard on the northwest corner of the intersection of Garden Grove Boulevard and Magnolia Street.

The Jack in the Box location on Garden Grove Boulevard was chosen as a similar site to study due to its location on an arterial roadway with freeway access: like Valley View Street, Magnolia Street provides north-south access to regional destinations as well as the SR-22 freeway. Queue lengths were observed and noted at five-minute intervals over the two-hour peak lunch period from 11:00am to 1:00pm on Wednesday, August 29, 2018, and Saturday, September 8, 2018, as well as during the two-hour evening peak period from 4:00pm to 6:00pm on the Wednesday only. The data collected shows a maximum queue length of five vehicles on the typical weekday and six vehicles on the typical Saturday. These peak queues are expected to be accommodated by the proposed eight-car storage lane; therefore, it is not anticipated that queues in the Jack in the Box drive-through would exceed the proposed storage capacity to back up into either the on-site parking lot or the project driveway(s).

Proposed Fast Express Car Wash Drive-Through

The proposed project site plan also includes a drive-through car wash service with two approach lanes, providing storage capacity for up to seventeen vehicles from the pay station to the back of the queue lanes. In order to determine anticipated drive-through queues for the proposed Fast Express Car Wash, queuing data was obtained from a study conducted at the existing Fast Express locations in Norwalk and Pico Rivera in February 2018. Queue lengths for both approach lanes were observed and noted at five-minute intervals from 11:00am to 6:00pm on Thursday, February 1, 2018, and Saturday, February 3, 2018.

Across the study, the Saturday midday period was the busiest, while the Pico Rivera site had larger queues than the Norwalk site. The data collected shows a maximum queue length of six vehicles on the typical weekday, occurring in the evening around 4:15pm and sixteen vehicles on the typical Saturday, occurring around 11:50am. These peak queues are expected to be accommodated by the proposed seventeen-car storage capacity; therefore, it is not anticipated that queues in the Fast Express drive-through would exceed the proposed storage capacity to back up into either the on-site parking lot or the project driveway(s).

Table 9: Queuing Study Data

Jack in the Box | 8971 Garden Grove Blvd

Wednesday, Aug 29, 2018				Saturday, Sep 08, 2018			
	Time	Max Queue (veh)	Average Queue		Time	Max Queue (veh)	Average Queue
Midday (Lunch)	11:15 AM	2	3	Midday (Lunch)	11:00 AM	5	3
	11:20 AM	4			11:05 AM	6 *	
	11:25 AM	4			11:10 AM	6 *	
	11:30 AM	3			11:15 AM	4	
	11:35 AM	2			11:20 AM	1	
	11:40 AM	2			11:25 AM	0	
	11:45 AM	2			11:30 AM	1	
	11:50 AM	1			11:35 AM	1	
	11:55 AM	0			11:40 AM	3	
	12:00 PM	2			11:45 AM	3	
	12:05 PM	3			11:50 AM	1	
	12:10 PM	5 *			11:55 AM	2	
Evening (Dinner)	4:00 PM	0	3		12:00 PM	2	3
	4:05 PM	1			12:05 PM	2	
	4:10 PM	3			12:10 PM	2	
	4:15 PM	3			12:15 PM	2	
	4:20 PM	2			12:20 PM	5	
	4:25 PM	2			12:25 PM	4	
	4:30 PM	2			12:30 PM	3	
	4:35 PM	5 *			12:35 PM	4	
	4:40 PM	4			12:40 PM	6 *	
	4:45 PM	3			12:45 PM	5	
	4:50 PM	2			12:50 PM	2	
	4:55 PM	3			12:55 PM	2	

** Maximum queue size on this day*

Table 10: Queuing Study Data

Fast Express Car Wash | Saturday, February 3, 2018

Norwalk			Pico Rivera		
Time	Max Queue (veh)	Average Hourly Queue	Time	Max Queue (veh)	Average Hourly Queue
11:00 AM	3		1:00 PM	4	
11:05 AM	4		1:05 PM	6	
11:10 AM	7		1:10 PM	4	
11:15 AM	8		1:15 PM	6	
11:20 AM	9		1:20 PM	5	
11:25 AM	9		1:25 PM	7	
11:30 AM	11	*9*	1:30 PM	7	*8*
11:35 AM	10		1:35 PM	7	
11:40 AM	8		1:40 PM	8	
11:45 AM	13 *		1:45 PM	15	
11:50 AM	9		1:50 PM	16 *	
11:55 AM	11		1:55 PM	15	
12:00 PM	13 *		2:00 PM	7	
12:05 PM	13 *		2:05 PM	6	
12:10 PM	11		2:10 PM	4	
12:15 PM	12		2:15 PM	7	
12:20 PM	11		2:20 PM	7	
12:25 PM	10		2:25 PM	10	
12:30 PM	7	*10*	2:30 PM	4	*7*
12:35 PM	12		2:35 PM	5	
12:40 PM	10		2:40 PM	9	
12:45 PM	9		2:45 PM	10	
12:50 PM	6		2:50 PM	11	
12:55 PM	6		2:55 PM	7	

** Maximum queue size at this location*

VI. SUMMARY AND CONCLUSIONS

A project is proposed to construct a cinema expansion, two restaurants, and a car wash within the Starlight Cinemas plaza on the west side of Valley View Street south of Chapman Avenue in the City of Garden Grove. Anticipated project trip generation and distribution are based on the ITE *Trip Generation Manual* as well as discussion with City staff and include trip credits for pass-by vehicle trips but no internal capture reductions. This results in an expected 71 net new trips in the AM peak hour and 153 net new trips in the PM peak hour on the City's roadway network.

Although Valley View Street is included in the Orange County Congestion Monitoring Program (CMP) network, this project is not expected to result in significant impact to any intersections along Valley View Street, nor to the nearest mainline freeways, Interstate 405 (I-405) and State Route 22 (SR-22). This study also includes a review of project site access and circulation, including drive-through queuing and parking. Overall, the proposed project site plan is expected to provide adequate traffic operations.

The study considers four analysis scenarios at six study intersections as outlined below:

Analysis Scenarios:

- Existing conditions (year 2018)
- Existing conditions + project traffic
- Opening day conditions (year 2020)
- Opening day conditions + project traffic

Study Intersections:

1. Valley View Street @ Chapman Avenue
2. Valley View Street @ Cinema Driveway
3. Valley View Street @ Belgrave Avenue
4. Valley View Street @ Lampson Avenue
5. Valley View Street @ Cerulean Avenue
6. Project driveway @ Valley View Street

Traffic operations analyses for the existing conditions are based on traffic volume data collected in July 2018. For the opening day scenarios, the analysis also considers expected ambient area growth. To qualify the analysis results, Synchro traffic analysis software is used to rank traffic operations at the signalized study intersections from LOS A to F based on volume-to-capacity (v/c) ratios. The analysis results for all scenarios are summarized in **Tables 11 and 12** for the AM and PM peak hours, respectively.

Under existing conditions, the study intersections operate at LOS D or better during both the AM and PM peak hours. Under the future conditions before project opening, the study intersections are expected to continue operating at LOS D or better during both the AM and PM peak hours.

Per the analysis, the project is expected to produce no significant traffic impacts at the study intersections during the peak hours. With the addition of the anticipated project traffic, all study intersections are expected to operate at acceptable LOS of D or better during both the AM and PM peak hours, with no more than a 1.3% increase in v/c ratios in the project opening day scenario. Therefore, no traffic mitigation measures are recommended for the proposed project.

Table 11: Intersection LOS Analysis Summary

AM Peak Hour

Intersection	Existing Conditions (2018)		Existing Conditions + Project Traffic			Opening Day Conditions (2020)		Opening Day Conditions + Project Traffic		
	V/C*	LOS	V/C*	LOS	Significant Impact	V/C*	LOS	V/C*	LOS	Significant Impact
1 *Valley View St @ Chapman Ave*	0.700	B	0.705	C	NO	0.709	C	0.714	C	NO
2 *Valley View St @ Cinema dwy*	0.646	B	0.644	B	NO	0.654	B	0.654	B	NO
3 *Valley View St @ Belgrave Ave*	0.583	A	0.586	A	NO	0.589	A	0.592	A	NO
4 *Valley View St @ Lampson Ave*	0.740	C	0.741	C	NO	0.747	C	0.748	C	NO
5 *Valley View St @ Cerulean Ave*	0.635	B	0.635	B	NO	0.642	B	0.643	B	NO

Table 12: Intersection LOS Analysis Summary

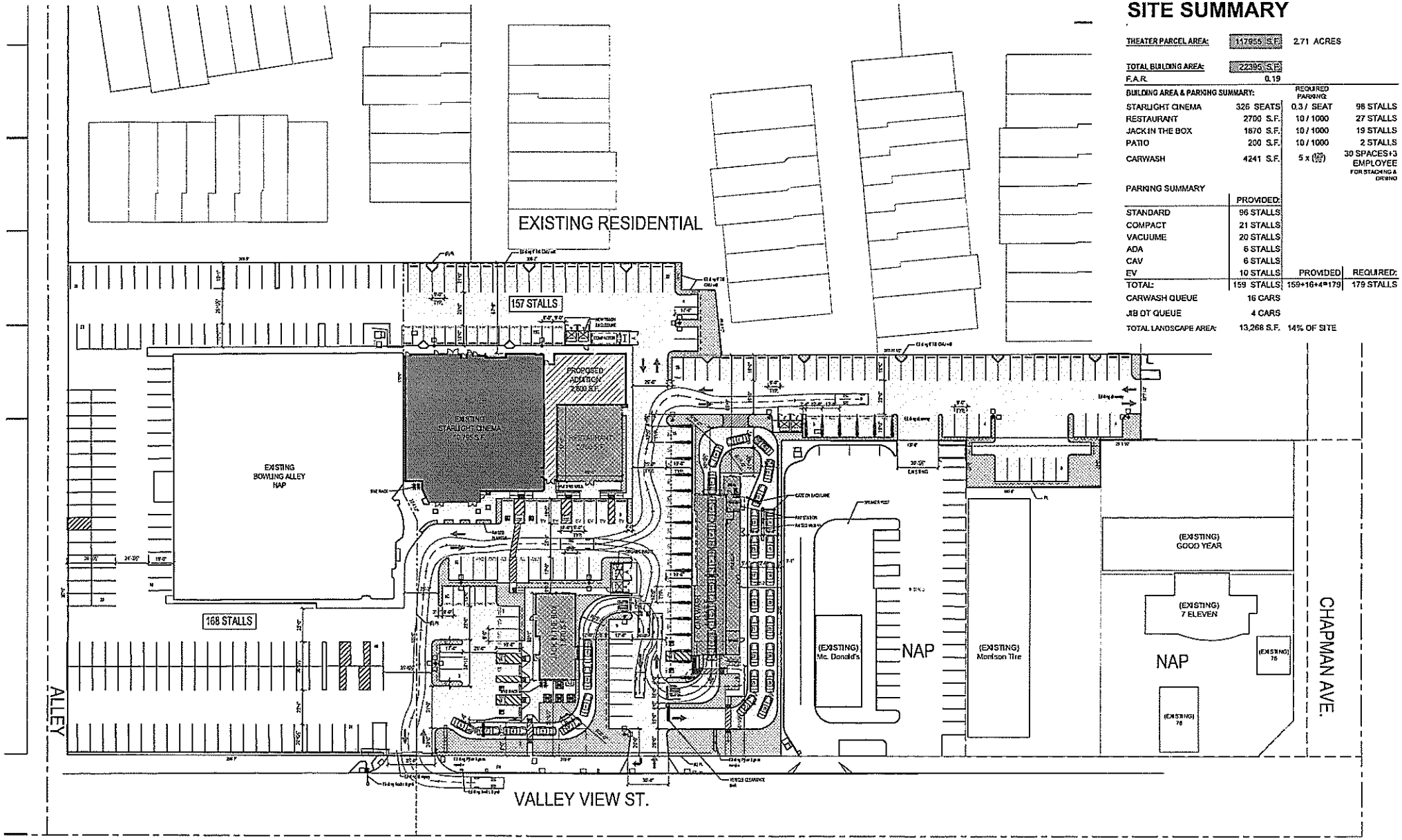
PM Peak Hour

Intersection	Existing Conditions (2018)		Existing Conditions + Project Traffic			Opening Day Conditions (2020)		Opening Day Conditions + Project Traffic		
	V/C*	LOS	V/C*	LOS	Significant Impact	V/C*	LOS	V/C*	LOS	Significant Impact
1 *Valley View St @ Chapman Ave*	0.733	C	0.745	C	NO	0.743	C	0.756	C	NO
2 *Valley View St @ Cinema dwy*	0.607	B	0.674	B	NO	0.615	B	0.682	B	NO
3 *Valley View St @ Belgrave Ave*	0.672	B	0.678	B	NO	0.679	B	0.686	B	NO
4 *Valley View St @ Lampson Ave*	0.843	D	0.853	D	NO	0.856	D	0.866	D	NO
5 *Valley View St @ Cerulean Ave*	0.670	B	0.671	B	NO	0.679	B	0.679	B	NO

** V/C: volume-to-capacity ratio*

APPENDIX A

Proposed Project Site Plan



SITE SUMMARY

THEATER PARCEL AREA:	117955 S.F.	2.71 ACRES	
TOTAL BUILDING AREA:	22396 S.F.		
F.A.R.	0.19		

BUILDING AREA & PARKING SUMMARY:		REQUIRED PARKING:	
STARLIGHT CINEMA	326 SEATS	0.3 / SEAT	98 STALLS
RESTAURANT	2700 S.F.	10 / 1000	27 STALLS
JACK IN THE BOX	1870 S.F.	10 / 1000	19 STALLS
PATIO	200 S.F.	10 / 1000	2 STALLS
CARWASH	4241 S.F.	5 x (12/1)	30 SPACES+3 EMPLOYEE FOR STACKING & DRYING

PARKING SUMMARY	PROVIDED:		
STANDARD	96 STALLS		
COMPACT	21 STALLS		
VACUUME	20 STALLS		
ADA	6 STALLS		
CAV	6 STALLS		
EV	10 STALLS	PROVIDED	REQUIRED:
TOTAL:	159 STALLS	159+16+4=179	179 STALLS
CARWASH QUEUE	16 CARS		
JIB OT QUEUE	4 CARS		
TOTAL LANDSCAPE AREA:	13,268 S.F.	14% OF SITE	

CINEMAS MANAGEMENT, INC.
315 REES STREET, PLAYA DEL REY, CA 90293
T 310-702-5190 DAN AKARAKIAN DAKARAKIAN@YAHOO.COM

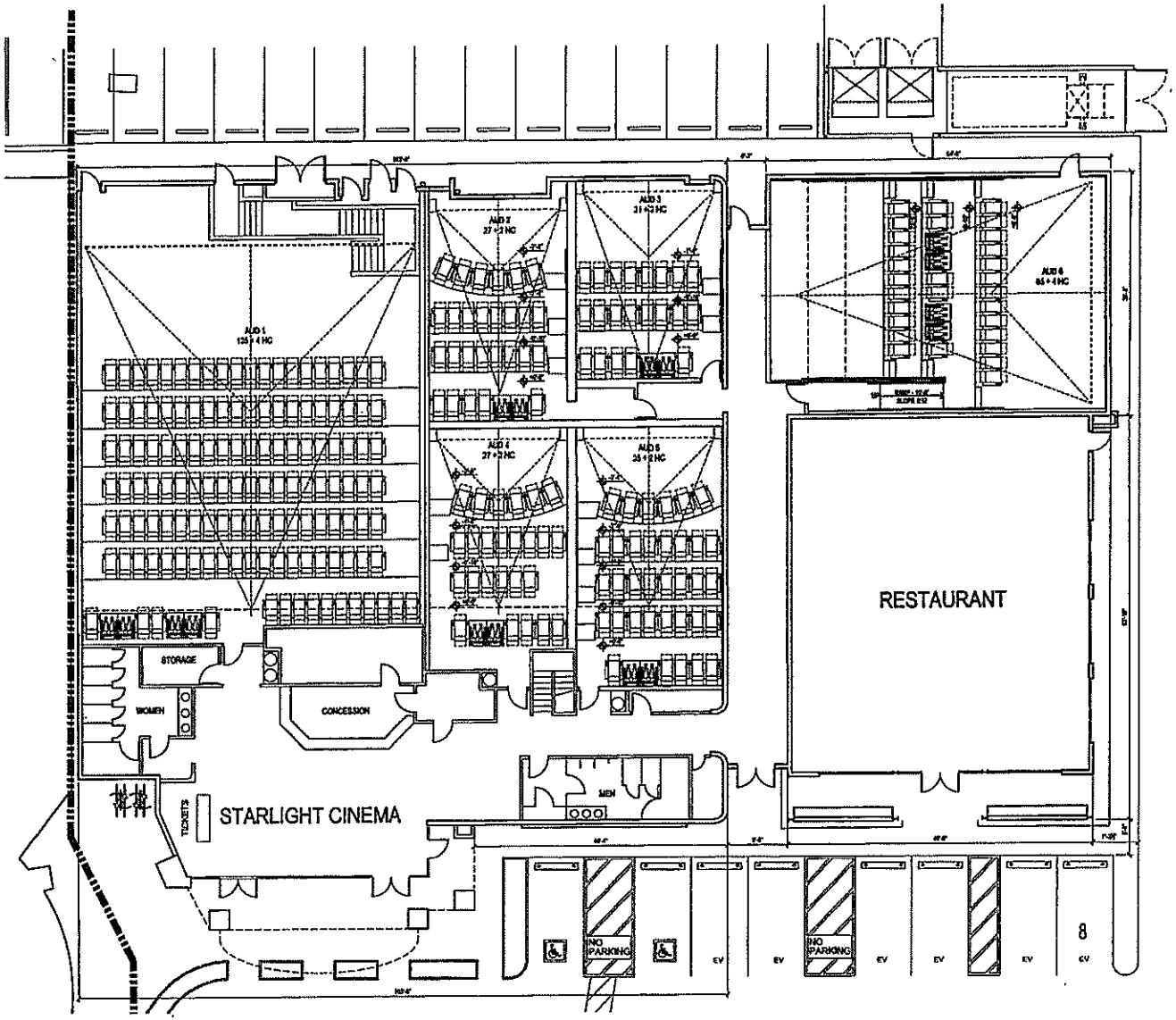
Starlight Cinema Center Valley View, Garden Grove CA.

Proposed Site Plan

SCALE: 1" = 30'-0" @ 24"x36"

ARCHITECTS ORANGE
www.architectsorange.com
144 N ORANGE ST. ORANGE CA 92866 (714)639 98

01



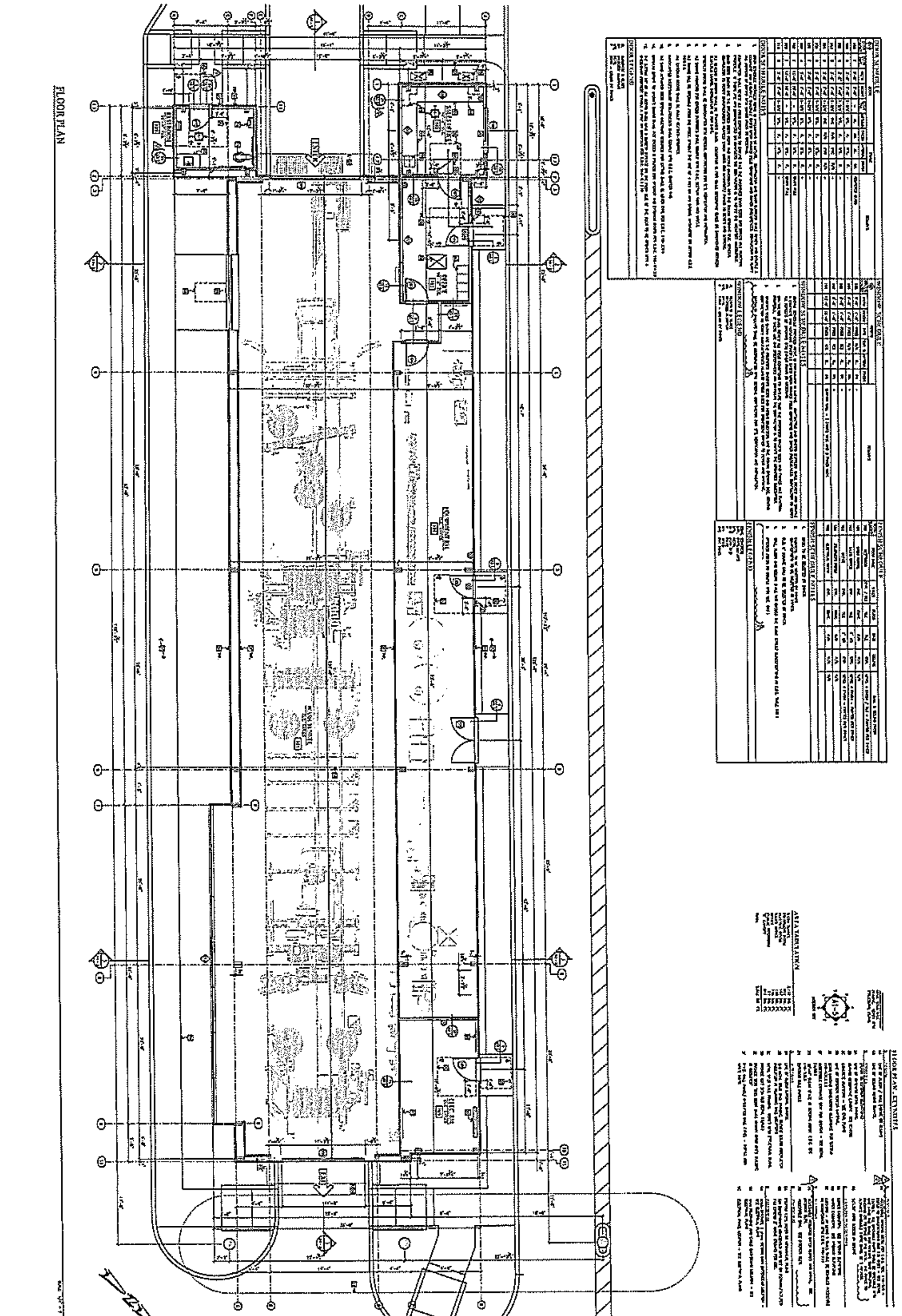
BUILDING SUMMARY

EXISTING BUILDING	10,795 S.F.
ADDITION	2,846 S.F.
TOTAL BUILDING AREA:	13,641 S.F.
AUDITORIUM 1	135 +4 ADA SEATS
AUDITORIUM 2	27 + 2 ADA SEATS
AUDITORIUM 3	21 + 2 ADA SEATS
AUDITORIUM 4	27 + 2 ADA SEATS
AUDITORIUM 5	35 + 2 ADA SEATS
AUDITORIUM 6	65 + 4 ADA SEATS
TOTAL NUMBER OF SEATS	316 + 16 ADA SEATS

Cinemas Management, Inc.
315 Rees Street, Playa Del Rey, CA 90293
T 310-702-5190 Dan Akaraidan dakaraidan@yahoo.com

[redacted] Cinema Center, Valley View, Garden Grove, CA. THEATER FLOOR PLAN

144 N ORANGE ST. ORANGE CA 92866 (714)639 9860



Kevin L. Crook Architect, Inc.

1360 Reynolds Ave. Suite 110 Irvine, CA 92614
Phone (949) 660-1587, Fax (949) 660-1589

Fast 5 Xpress Car Wash

481 E. 17th Street
Costa Mesa, CA

Plot Date

Project #

Sheet #

A1-2

APPENDIX B

Existing Traffic Volume Data
July 2018

Prepared by NDS/ATD

VOLUME

Valley View St S/O Lampson Ave

Day: Tuesday
Date: 7/10/2018

City: Garden Grove
Project #: CA18_1139_003

DAILY TOTALS	NB	SB	EB	WB	Total
	24,826	23,724	0	0	48,550

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	53		49				102		12:00	313		333				646	
00:15	58		25				83		12:15	362		382				744	
00:30	36		41				77		12:30	354		327				681	
00:45	30	177	23	138			53	315	12:45	352	1381	372	1414			724	2795
01:00	30		21				51		13:00	305		315				620	
01:15	21		24				45		13:15	350		320				670	
01:30	19		18				37		13:30	363		356				719	
01:45	32	102	14	77			46	179	13:45	422	1440	337	1328			759	2768
02:00	15		9				24		14:00	374		352				726	
02:15	17		15				32		14:15	383		385				768	
02:30	17		30				47		14:30	382		369				751	
02:45	18	67	22	76			40	143	14:45	461	1600	362	1468			823	3068
03:00	25		18				43		15:00	393		362				755	
03:15	21		23				44		15:15	430		336				766	
03:30	26		25				51		15:30	385		404				789	
03:45	42	114	34	100			76	214	15:45	470	1678	393	1495			863	3173
04:00	22		41				63		16:00	431		423				854	
04:15	32		62				94		16:15	459		452				911	
04:30	66		89				155		16:30	451		448				899	
04:45	83	203	122	314			205	517	16:45	504	1845	468	1791			972	3636
05:00	73		119				192		17:00	446		523				969	
05:15	109		194				303		17:15	535		452				987	
05:30	154		260				414		17:30	446		461				907	
05:45	153	489	254	827			407	1316	17:45	406	1833	405	1841			811	3674
06:00	167		271				438		18:00	454		406				860	
06:15	195		342				537		18:15	444		431				875	
06:30	252		339				591		18:30	404		325				729	
06:45	316	930	368	1320			684	2250	18:45	362	1664	301	1463			663	3127
07:00	357		360				717		19:00	379		277				656	
07:15	374		401				775		19:15	339		275				614	
07:30	408		394				802		19:30	326		236				562	
07:45	533	1672	397	1552			930	3224	19:45	268	1312	236	1024			504	2336
08:00	418		359				777		20:00	254		214				468	
08:15	500		374				874		20:15	255		197				452	
08:30	400		352				752		20:30	221		208				429	
08:45	479	1797	348	1433			827	3230	20:45	282	1012	177	796			459	1808
09:00	332		345				677		21:00	235		176				411	
09:15	337		318				655		21:15	241		154				395	
09:30	306		324				630		21:30	187		161				348	
09:45	300	1275	359	1346			659	2621	21:45	193	856	155	646			348	1502
10:00	292		301				593		22:00	165		127				292	
10:15	291		357				648		22:15	123		106				229	
10:30	269		315				584		22:30	152		84				236	
10:45	317	1169	301	1274			618	2443	22:45	115	555	107	424			222	979
11:00	324		308				632		23:00	87		61				148	
11:15	360		348				708		23:15	76		67				143	
11:30	300		336				636		23:30	92		51				143	
11:45	365	1349	351	1343			716	2692	23:45	51	306	55	234			106	540
TOTALS		9344		9800				19144	TOTALS		15482		13924				29406
SPLIT %		48.8%		51.2%				39.4%	SPLIT %		52.6%		47.4%				60.6%

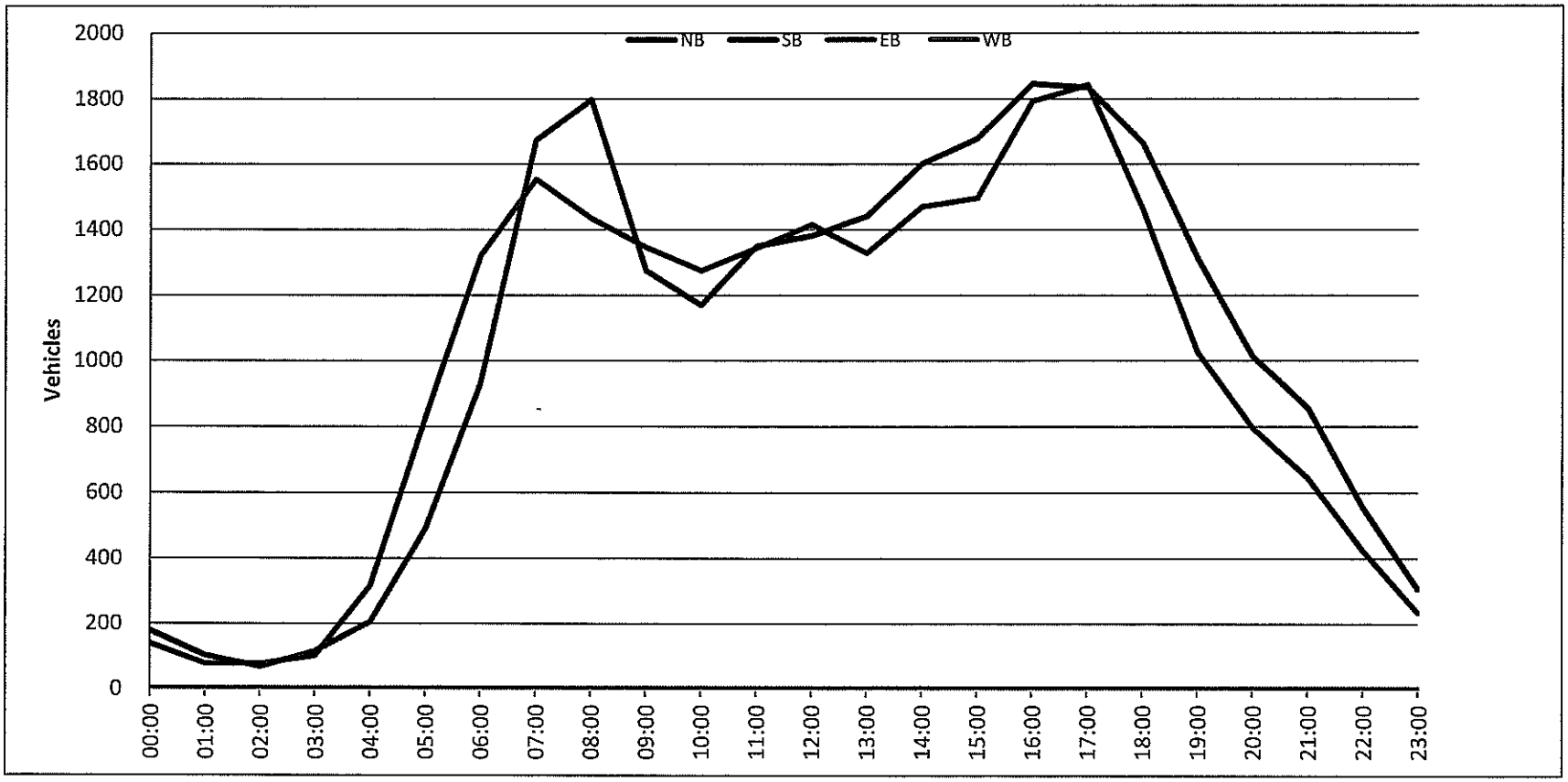
DAILY TOTALS	NB	SB	EB	WB	Total
	24,826	23,724	0	0	48,550

AM Peak Hour	07:30	07:00			07:30	PM Peak Hour	16:30	16:45			16:45
AM Pk Volume	1859	1552			3383	PM Pk Volume	1936	1904			3835
Pk Hr Factor	0.872	0.968			0.909	Pk Hr Factor	0.905	0.910			0.971
7 - 9 Volume	3469	2985	0	0	6454	4 - 6 Volume	3678	3632	0	0	7310
7 - 9 Peak Hour	07:30	07:00			07:30	4 - 6 Peak Hour	16:30	16:45			16:45
7 - 9 Pk Volume	1859	1552	0	0	3383	4 - 6 Pk Volume	1936	1904	0	0	3835
Pk Hr Factor	0.872	0.968	0.000	0.000	0.909	Pk Hr Factor	0.905	0.910	0.000	0.000	0.971

Prepared by NDS/ATD

Project #: CA18_1139_003 **City:** Garden Grove

Location: Valley View St S/O Lampson Ave **Date:** 7/10/2018



Prepared by NDS/ATD

VOLUME

Valley View St Bet. Chapman Ave & Belgrave Ave

Day: Tuesday
Date: 7/10/2018

City: Garden Grove
Project #: CA18_1139_002

DAILY TOTALS	NB	SB	EB	WB	Total
	24,699	25,374	0	0	50,073

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	60		49				109		12:00	332		376				708	
00:15	55		39				94		12:15	338		419				757	
00:30	35		47				82		12:30	415		328				743	
00:45	35	185	24	159			59	344	12:45	351	1436	402	1525			753	2961
01:00	25		22				47		13:00	334		348				682	
01:15	20		32				52		13:15	406		381				787	
01:30	25		14				39		13:30	362		384				746	
01:45	33	103	18	86			51	189	13:45	359	1461	374	1487			733	2948
02:00	17		15				32		14:00	365		383				748	
02:15	18		11				29		14:15	333		398				731	
02:30	20		18				38		14:30	408		376				784	
02:45	14	69	21	65			35	134	14:45	420	1526	430	1587			850	3113
03:00	14		13				27		15:00	410		395				805	
03:15	24		26				50		15:15	372		407				779	
03:30	26		30				56		15:30	389		463				852	
03:45	33	97	33	102			66	199	15:45	390	1561	437	1702			827	3263
04:00	22		26				48		16:00	439		413				852	
04:15	36		58				94		16:15	443		482				925	
04:30	66		90				156		16:30	440		480				920	
04:45	70	194	86	260			156	454	16:45	454	1776	500	1875			954	3651
05:00	78		121				199		17:00	478		523				1001	
05:15	92		148				240		17:15	470		497				967	
05:30	132		256				388		17:30	443		466				909	
05:45	171	473	240	765			411	1238	17:45	470	1861	482	1968			952	3829
06:00	154		280				434		18:00	453		476				929	
06:15	177		331				508		18:15	468		449				917	
06:30	224		375				599		18:30	388		360				748	
06:45	362	917	313	1299			675	2216	18:45	328	1637	363	1648			691	3285
07:00	297		390				687		19:00	349		364				713	
07:15	364		400				764		19:15	327		311				638	
07:30	473		436				909		19:30	279		268				547	
07:45	502	1636	386	1612			888	3248	19:45	282	1237	250	1193			532	2430
08:00	458		394				852		20:00	280		238				518	
08:15	448		413				861		20:15	272		239				511	
08:30	464		365				829		20:30	225		198				423	
08:45	443	1813	363	1535			806	3348	20:45	212	989	208	883			420	1872
09:00	401		325				726		21:00	230		205				435	
09:15	315		376				691		21:15	200		182				382	
09:30	371		308				679		21:30	205		155				360	
09:45	311	1398	295	1304			606	2702	21:45	170	805	142	684			312	1489
10:00	288		359				647		22:00	151		157				308	
10:15	317		334				651		22:15	148		131				279	
10:30	308		373				681		22:30	136		100				236	
10:45	342	1255	362	1428			704	2683	22:45	103	538	84	472			187	1010
11:00	319		311				630		23:00	100		79				179	
11:15	332		397				729		23:15	88		60				148	
11:30	342		369				711		23:30	83		76				159	
11:45	397	1390	397	1474			794	2864	23:45	71	342	46	261			117	603
TOTALS		9530		10089				19619	TOTALS		15169		15285				30454
SPLIT %		48.6%		51.4%				39.2%	SPLIT %		49.8%		50.2%				60.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	24,699	25,374	0	0	50,073

AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	17:00	16:30			16:30
AM Pk Volume	1881	1629			3510	PM Pk Volume	1861	2000			3842
Pk Hr Factor	0.937	0.934			0.965	Pk Hr Factor	0.973	0.956			0.960
7 - 9 Volume	3449	3147	0	0	6596	4 - 6 Volume	3637	3843	0	0	7480
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	16:30			16:30
7 - 9 Pk Volume	1881	1629	0	0	3510	4 - 6 Pk Volume	1861	2000	0	0	3842
Pk Hr Factor	0.937	0.934	0.000	0.000	0.965	Pk Hr Factor	0.973	0.956	0.000	0.000	0.960

Prepared by NDS/ATD

Project #: CA18_1139_002 **City:** Garden Grove

Location: Valley View St Bet. Chapman Ave & Belgrave **Date:** 7/10/2018

Prepared by NDS/ATD

VOLUME

Valley View St N/O Chapman Ave

Day: Tuesday
Date: 7/10/2018

City: Garden Grove
Project #: CA18_1139_001

DAILY TOTALS	NB	SB	EB	WB	Total
	29,256	23,956	0	0	53,212

AM Period	NB		SB		EB		WB		TOTAL	
00:00	62		38						100	
00:15	65		38						103	
00:30	49		49						98	
00:45	39	215	23	148					62	363
01:00	31		26						57	
01:15	21		29						50	
01:30	28		24						52	
01:45	32	112	16	95					48	207
02:00	13		16						29	
02:15	20		12						32	
02:30	23		19						42	
02:45	18	74	24	71					42	145
03:00	13		11						24	
03:15	27		19						46	
03:30	29		29						58	
03:45	36	105	30	89					66	194
04:00	17		24						41	
04:15	40		50						90	
04:30	69		76						145	
04:45	89	215	76	226					165	441
05:00	98		107						205	
05:15	94		139						233	
05:30	151		236						387	
05:45	190	533	222	704					412	1237
06:00	160		268						428	
06:15	227		309						536	
06:30	269		333						602	
06:45	396	1052	285	1195					681	2247
07:00	396		362						758	
07:15	410		381						791	
07:30	560		404						964	
07:45	588	1954	353	1500					941	3454
08:00	561		365						926	
08:15	531		344						875	
08:30	538		341						879	
08:45	540	2170	325	1375					865	3545
09:00	472		305						777	
09:15	393		332						725	
09:30	461		307						768	
09:45	422	1748	273	1217					695	2965
10:00	355		344						699	
10:15	405		311						716	
10:30	405		345						750	
10:45	398	1563	314	1314					712	2877
11:00	404		309						713	
11:15	426		392						818	
11:30	424		330						754	
11:45	497	1751	369	1400					866	3151
TOTALS		11492		9334						20826
SPLIT %		55.2%		44.8%						39.1%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	414		356						770	
12:15	435		389						824	
12:30	479		346						825	
12:45	465	1793	355	1446					820	3239
13:00	432		365						797	
13:15	477		345						822	
13:30	431		369						800	
13:45	468	1808	337	1416					805	3224
14:00	403		380						783	
14:15	432		379						811	
14:30	503		384						887	
14:45	540	1878	388	1531					928	3409
15:00	447		377						824	
15:15	457		374						831	
15:30	466		468						934	
15:45	491	1861	390	1609					881	3470
16:00	503		425						928	
16:15	519		456						975	
16:30	527		463						990	
16:45	496	2045	491	1835					987	3880
17:00	573		477						1050	
17:15	530		484						1014	
17:30	530		435						965	
17:45	545	2178	444	1840					989	4018
18:00	523		457						980	
18:15	548		424						972	
18:30	437		344						781	
18:45	412	1920	323	1548					735	3468
19:00	415		331						746	
19:15	370		302						672	
19:30	302		261						563	
19:45	303	1390	230	1124					533	2514
20:00	306		301						607	
20:15	312		214						526	
20:30	226		218						444	
20:45	234	1078	189	922					423	2000
21:00	263		190						453	
21:15	221		179						400	
21:30	225		155						380	
21:45	182	891	146	670					328	1561
22:00	159		140						299	
22:15	158		126						284	
22:30	153		98						251	
22:45	102	572	80	444					182	1016
23:00	95		71						166	
23:15	91		50						141	
23:30	89		72						161	
23:45	75	350	44	237					119	587
TOTALS		17764		14622						32386
SPLIT %		54.9%		45.1%						60.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	29,256	23,956	0	0	53,212

AM Peak Hour	07:30	07:15			07:30
AM Pk Volume	2240	1503			3706
Pk Hr Factor	0.952	0.930			0.961
7 - 9 Volume	4124	2875	0	0	6999
7 - 9 Peak Hour	07:30	07:15			07:30
7 - 9 Pk Volume	2240	1503	0	0	3706
Pk Hr Factor	0.952	0.930	0.000	0.000	0.961

PM Peak Hour	17:00	16:30			16:30
PM Pk Volume	2178	1915			4041
Pk Hr Factor	0.950	0.975			0.962
4 - 6 Volume	4223	3675	0	0	7898
4 - 6 Peak Hour	17:00	16:30			16:30
4 - 6 Pk Volume	2178	1915	0	0	4041
Pk Hr Factor	0.950	0.975	0.000	0.000	0.962

Prepared by NDS/ATD

Project #: CA18_1139_001 **City:** Garden Grove

Location: Valley View St N/O Chapman Ave **Date:** 7/10/2018

Prepared by NDS/ATO

VOLUME

Chapman Ave E/O Valley View St

Day: Tuesday
Date: 7/10/2018

City: Garden Grove
Project #: CA18_1139_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,044	6,342	12,386

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			15		15		30		12:00			107		92		199	
00:15			13		4		17		12:15			102		86		188	
00:30			8		12		20		12:30			107		112		219	
00:45			10	46	14	45	24	91	12:45			101	417	90	380	191	797
01:00			11		11		22		13:00			93		109		202	
01:15			7		9		16		13:15			102		102		204	
01:30			4		4		8		13:30			110		97		207	
01:45			7	29	2	26	9	55	13:45			100	405	100	408	200	813
02:00			3		2		5		14:00			113		90		203	
02:15			2		5		7		14:15			78		92		170	
02:30			2		3		5		14:30			106		118		224	
02:45			3	10	1	11	4	21	14:45			106	403	113	413	219	816
03:00			3		7		10		15:00			106		93		199	
03:15			3		3		6		15:15			111		92		203	
03:30			6		7		13		15:30			100		97		197	
03:45			7	19	8	25	15	44	15:45			121	438	116	398	237	836
04:00			4		6		10		16:00			110		121		231	
04:15			15		23		38		16:15			99		136		235	
04:30			6		16		22		16:30			128		135		263	
04:45			5	30	22	67	27	97	16:45			136	473	130	522	266	995
05:00			8		24		32		17:00			153		138		291	
05:15			11		24		35		17:15			126		129		255	
05:30			21		31		52		17:30			119		114		233	
05:45			21	61	38	117	59	178	17:45			137	535	183	564	320	1099
06:00			25		25		50		18:00			122		124		246	
06:15			27		48		75		18:15			96		116		212	
06:30			27		61		88		18:30			112		127		239	
06:45			53	132	66	200	119	332	18:45			120	450	98	465	218	915
07:00			42		71		113		19:00			109		101		210	
07:15			72		69		141		19:15			89		89		178	
07:30			85		89		174		19:30			79		70		149	
07:45			65	264	86	315	151	579	19:45			79	356	74	334	153	690
08:00			61		90		151		20:00			107		67		174	
08:15			67		81		148		20:15			76		51		127	
08:30			61		102		163		20:30			72		51		123	
08:45			70	259	108	381	178	640	20:45			59	314	59	228	118	542
09:00			71		100		171		21:00			59		53		112	
09:15			73		79		152		21:15			58		46		104	
09:30			71		81		152		21:30			56		54		110	
09:45			55	270	81	341	136	611	21:45			52	225	40	193	92	418
10:00			74		90		164		22:00			45		31		76	
10:15			82		68		150		22:15			41		31		72	
10:30			87		92		179		22:30			31		30		61	
10:45			68	311	82	332	150	643	22:45			31	148	29	121	60	269
11:00			82		97		179		23:00			28		20		48	
11:15			99		78		177		23:15			23		16		39	
11:30			86		111		197		23:30			22		18		40	
11:45			94	361	98	384	192	745	23:45			15	88	18	72	33	160
TOTALS				1792		2244		4036	TOTALS				4252		4098		8350
SPLIT %				44.4%		55.6%		32.6%	SPLIT %				50.9%		49.1%		67.4%

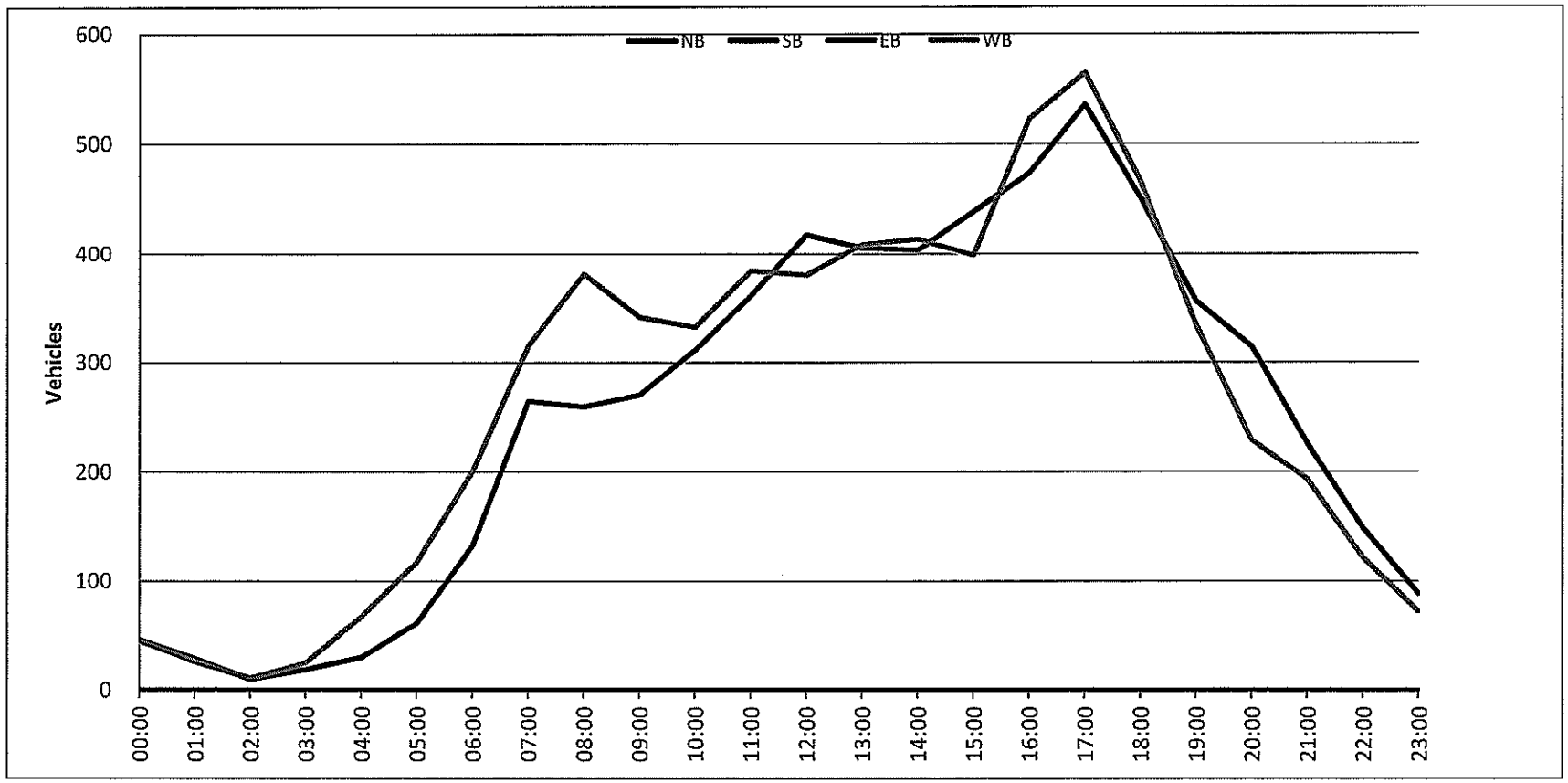
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,044	6,342	12,386

AM Peak Hour			11:45	08:15	11:45	PM Peak Hour			16:30	17:00	17:00
AM Pk Volume			410	391	798	PM Pk Volume			543	564	1099
Pk Hr Factor			0.958	0.905	0.911	Pk Hr Factor			0.887	0.770	0.859
7 - 9 Volume	0	0	523	696	1219	4 - 6 Volume	0	0	1008	1086	2094
7 - 9 Peak Hour			07:15	08:00	08:00	4 - 6 Peak Hour			16:30	17:00	17:00
7 - 9 Pk Volume	0	0	283	381	640	4 - 6 Pk Volume	0	0	543	564	1099
Pk Hr Factor	0.000	0.000	0.832	0.882	0.899	Pk Hr Factor	0.000	0.000	0.887	0.770	0.859

Prepared by NDS/ATD

Project #: CA18_1139_004 **City:** Garden Grove

Location: Chapman Ave E/O Valley View St **Date:** 7/10/2018



Prepared by National Data & Surveying Services

Valley View St & Cerulean Ave

Peak Hour Turning Movement Count

ID: 18-01140-005
City: Garden Grove

Day: Tuesday
Date: 07/10/2018

PEAK HOURS

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

COUNT PERIODS

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

Valley View St — SOUTHBOUND

AM	20	1603	17	3	1991	AM
NOON	0	0	0	0	0	NOON
PM	30	1922	55	7	1960	PM
	1	3	1	0		

EASTBOUND — Cerulean Ave

AM	NOON	PM	
84	0	172	
0	0	0	0
38	0	52	1
17	0	47	1
121	0	103	1
AM	NOON	PM	

WESTBOUND — Cerulean Ave

PM	NOON	AM	
60	0	44	1
42	0	22	1
88	0	111	1
0	0	0	0
213	0	82	
PM	NOON	AM	

CONTROL: Signalized

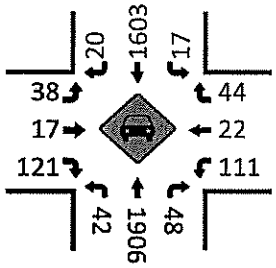
TEV	3993 AM	0 NOON	4470 PM
PHF	0.95		0.97

0 1 3 1

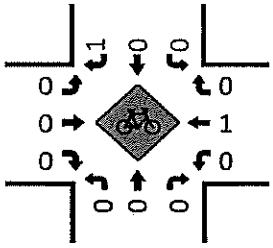
Valley View St — NORTHBOUND

PM	2125	12	100	1841	111	PM
NOON	0	0	0	0	0	NOON
AM	1836	1	42	1906	48	AM

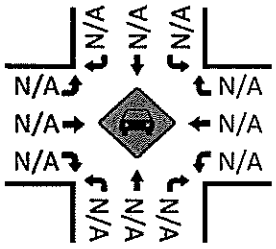
Total Vehicles (AM)



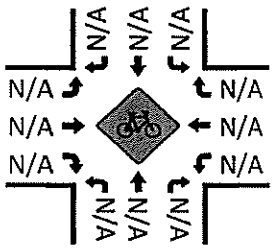
Bikes (AM)



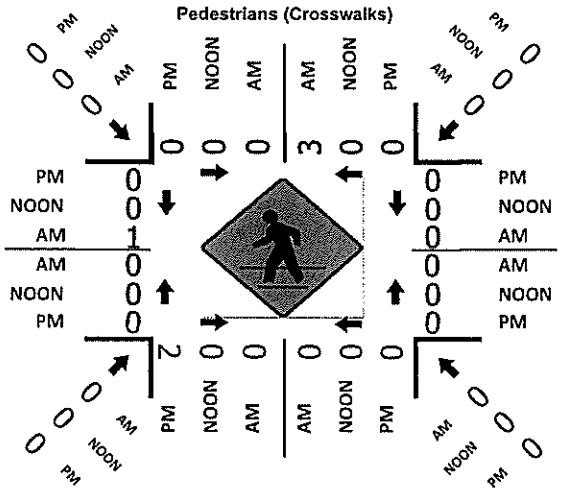
Total Vehicles (Noon)



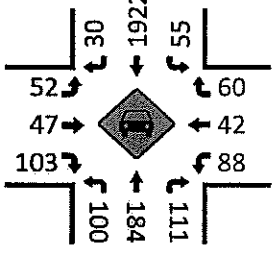
Bikes (NOON)



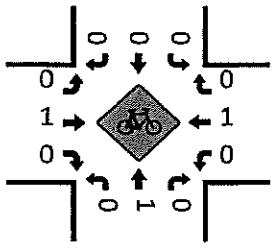
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Cerulean Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-005
Date: 7/10/2018

Total

NS/EW Streets:	Valley View St				Valley View St				Cerulean Ave				Cerulean Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	289	6	0	4	401	0	1	6	1	32	0	27	3	8	0	783
7:15 AM	8	356	12	0	5	409	0	0	14	1	30	0	34	3	15	0	887
7:30 AM	3	477	8	0	4	418	5	1	8	2	27	0	26	5	9	0	993
7:45 AM	11	523	14	0	8	397	6	0	10	7	21	0	29	5	19	0	1050
8:00 AM	7	431	11	0	1	363	3	1	10	3	34	0	31	8	7	0	910
8:15 AM	21	475	15	1	4	425	6	1	10	5	39	0	25	4	9	0	1040
8:30 AM	12	406	23	0	11	358	5	0	11	2	35	0	31	3	12	0	909
8:45 AM	10	440	16	0	6	379	4	2	10	4	25	0	30	5	13	0	944
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	77	3397	105	1	43	3150	29	6	79	25	243	0	233	36	92	0	7516
APPROACH %'s :	2.15%	94.89%	2.93%	0.03%	1.33%	97.58%	0.90%	0.19%	22.77%	7.20%	70.03%	0.00%	64.54%	9.97%	25.48%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	42	1906	48	1	17	1603	20	3	38	17	121	0	111	22	44	0	3993
PEAK HR FACTOR :	0.500	0.911	0.800	0.250	0.531	0.943	0.833	0.750	0.950	0.607	0.776	0.000	0.895	0.688	0.579	0.000	0.951
	0.911				0.942				0.815				0.835				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	28	436	24	1	19	423	8	2	13	2	20	0	16	9	14	0	1015
4:15 PM	26	446	34	3	12	452	9	3	11	8	20	0	14	8	16	0	1062
4:30 PM	23	462	30	2	11	423	7	2	9	9	16	0	19	9	14	0	1036
4:45 PM	28	470	19	4	13	472	6	2	11	14	24	0	15	8	10	0	1096
5:00 PM	26	469	30	3	15	492	5	2	17	12	32	0	21	12	19	0	1155
5:15 PM	25	451	35	1	13	487	11	3	11	11	26	0	26	10	18	0	1128
5:30 PM	21	451	27	4	14	471	8	0	13	10	21	0	26	12	13	0	1091
5:45 PM	20	428	26	1	10	473	6	0	11	13	20	0	22	10	11	0	1051
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	197	3613	225	19	107	3693	60	14	96	79	179	0	159	78	115	0	8634
APPROACH %'s :	4.86%	89.12%	5.55%	0.47%	2.76%	95.33%	1.55%	0.36%	27.12%	22.32%	50.56%	0.00%	45.17%	22.16%	32.67%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	100	1841	111	12	55	1922	30	7	52	47	103	0	88	42	60	0	4470
PEAK HR FACTOR :	0.893	0.979	0.793	0.750	0.917	0.977	0.682	0.583	0.765	0.839	0.805	0.000	0.846	0.875	0.789	0.000	0.968
	0.977				0.980				0.828				0.880				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Cerulean Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-005
Date: 7/10/2018

Bikes

NS/EW Streets:	Valley View St				Valley View St				Cerulean Ave				Cerulean Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.500
					0.250								0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	0	2	0	0	0	1	0	0	0	1	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.375
		0.250								0.250				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Cerulean Ave **Project ID:** 18-01140-005
City: Laguna Niguel **Date:** 7/17/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Valley View St		Valley View St		Cerulean Ave		Cerulean Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	2	0	0	0	0	0	0	2
8:30 AM	1	1	1	0	0	0	0	0	3
8:45 AM	0	0	0	1	0	0	1	1	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	4	1	1	0	0	2	2	11
APPROACH %'s :	20.00%	80.00%	50.00%	50.00%			50.00%	50.00%	
PEAK HR :	**07:30 AM - 08:30 AM**								TOTAL
PEAK HR VOL :	0	3	0	0	0	0	0	1	4
PEAK HR FACTOR :	0.375						0.250		0.500

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	1	2	0	0	0	0	0	4
APPROACH %'s :	50.00%	50.00%	100.00%	0.00%					
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	0	2
PEAK HR FACTOR :			0.250						0.250
			0.250						

Prepared by National Data & Surveying Services

Valley View St & Lampson Ave

Peak Hour Turning Movement Count

ID: 18-01140-004
City: Garden Grove

Day: Tuesday
Date: 07/10/2018

PEAK HOURS

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

COUNT PERIODS

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

Valley View St — SOUTHBOUND

AM	138	1415	80	2	1951	AM
NOON	0	0	0	0	0	NOON
PM	170	1787	101	4	1911	PM

Turning movements: 1 | 3 | 1 | 0

Lampson Ave — EASTBOUND

AM	NOON	PM	
368	0	640	
0	0	0	0
122	0	219	1
127	0	225	2
120	0	105	0
AM	NOON	PM	

CONTROL

Signalized

TEV	4246 AM	0 NOON	5068 PM
PHF	0.95		0.98

Lampson Ave — WESTBOUND

PM	NOON	AM	
0	99	0	67
2	259	0	139
1	181	0	113
0	0	0	0
PM	NOON	AM	

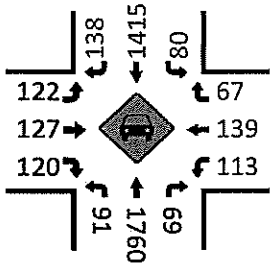
438 | 0 | 276

Turning movements: 0 | 1 | 3 | 1

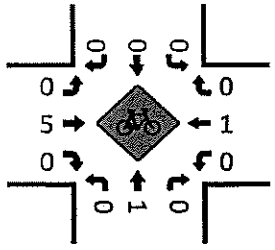
Valley View St — NORTHBOUND

PM	2079	6	211	1589	112	PM
NOON	0	0	0	0	0	NOON
AM	1651	3	91	1760	69	AM

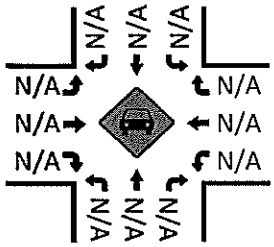
Total Vehicles (AM)



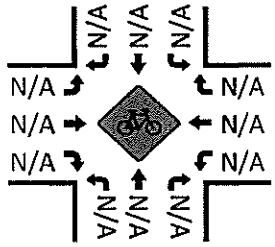
Bikes (AM)



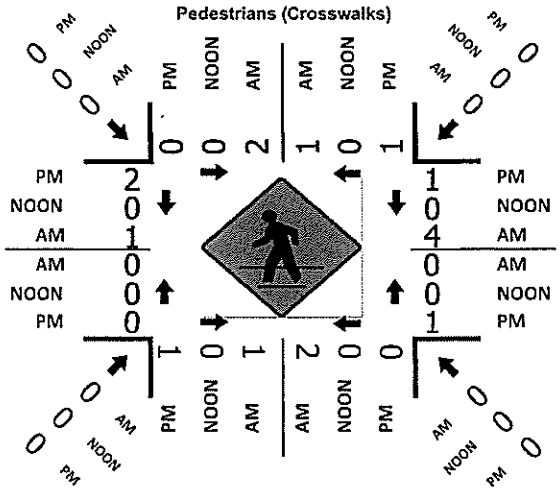
Total Vehicles (NOON)



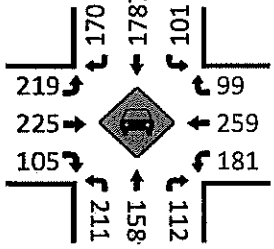
Bikes (NOON)



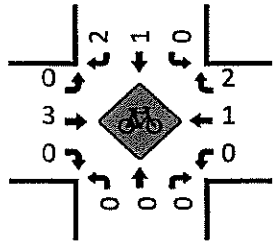
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Lampson Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-004
Date: 7/10/2018

Total

NS/EW Streets:	Valley View St				Valley View St				Lampson Ave				Lampson Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	282	10	0	20	349	26	0	21	14	16	0	26	30	14	0	823
7:15 AM	13	358	13	0	17	395	30	1	28	28	27	0	22	22	18	0	972
7:30 AM	17	450	15	0	18	381	37	0	36	31	22	0	33	32	12	0	1084
7:45 AM	25	486	19	1	27	347	31	1	28	34	30	0	26	44	18	0	1117
8:00 AM	28	415	15	0	18	311	37	1	29	32	26	0	32	32	17	0	993
8:15 AM	21	409	20	2	17	376	33	0	29	30	42	0	22	31	20	0	1052
8:30 AM	15	404	12	2	16	321	32	0	49	31	36	0	32	29	26	0	1005
8:45 AM	27	407	24	0	18	314	25	3	32	38	30	0	33	43	18	0	1012
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	161	3211	128	5	151	2794	251	6	252	238	229	0	226	263	143	0	8058
APPROACH %'s :	4.59%	91.61%	3.65%	0.14%	4.72%	87.26%	7.84%	0.19%	35.05%	33.10%	31.85%	0.00%	35.76%	41.61%	22.63%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	91	1760	69	3	80	1415	138	2	122	127	120	0	113	139	67	0	4246
PEAK HR FACTOR :	0.813	0.905	0.863	0.375	0.741	0.928	0.932	0.500	0.847	0.934	0.714	0.000	0.856	0.790	0.838	0.000	0.950
		0.905				0.938				0.913				0.906			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	53	385	19	0	21	359	44	1	45	51	42	0	44	50	17	0	1131
4:15 PM	54	389	25	1	29	410	58	0	39	52	31	0	34	49	27	0	1198
4:30 PM	56	395	25	1	30	401	37	2	48	46	18	0	30	62	21	0	1172
4:45 PM	42	401	26	2	30	439	34	2	47	56	19	0	46	67	18	0	1229
5:00 PM	48	406	35	2	17	477	39	1	52	53	26	0	41	53	36	0	1286
5:15 PM	59	394	22	2	25	465	38	1	66	63	26	0	42	63	25	0	1291
5:30 PM	62	388	29	0	29	406	59	0	54	53	34	0	52	76	20	0	1262
5:45 PM	53	386	27	0	29	412	49	0	44	58	27	0	40	66	23	0	1214
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	427	3144	208	8	210	3369	358	7	395	432	223	0	329	486	187	0	9783
APPROACH %'s :	11.28%	83.02%	5.49%	0.21%	5.32%	85.42%	9.08%	0.18%	37.62%	41.14%	21.24%	0.00%	32.83%	48.50%	18.66%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	211	1589	112	6	101	1787	170	4	219	225	105	0	181	259	99	0	5068
PEAK HR FACTOR :	0.851	0.978	0.800	0.750	0.842	0.937	0.720	0.500	0.830	0.893	0.772	0.000	0.870	0.852	0.688	0.000	0.981
		0.977				0.965				0.885				0.910			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Lampson Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-004
Date: 7/10/2018

Bikes

NS/EW Streets:	Valley View St				Valley View St				Lampson Ave				Lampson Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
8:30 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	1	0	0	0	0	7	0	0	0	2	0	0	11
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	5	0	0	0	1	0	0	7
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.250	0.000	0.000	0.438
		0.250								0.417				0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
4:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	2	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	2	2	0	0	5	0	0	0	2	2	0	14
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	2	0	0	3	0	0	0	1	2	0	9
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.750	0.000	0.000	0.000	0.250	0.250	0.000	0.450
						0.375				0.750				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Lampson Ave **Project ID:** 18-121140-004
City: Garden Grove **Date:** 7/10/2018

Pedestrians (Crosswalks)

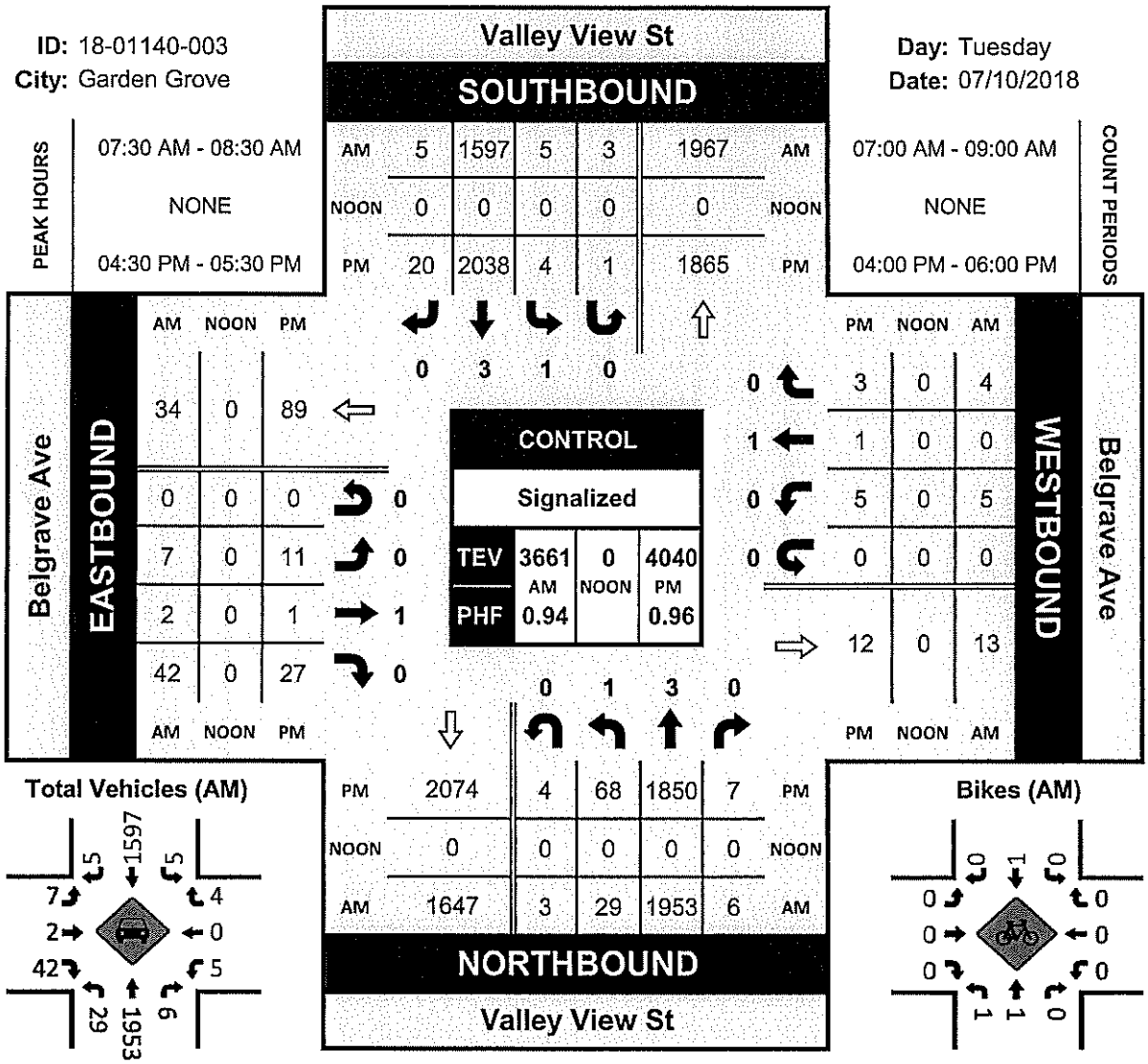
NS/EW Streets:	Valley View St		Valley View St		Lampson Ave		Lampson Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	1	1	0	2
7:30 AM	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	1	1	0	0	0	1	4
8:15 AM	2	0	0	0	0	4	0	0	6
8:30 AM	0	0	0	2	2	1	0	1	6
8:45 AM	2	0	2	1	1	1	1	2	10
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	1	4	5	3	7	2	4	30
APPROACH %'s :	80.00%	20.00%	44.44%	55.56%	30.00%	70.00%	33.33%	66.67%	
PEAK HR :	**07:30 AM - 08:30 AM**								TOTAL
PEAK HR VOL :	2	1	1	2	0	4	0	1	11
PEAK HR FACTOR :	0.250	0.250	0.250	0.500		0.250		0.250	0.458
	0.375		0.375		0.250		0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	2	0	1	1	1	1	6
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	2	2
5:15 PM	0	1	1	0	1	1	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	1	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	4	0	3	2	1	4	15
APPROACH %'s :	0.00%	100.00%	100.00%	0.00%	60.00%	40.00%	20.00%	80.00%	
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	1	1	0	1	1	0	2	6
PEAK HR FACTOR :		0.250	0.250		0.250	0.250		0.250	0.375
	0.250		0.250		0.250		0.250		

Prepared by National Data & Surveying Services

Valley View St & Belgrave Ave

Peak Hour Turning Movement Count



National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Belgrave Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-003
Date: 7/10/2018

Total

NS/EW Streets:	Valley View St				Valley View St				Belgrave Ave				Belgrave Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	302	1	1	0	380	3	0	0	0	11	0	2	0	1	0	708
7:15 AM	8	396	0	0	1	420	0	0	0	0	13	0	2	0	1	0	841
7:30 AM	6	504	0	0	2	445	0	2	1	0	9	0	0	0	0	0	969
7:45 AM	4	542	3	1	0	374	0	0	1	1	11	0	2	0	1	0	940
8:00 AM	9	456	3	1	1	363	3	0	1	1	12	0	2	0	1	0	853
8:15 AM	10	451	0	1	2	415	2	1	4	0	10	0	1	0	2	0	899
8:30 AM	9	446	2	1	0	363	4	0	5	1	7	0	2	1	2	0	843
8:45 AM	21	459	0	0	1	347	11	0	5	0	18	0	1	0	0	0	863
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	74	3556	9	5	7	3107	23	3	17	3	91	0	12	1	8	0	6916
APPROACH %'s :	2.03%	97.59%	0.25%	0.14%	0.22%	98.95%	0.73%	0.10%	15.32%	2.70%	81.98%	0.00%	57.14%	4.76%	38.10%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	29	1953	6	3	5	1597	5	3	7	2	42	0	5	0	4	0	3661
PEAK HR FACTOR :	0.725	0.901	0.500	0.750	0.625	0.897	0.417	0.375	0.438	0.500	0.875	0.000	0.625	0.000	0.500	0.000	0.945
		0.905				0.896				0.911				0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	18	432	2	1	1	434	5	0	2	0	11	0	2	0	0	0	908
4:15 PM	11	442	2	1	1	483	4	0	2	1	10	0	0	0	0	0	957
4:30 PM	14	447	4	0	0	484	4	1	2	1	5	0	1	1	0	0	964
4:45 PM	18	438	0	1	2	510	6	0	3	0	10	0	1	0	0	0	989
5:00 PM	18	481	1	0	1	530	8	0	1	0	9	0	3	0	2	0	1054
5:15 PM	18	484	2	3	1	514	2	0	5	0	3	0	0	0	1	0	1033
5:30 PM	23	445	2	1	2	465	6	0	3	0	11	0	0	0	1	0	959
5:45 PM	14	443	0	1	2	472	2	0	3	0	9	0	0	0	0	0	946
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	134	3612	13	8	10	3892	37	1	21	2	68	0	7	1	4	0	7810
APPROACH %'s :	3.56%	95.89%	0.35%	0.21%	0.25%	98.78%	0.94%	0.03%	23.08%	2.20%	74.73%	0.00%	58.33%	8.33%	33.33%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	68	1850	7	4	4	2038	20	1	11	1	27	0	5	1	3	0	4040
PEAK HR FACTOR :	0.944	0.956	0.438	0.333	0.500	0.961	0.625	0.250	0.550	0.250	0.675	0.000	0.417	0.250	0.375	0.000	0.958
		0.951				0.957				0.750				0.450			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Belgrave Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-003
Date: 7/10/2018

Bikes

NS/EW Streets:	Valley View St				Valley View St				Belgrave Ave				Belgrave Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375
		0.500				0.250											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	5
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
						0.250					0.250						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Belgrave Ave **Project ID:** 18-141140-003
City: Garden Grove **Date:** 7/10/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Valley View St		Valley View St		Belgrave Ave		Belgrave Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	1	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	1	0	0	0	0	2
8:00 AM	1	2	0	0	1	0	0	1	5
8:15 AM	0	1	0	0	0	0	0	0	1
8:30 AM	1	0	0	0	0	1	0	0	2
8:45 AM	3	1	1	1	1	2	1	0	10
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	5	1	2	3	3	1	2	22
APPROACH %'s :	50.00%	50.00%	33.33%	66.67%	50.00%	50.00%	33.33%	66.67%	
PEAK HR :	**07:30 AM - 08:30 AM**								TOTAL
PEAK HR VOL :	1	4	0	1	1	0	0	1	8
PEAK HR FACTOR :	0.250	0.500		0.250	0.250			0.250	0.400
	0.417		0.250		0.250		0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	1
4:45 PM	0	3	1	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	1	1	0	1	1	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	4	2	1	1	0	0	2	11
APPROACH %'s :	20.00%	80.00%	66.67%	33.33%	100.00%	0.00%	0.00%	100.00%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	1	4	1	1	1	0	0	1	9
PEAK HR FACTOR :	0.250	0.333	0.250	0.250	0.250			0.250	0.563
	0.417		0.500		0.250		0.250		

Prepared by National Data & Surveying Services

Valley View St & Cinema dwy

Peak Hour Turning Movement Count

ID: 18-01140-002
City: Garden Grove

Day: Tuesday
Date: 07/10/2018

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

Valley View St — SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	1	1619	4	60	2023
NOON	0	0	0	0	0
PM	6	2059	6	49	1934
Lanes	0	3	1	0	

Cinema dwy — WESTBOUND

	Lanes	PM	NOON	AM
Right	0	0	0	0
Thru	1	0	0	0
Left	0	2	0	2
U-Turn	0	0	0	0
Departing		14	0	7

Cinema dwy — EASTBOUND

	AM	NOON	PM	Lanes
Departing	10	0	24	
U-Turn	0	0	0	0
Left	3	0	7	0
Thru	0	0	0	1
Right	4	0	8	0

Valley View St — NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	1	3	0
PM	2071	2	18	1878	8
NOON	0	0	0	0	0
AM	1626	1	9	1960	3

CONTROL

Signalized

	AM	NOON	PM
TEV	3666	0	4043
PHF	0.95		0.97

Total Vehicles (AM)

SB: 1 (right), 1619 (thru), 4 (left); EB: 3 (left), 0 (thru), 4 (right); WB: 0 (right), 0 (thru), 2 (left); NB: 9 (left), 1960 (thru), 3 (right)

Total Vehicles (Noon)

All movements: N/A

Total Vehicles (PM)

SB: 6 (right), 2059 (thru), 6 (left); EB: 7 (left), 0 (thru), 8 (right); WB: 0 (right), 0 (thru), 2 (left); NB: 18 (left), 187 (thru), 8 (right)

Bikes (AM)

SB: 0, 1, 0; EB: 0, 0, 0; WB: 0, 0, 0; NB: 0, 1, 0

Bikes (NOON)

All movements: N/A

Bikes (PM)

SB: 0, 2, 0; EB: 0, 0, 0; WB: 0, 0, 0; NB: 0, 0, 0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North, westward	0	0	0
North, eastward	0	0	1
West, southward	0	0	0
West, northward	1	0	0
East, southward	1	0	0
East, northward	0	0	1
South, eastward	0	0	1
South, westward	0	0	0
Diagonal NW	0	0	0
Diagonal NE	0	0	0
Diagonal SW	0	0	0
Diagonal SE	0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Cinema dwy
City: Garden Grove
Control: Signalized

Project ID: 18-01140-002
Date: 7/10/2018

Total

NS/EW Streets:	Valley View St				Valley View St				Cinema dwy				Cinema dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	296	0	1	0	376	0	6	0	0	1	0	0	0	0	0	681
7:15 AM	6	393	0	0	0	416	0	7	0	0	0	0	0	0	0	0	822
7:30 AM	2	503	1	0	0	450	1	10	1	0	1	0	0	0	0	0	969
7:45 AM	1	537	1	0	2	374	0	18	2	0	1	0	1	0	0	0	937
8:00 AM	5	466	0	1	1	388	0	10	0	0	1	0	0	0	0	0	872
8:15 AM	1	454	1	0	1	407	0	22	0	0	1	0	1	0	0	0	888
8:30 AM	3	442	1	0	0	375	0	10	1	0	2	0	2	1	0	0	837
8:45 AM	1	462	0	0	1	342	1	13	0	0	0	0	0	1	0	0	821
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	20	3553	4	2	5	3128	2	96	4	0	7	0	4	2	0	0	6827
APPROACH %'s :	0.56%	99.27%	0.11%	0.06%	0.15%	96.81%	0.06%	2.97%	36.36%	0.00%	63.64%	0.00%	66.67%	33.33%	0.00%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	9	1960	3	1	4	1619	1	60	3	0	4	0	2	0	0	0	3666
PEAK HR FACTOR :	0.450	0.912	0.750	0.250	0.500	0.899	0.250	0.682	0.375	0.000	1.000	0.000	0.500	0.000	0.000	0.000	0.946
		0.915				0.913				0.583				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	425	1	0	0	420	5	10	17	0	9	0	0	0	2	0	892
4:15 PM	7	430	1	0	3	486	3	13	2	0	8	0	1	0	0	0	954
4:30 PM	4	445	5	2	2	480	4	11	5	0	2	0	0	0	0	0	960
4:45 PM	8	460	2	0	1	516	1	11	2	0	3	0	1	0	0	0	1005
5:00 PM	4	480	1	0	2	538	1	15	0	0	2	0	1	0	0	0	1044
5:15 PM	2	493	0	0	1	525	0	12	0	0	1	0	0	0	0	0	1034
5:30 PM	3	444	1	0	0	464	0	3	1	0	1	0	2	0	0	0	919
5:45 PM	1	448	0	1	0	469	1	27	3	0	2	0	0	0	0	0	952
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	32	3625	11	3	9	3898	15	102	30	0	28	0	5	0	2	0	7760
APPROACH %'s :	0.87%	98.75%	0.30%	0.08%	0.22%	96.87%	0.37%	2.53%	51.72%	0.00%	48.28%	0.00%	71.43%	0.00%	28.57%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	18	1878	8	2	6	2059	6	49	7	0	8	0	2	0	0	0	4043
PEAK HR FACTOR :	0.563	0.952	0.400	0.250	0.750	0.957	0.375	0.817	0.350	0.000	0.667	0.000	0.500	0.000	0.000	0.000	0.968
		0.963				0.953				0.536				0.500			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Cinema dwy
City: Garden Grove
Control: Signalized

Project ID: 18-01140-002
Date: 7/10/2018

Bikes

NS/EW Streets:	Valley View St				Valley View St				Cinema dwy				Cinema dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.250				0.250											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	6
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
						0.500											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Cinema dwy **Project ID:** 18-2114-002
City: Garden Grove **Date:** 7/10/2018

Pedestrians (Crosswalks)

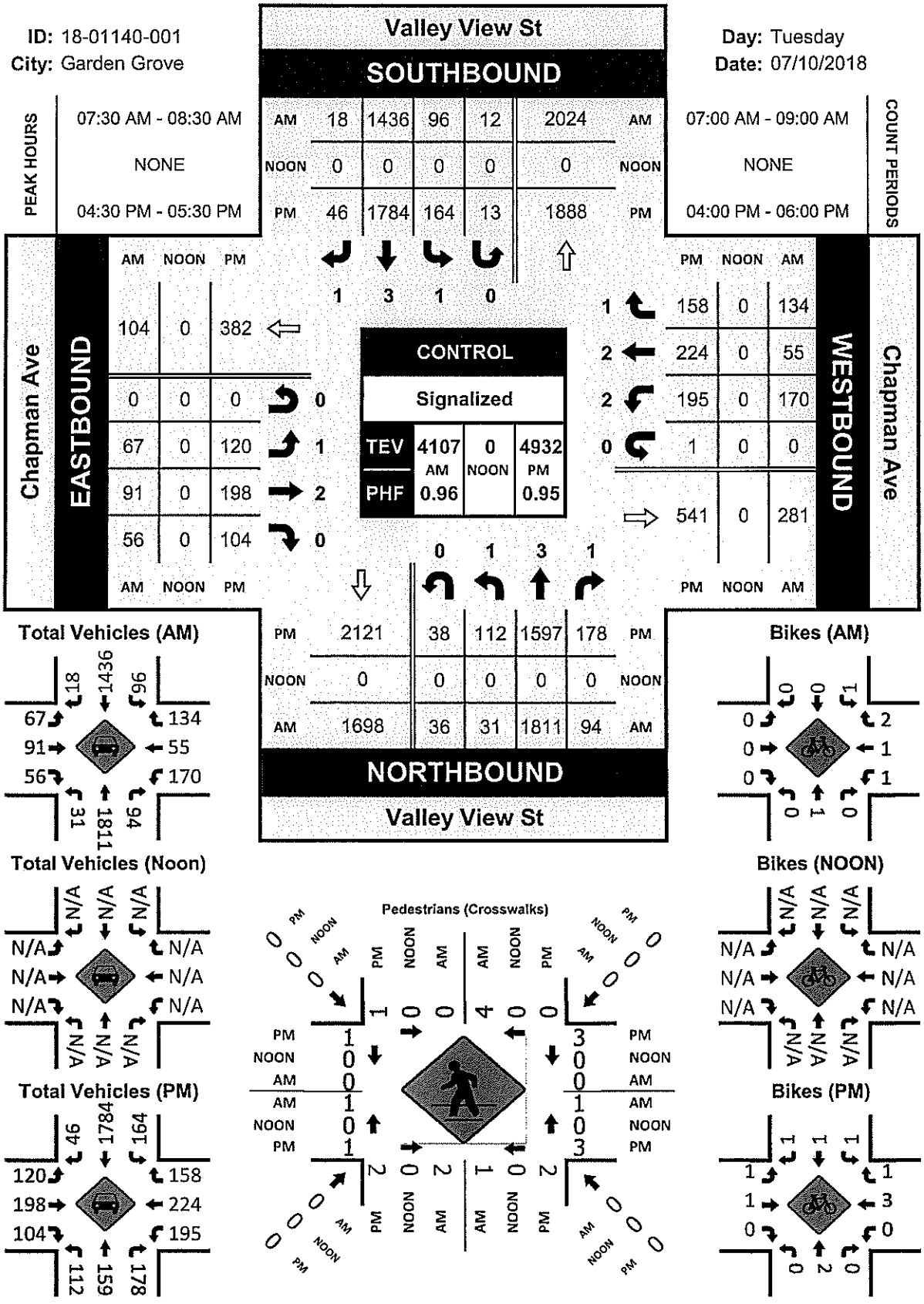
NS/EW Streets:	Valley View St		Valley View St		Cinema dwy		Cinema dwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	2	0	0	0	2
7:15 AM	0	0	1	0	0	0	0	2	3
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	1	0	2
8:30 AM	0	0	0	0	1	0	0	3	4
8:45 AM	0	0	0	0	4	0	1	2	7
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	0	7	1	2	7	18
APPROACH %'s :			100.00%	0.00%	87.50%	12.50%	22.22%	77.78%	
PEAK HR :	**07:30 AM - 08:30 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	1	1	0	2
PEAK HR FACTOR :						0.250	0.250		0.250
					0.250		0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	1	0	0	1	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	1	0	0	0	2
5:30 PM	0	0	1	0	0	0	0	2	3
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	3	0	1	1	0	2	8
APPROACH %'s :	0.00%	100.00%	100.00%	0.00%	50.00%	50.00%	0.00%	100.00%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	1	1	0	1	0	0	0	3
PEAK HR FACTOR :		0.250	0.250		0.250				0.375
	0.250		0.250		0.250				

Prepared by National Data & Surveying Services

Valley View St & Chapman Ave

Peak Hour Turning Movement Count



National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Chapman Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-001
Date: 7/10/2018

Total

NS/EW Streets:	Valley View St				Valley View St				Chapman Ave				Chapman Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	313	11	9	15	356	3	1	19	16	13	0	20	11	31	0	829
7:15 AM	8	299	21	2	25	371	3	1	8	21	9	0	42	8	29	0	847
7:30 AM	5	426	29	4	27	372	4	0	15	28	12	0	36	13	26	0	997
7:45 AM	6	498	28	7	28	352	6	4	19	17	15	0	44	12	34	0	1070
8:00 AM	9	448	22	14	22	365	6	6	13	20	11	0	53	14	43	0	1046
8:15 AM	11	439	15	11	19	347	2	2	20	26	18	0	37	16	31	0	994
8:30 AM	10	425	21	11	19	310	8	3	20	18	10	0	39	27	31	0	952
8:45 AM	18	394	22	11	22	319	7	1	19	23	16	0	39	28	36	0	955
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	78	3242	169	69	177	2792	39	18	133	169	104	0	310	129	261	0	7690
APPROACH %'s :	2.19%	91.12%	4.75%	1.94%	5.85%	92.27%	1.29%	0.59%	32.76%	41.63%	25.62%	0.00%	44.29%	18.43%	37.29%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	31	1811	94	36	96	1436	18	12	67	91	56	0	170	55	134	0	4107
PEAK HR FACTOR :	0.705	0.909	0.810	0.643	0.857	0.965	0.750	0.500	0.838	0.813	0.778	0.000	0.802	0.859	0.779	0.000	0.960
	0.915				0.969				0.836				0.816				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	25	360	57	16	22	353	9	6	33	42	14	0	39	42	34	0	1052
4:15 PM	35	378	32	15	31	405	11	7	21	40	25	0	41	54	35	0	1130
4:30 PM	30	384	41	11	41	409	11	2	20	48	24	0	56	66	38	0	1181
4:45 PM	34	361	46	7	41	459	10	2	35	55	17	0	43	65	42	1	1218
5:00 PM	20	409	49	14	39	431	11	8	33	57	35	0	44	38	43	0	1231
5:15 PM	28	443	42	6	43	485	14	1	32	38	28	0	52	55	35	0	1302
5:30 PM	23	403	42	11	32	405	4	7	29	53	23	0	48	47	45	0	1172
5:45 PM	29	366	37	6	41	436	6	1	31	58	26	0	57	50	60	0	1204
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	224	3104	346	86	290	3383	76	34	234	391	192	0	380	417	332	1	9490
APPROACH %'s :	5.96%	82.55%	9.20%	2.29%	7.67%	89.43%	2.01%	0.90%	28.64%	47.86%	23.50%	0.00%	33.63%	36.90%	29.38%	0.09%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	112	1597	178	38	164	1784	46	13	120	198	104	0	195	224	158	1	4932
PEAK HR FACTOR :	0.824	0.901	0.908	0.679	0.953	0.920	0.821	0.406	0.857	0.868	0.743	0.000	0.871	0.848	0.919	0.250	0.947
	0.927				0.924				0.844				0.903				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Chapman Ave
City: Garden Grove
Control: Signalized

Project ID: 18-01140-001
Date: 7/10/2018

Bikes

NS/EW Streets:	Valley View St				Valley View St				Chapman Ave				Chapman Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	2	0	0	0	0	0	0	0	1	2	2	0	8
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%					20.00%	40.00%	40.00%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	1	0	0	1	0	0	0	0	0	0	0	1	1	2	0	6
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.500
		0.250				0.250								0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	3
4:45 PM	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
5:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
5:45 PM	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	6	0	0	2	3	1	0	1	1	0	0	0	4	1	0	20
APPROACH %'s :	14.29%	85.71%	0.00%	0.00%	33.33%	50.00%	16.67%	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	2	0	0	1	1	1	0	1	1	0	0	0	3	1	0	11
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.250	0.250	0.250	0.000	0.250	0.250	0.000	0.000	0.000	0.375	0.250	0.000	0.688
		0.250				0.375				0.500				0.500			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Chapman Ave **Project ID:** 18-211140-001
City: Garden Grove **Date:** 7/10/2018

Pedestrians (Crosswalks)

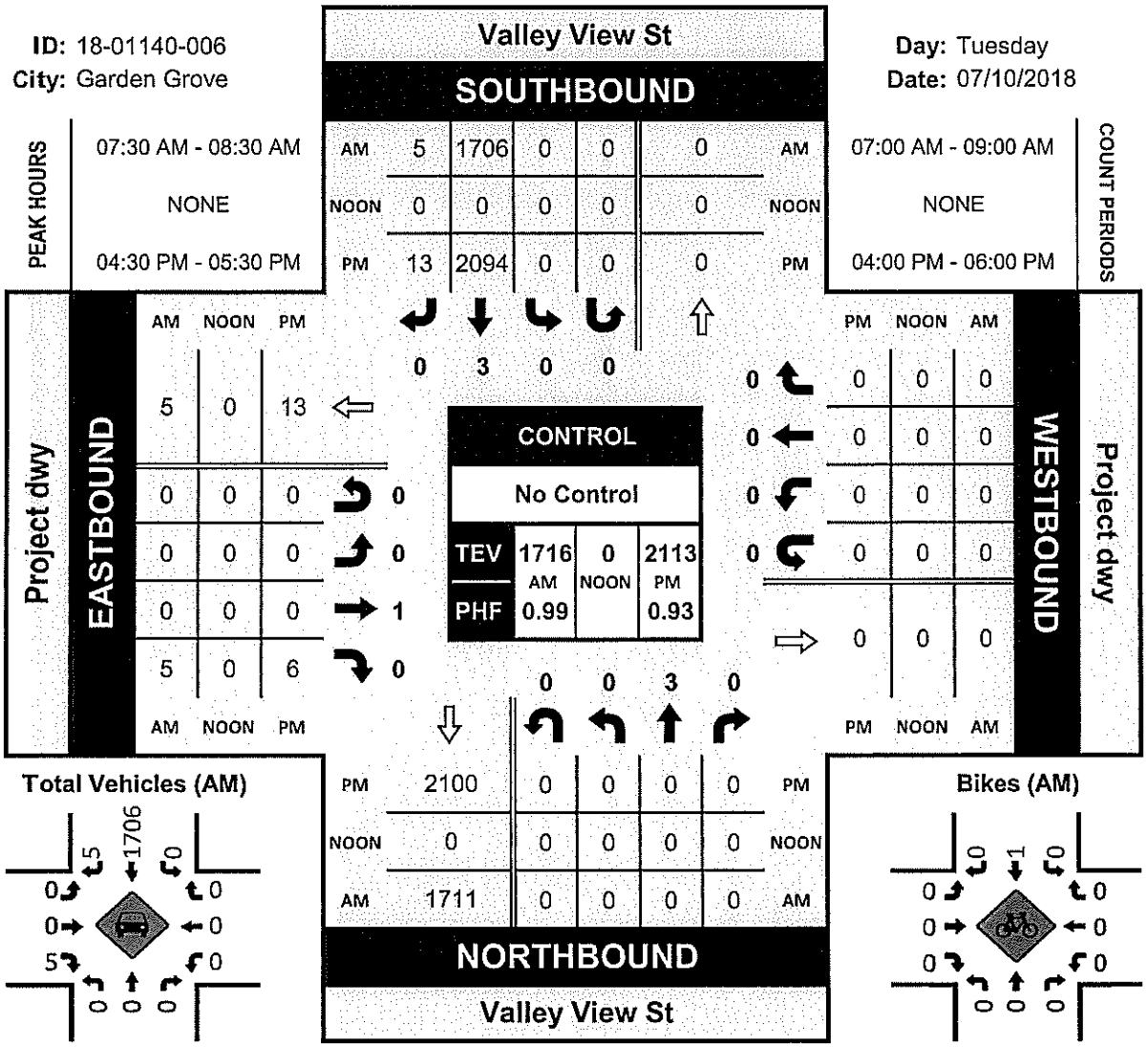
NS/EW Streets:	Valley View St		Valley View St		Chapman Ave		Chapman Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	1	1	0	3	0	0	0	5
7:15 AM	0	0	0	1	0	0	0	0	1
7:30 AM	0	2	1	0	1	0	0	0	4
7:45 AM	0	2	1	1	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	1
8:30 AM	0	1	1	0	0	0	0	1	3
8:45 AM	0	0	0	2	2	0	0	0	4
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	6	4	4	6	0	1	1	22
APPROACH %'s :	0.00%	100.00%	50.00%	50.00%	100.00%	0.00%	50.00%	50.00%	
PEAK HR :	**07:30 AM - 08:30 AM**								TOTAL
PEAK HR VOL :	0	4	2	1	1	0	1	0	9
PEAK HR FACTOR :	0.500		0.500	0.250	0.250		0.250		0.563
	0.500		0.375		0.250		0.250		

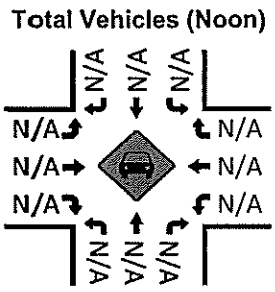
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	1	2	0	2	2	0	3	10
4:15 PM	0	2	0	0	0	2	0	2	6
4:30 PM	0	0	1	0	2	1	0	0	4
4:45 PM	0	0	1	2	1	0	0	0	4
5:00 PM	1	0	0	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	1	1	1	3
5:30 PM	1	3	0	0	0	0	1	2	7
5:45 PM	0	1	0	0	0	0	1	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	7	4	2	5	7	3	8	38
APPROACH %'s :	22.22%	77.78%	66.67%	33.33%	41.67%	58.33%	27.27%	72.73%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	1	0	2	2	3	3	1	1	13
PEAK HR FACTOR :	0.250		0.500	0.250	0.375	0.750	0.250	0.250	0.813
	0.250		0.333		0.500		0.250		

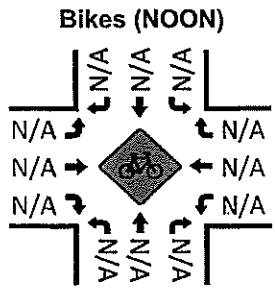
Prepared by National Data & Surveying Services

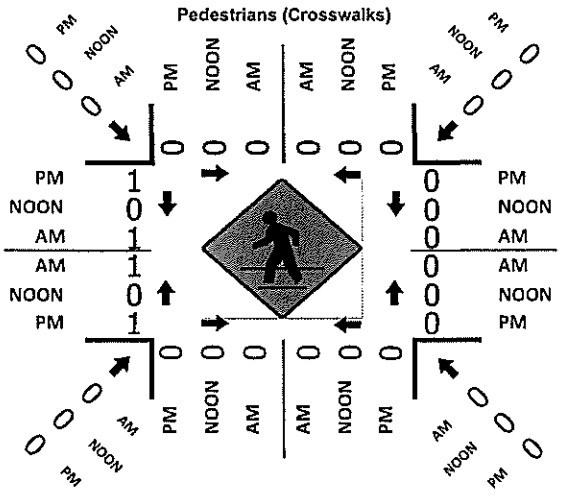
Valley View St & Project dwy

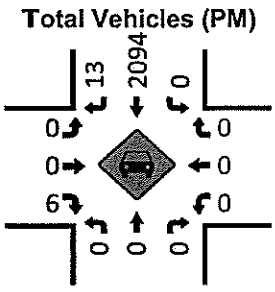
Peak Hour Turning Movement Count

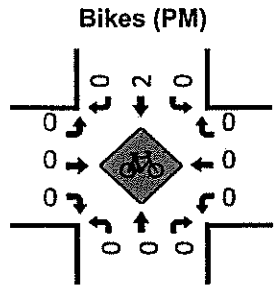












National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Project dwy
City: Garden Grove
Control: No Control

Project ID: 18-01140-006
Date: 7/10/2018

Total

NS/EW Streets:	Valley View St				Valley View St				Project dwy				Project dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	392	1	0	0	0	0	0	0	0	0	0	393
7:15 AM	0	0	0	0	0	423	1	0	0	0	1	0	0	0	0	0	425
7:30 AM	0	0	0	0	0	429	1	0	0	0	3	0	0	0	0	0	433
7:45 AM	0	0	0	0	0	421	2	0	0	0	0	0	0	0	0	0	423
8:00 AM	0	0	0	0	0	434	0	0	0	0	0	0	0	0	0	0	434
8:15 AM	0	0	0	0	0	422	2	0	0	0	2	0	0	0	0	0	426
8:30 AM	0	0	0	0	0	369	0	0	0	0	0	0	0	0	0	0	369
8:45 AM	0	0	0	0	0	381	1	0	0	0	0	0	0	0	0	0	382
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	3271	8	0	0	0	6	0	0	0	0	0	3285
APPROACH %'s :					0.00%	99.76%	0.24%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1706	5	0	0	0	5	0	0	0	0	0	1716
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.983	0.625	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.988
						0.986				0.417							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	422	0	0	0	0	3	0	0	0	0	0	425
4:15 PM	0	0	0	0	0	484	5	0	0	0	3	0	0	0	0	0	492
4:30 PM	0	0	0	0	0	491	5	0	0	0	4	0	0	0	0	0	500
4:45 PM	0	0	0	0	0	511	2	0	0	0	0	0	0	0	0	0	513
5:00 PM	0	0	0	0	0	527	3	0	0	0	1	0	0	0	0	0	531
5:15 PM	0	0	0	0	0	565	3	0	0	0	1	0	0	0	0	0	569
5:30 PM	0	0	0	0	0	479	2	0	0	0	0	0	0	0	0	0	481
5:45 PM	0	0	0	0	0	517	3	0	0	0	5	0	0	0	0	0	525
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	3996	23	0	0	0	17	0	0	0	0	0	4036
APPROACH %'s :					0.00%	99.43%	0.57%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	2094	13	0	0	0	6	0	0	0	0	0	2113
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.927	0.650	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.928
						0.927				0.375							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Project dwy
City: Garden Grove
Control: No Control

Project ID: 18-01140-006
Date: 7/10/2018

Bikes

NS/EW Streets:	Valley View St				Valley View St				Project dwy				Project dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
						0.250											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	6
APPROACH %'s :					0.00%	83.33%	16.67%	0.00%									
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
						0.500											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Valley View St & Project dwy
City: Garden Grove
Project #: 18-5211140-006
Date: 7/10/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Valley View St		Valley View St		Project dwy		Project dwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	1	2
7:30 AM	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	2	2
8:45 AM	0	0	0	0	0	0	1	4	5
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	3	8	11
APPROACH %'s :							27.27%	72.73%	
PEAK HR :	**07:30 AM - 08:30 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	1	2
PEAK HR FACTOR :							0.250	0.250	0.500
							0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	2	3
APPROACH %'s :							33.33%	66.67%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	1	2
PEAK HR FACTOR :							0.250	0.250	0.500
							0.500		

APPENDIX C

Intersection Analysis Worksheets

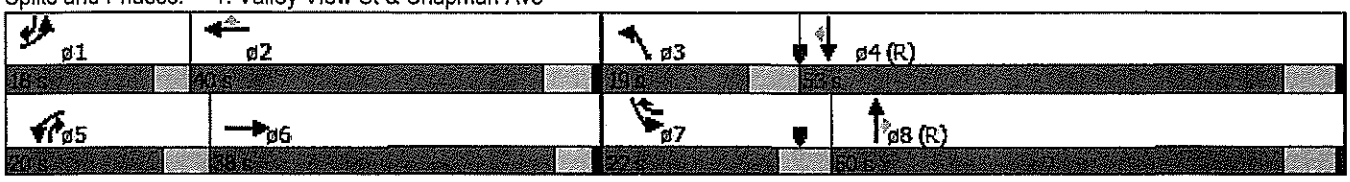
Existing Conditions
2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	67	182	56	170	110	134	67	1811	94	108	1436	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3188	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3188	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30				121			67			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			481			417	
Travel Time (s)		14.4			14.5			8.2			7.1	
Lane Group Flow (vph)	67	238	0	170	110	134	67	1811	94	108	1436	18
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.38	0.28		0.40	0.12	0.18	0.32	0.95	0.12	0.43	0.71	0.02
Control Delay	60.7	34.4		55.6	35.8	5.2	57.3	52.5	6.4	57.1	36.7	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	34.4		55.6	35.8	5.2	57.3	52.5	6.4	57.1	36.7	0.1
LOS	E	C		E	D	A	E	D	A	E	D	A
Approach Delay		40.2			34.0			50.5			37.7	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 43 (33%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 43.4 Intersection LOS: D
Intersection Capacity Utilization 70.0% ICU Level of Service C
Analysis Period (min) 15
Description: Chapman Ave.
* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave



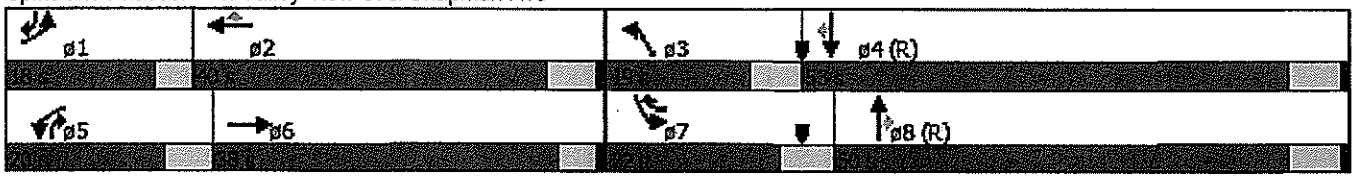
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	198	104	196	224	158	150	1597	178	177	1784	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3131	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3131	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				64			68			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			485			417	
Travel Time (s)		14.4			14.5			8.3			7.1	
Lane Group Flow (vph)	120	302	0	196	224	158	150	1597	178	177	1784	46
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.68	0.35		0.46	0.25	0.23	0.71	0.84	0.23	0.70	0.88	0.06
Control Delay	75.4	30.9		56.7	37.5	13.8	74.6	43.4	11.5	69.1	43.7	1.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.4	30.9		56.7	37.5	13.8	74.6	43.4	11.5	69.1	43.7	1.8
LOS	E	C		E	D	B	E	D	B	E	D	A
Approach Delay		43.5			37.6			42.8			45.0	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 37 (28%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 43.1 Intersection LOS: D
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15
Description: Chapman Ave.

* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave

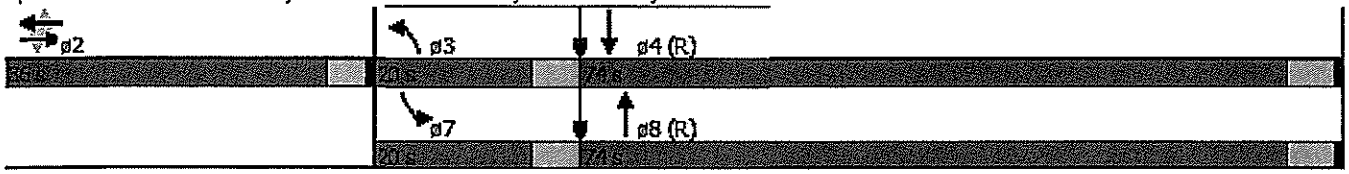


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	0	4	2	0	0	10	1960	3	64	1619	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1571	0	0	1652	0	1652	4746	0	1652	4746	0
Flt Permitted		0.954			0.753		0.950			0.950		
Satd. Flow (perm)	0	1531	0	0	1309	0	1652	4746	0	1652	4746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62										
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		221			105			422			227	
Travel Time (s)		5.0			2.4			7.2			3.9	
Lane Group Flow (vph)	0	7	0	0	2	0	10	1963	0	64	1620	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.02			0.01		0.05	0.77		0.32	0.63	
Control Delay		0.1			37.0		74.4	3.3		66.6	10.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.1			37.0		74.4	3.3		66.6	10.1	
LOS		A			D		E	A		E	B	
Approach Delay		0.1			37.0			3.7			12.2	
Approach LOS		A			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 30 (23%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 7.6 Intersection LOS: A
Intersection Capacity Utilization 64.6% ICU Level of Service C
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

Splits and Phases: 2: Valley View St & Cinema dwy/US Bank dwy

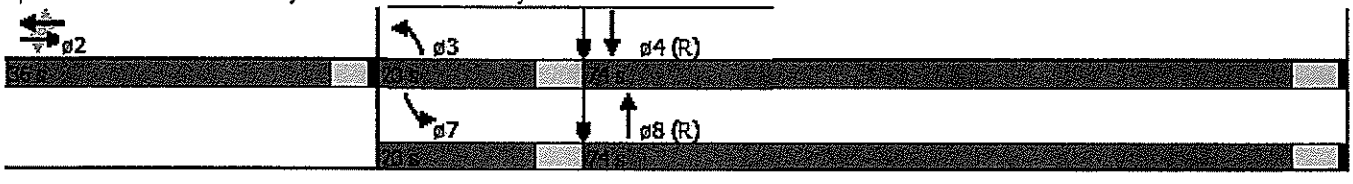


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	0	8	2	0	0	20	1878	8	55	2059	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1576	0	0	1652	0	1652	4742	0	1652	4746	0
Flt Permitted		0.934			0.748		0.950			0.950		
Satd. Flow (perm)	0	1507	0	0	1300	0	1652	4742	0	1652	4746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62						1				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		254			133			422			223	
Travel Time (s)		5.8			3.0			7.2			3.8	
Lane Group Flow (vph)	0	15	0	0	2	0	20	1886	0	55	2065	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.04			0.01		0.10	0.74		0.27	0.81	
Control Delay		0.1			37.0		73.0	2.2		63.9	14.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.1			37.0		73.0	2.2		63.9	14.0	
LOS		A			D		E	A		E	B	
Approach Delay		0.1			37.0			3.0			15.3	
Approach LOS		A			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 26 (20%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 60.7% ICU Level of Service B
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

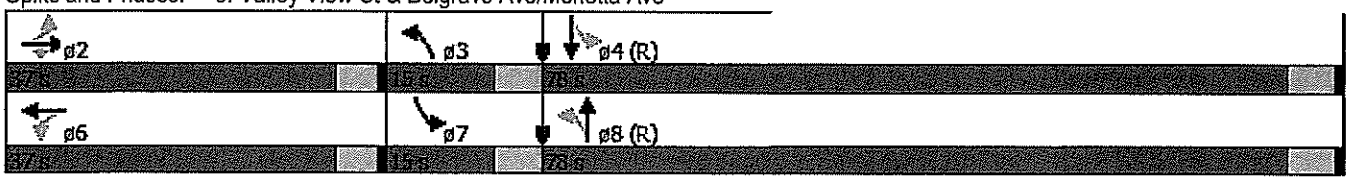
Splits and Phases: 2: Valley View St & Cinema dwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	2	42	5	0	4	32	1953	6	8	1597	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1674	1478	0	1590	0	1652	4746	0	1652	4746	0
Flt Permitted		0.895			0.929		0.099			0.055		
Satd. Flow (perm)	0	1556	1478	0	1518	0	172	4746	0	96	4746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		62			1			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		575			159			1322			422	
Travel Time (s)		13.1			3.6			22.5			7.2	
Lane Group Flow (vph)	0	9	42	0	9	0	32	1959	0	8	1602	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.02	0.10		0.02		0.14	0.73		0.04	0.59	
Control Delay		37.1	4.7		0.1		10.1	34.8		0.4	0.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		37.1	4.7		0.1		10.1	34.8		0.4	0.9	
LOS		D	A		A		B	C		A	A	
Approach Delay		10.4			0.1			34.4			0.9	
Approach LOS		B			A			C			A	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 33 (25%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green	
Control Type: Pretimed	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 58.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

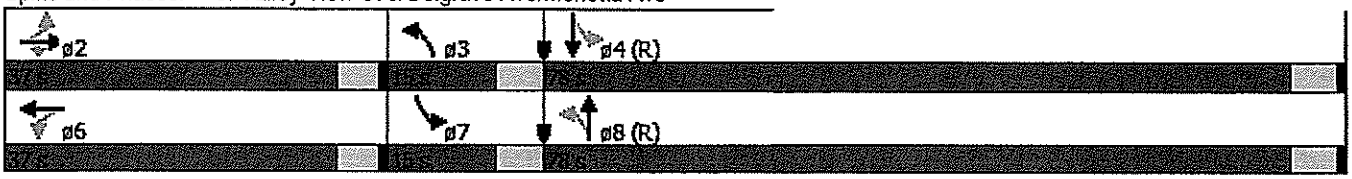


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	1	27	5	1	3	72	1850	7	5	2038	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1662	1478	0	1615	0	1652	4742	0	1652	4742	0
Flt Permitted		0.861			0.928		0.055			0.065		
Satd. Flow (perm)	0	1497	1478	0	1541	0	96	4742	0	113	4742	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		3			1			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		574			188			1322			422	
Travel Time (s)		13.0			4.3			22.5			7.2	
Lane Group Flow (vph)	0	12	27	0	9	0	72	1857	0	5	2058	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.03	0.06		0.02		0.37	0.69		0.02	0.76	
Control Delay		37.2	0.3		30.4		15.1	29.8		0.2	1.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay		37.2	0.3		30.4		15.1	29.8		0.2	1.3	
LOS		D	A		C		B	C		A	A	
Approach Delay		11.7			30.4			29.2			1.3	
Approach LOS		B			C			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 14.8 Intersection LOS: B
Intersection Capacity Utilization 67.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

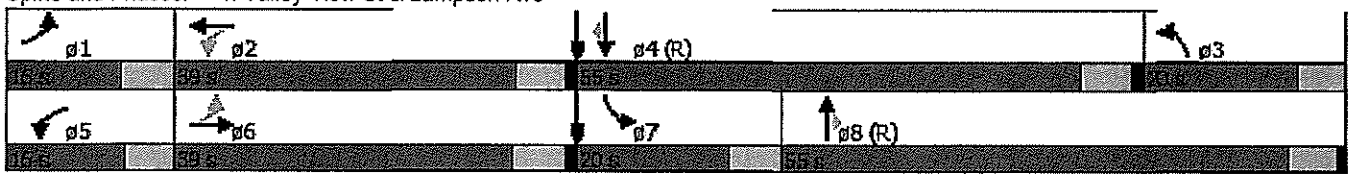


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	127	120	113	139	67	94	1760	69	82	1415	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3062	0	1652	3141	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.471			0.385			0.950			0.950		
Satd. Flow (perm)	819	3062	0	669	3141	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		120			62				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	122	247	0	113	206	0	94	1760	69	82	1415	138
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		20.0	55.0	55.0	20.0	55.0	55.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	24.9	13.6		24.7	13.5		15.2	74.1	74.1	13.1	71.7	71.7
Actuated g/C Ratio	0.19	0.10		0.19	0.10		0.12	0.57	0.57	0.10	0.55	0.55
v/c Ratio	0.53	0.58		0.53	0.54		0.49	0.65	0.08	0.50	0.54	0.16
Control Delay	50.7	33.5		51.1	43.5		45.3	18.9	3.0	87.6	2.7	1.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	33.5		51.1	43.5		45.3	18.9	3.0	87.6	2.7	1.1
LOS	D	C		D	D		D	B	A	F	A	A
Approach Delay		39.2			46.2			19.6			6.8	
Approach LOS		D			D			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 90 (69%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

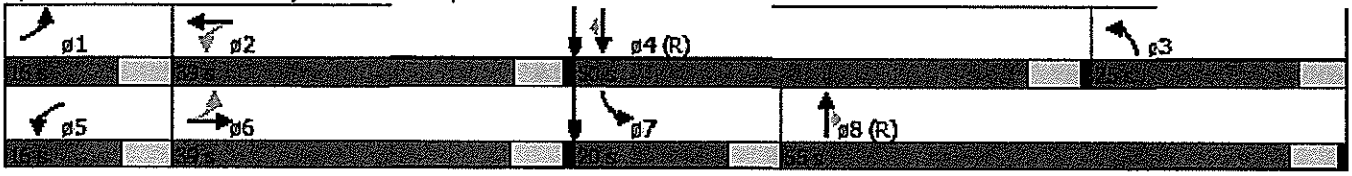


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	219	225	105	181	259	99	217	1589	112	105	1787	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3145	0	1652	3168	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.300			0.340			0.950			0.950		
Satd. Flow (perm)	522	3145	0	591	3168	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			42				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	219	330	0	181	358	0	217	1589	112	105	1787	170
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		25.0	55.0	55.0	20.0	50.0	50.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	31.4	19.9		31.4	19.9		20.2	50.5	50.5	30.1	60.1	60.1
Actuated g/C Ratio	0.24	0.15		0.24	0.15		0.16	0.39	0.39	0.23	0.46	0.46
v/c Ratio	0.97	0.62		0.77	0.69		0.85	0.86	0.17	0.27	0.82	0.23
Control Delay	94.6	47.2		60.1	52.5		65.3	29.0	1.5	42.6	8.0	2.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.6	47.2		60.1	52.5		65.3	29.0	1.5	42.6	8.0	2.2
LOS	F	D		E	D		E	C	A	D	A	A
Approach Delay		66.1			55.0			31.5			9.3	
Approach LOS		E			E			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 85 (65%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 84.3% ICU Level of Service E
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

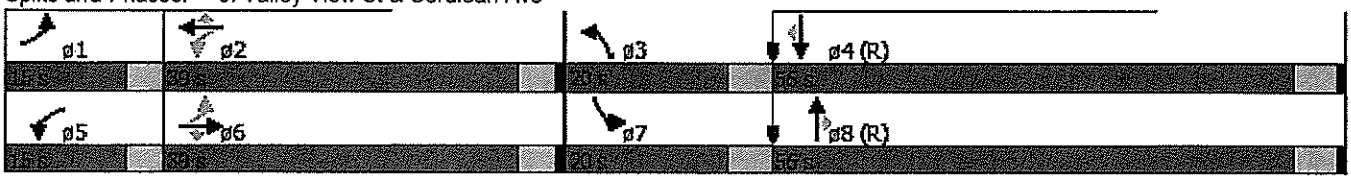


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	17	121	111	22	44	43	1906	48	20	1603	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.743			0.746			0.950			0.950		
Satd. Flow (perm)	1292	1739	1478	1297	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	38	17	121	111	22	44	43	1906	48	20	1603	20
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	46.0	35.0	35.0	46.0	35.0	35.0	16.0	52.0	52.0	16.0	52.0	52.0
Actuated g/C Ratio	0.35	0.27	0.27	0.35	0.27	0.27	0.12	0.40	0.40	0.12	0.40	0.40
v/c Ratio	0.08	0.04	0.25	0.23	0.05	0.10	0.21	1.00	0.08	0.10	0.84	0.03
Control Delay	25.9	35.5	7.5	27.9	35.7	0.9	54.3	60.6	1.7	72.0	22.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	35.5	7.5	27.9	35.7	0.9	54.3	60.6	1.7	72.0	22.7	0.3
LOS	C	D	A	C	D	A	D	E	A	E	C	A
Approach Delay		14.2			22.2			59.0			23.0	
Approach LOS		B			C			E			C	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 40.6 Intersection LOS: D
Intersection Capacity Utilization 63.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Valley View St & Cerulean Ave

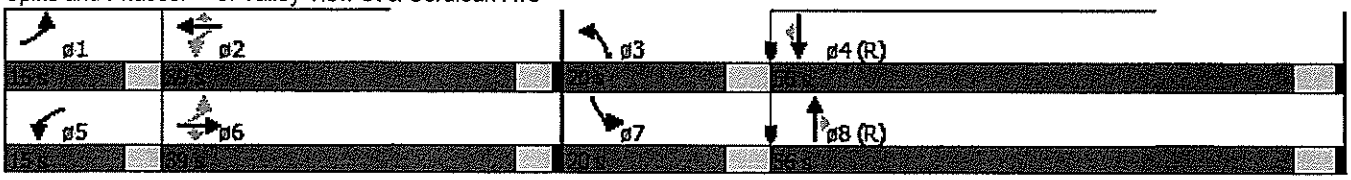


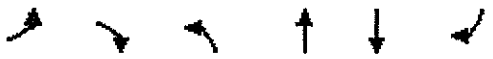
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	47	103	88	42	60	112	1841	111	62	1922	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.730			0.591			0.950			0.950		
Satd. Flow (perm)	1269	1739	1478	1027	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	52	47	103	88	42	60	112	1841	111	62	1922	30
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	21.0	11.1	11.1	22.9	14.4	14.4	14.6	83.7	83.7	11.6	77.8	77.8
Actuated g/C Ratio	0.16	0.09	0.09	0.18	0.11	0.11	0.11	0.64	0.64	0.09	0.60	0.60
v/c Ratio	0.22	0.32	0.47	0.38	0.22	0.25	0.61	0.60	0.11	0.42	0.68	0.03
Control Delay	45.5	61.7	17.3	49.2	58.0	7.2	68.1	15.5	4.1	74.8	3.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	61.7	17.3	49.2	58.0	7.2	68.1	15.5	4.1	74.8	3.2	0.0
LOS	D	E	B	D	E	A	E	B	A	E	A	A
Approach Delay		34.9			37.8			17.8			5.4	
Approach LOS		C			D			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 13.8 Intersection LOS: B
Intersection Capacity Utilization 67.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Valley View St & Cerulean Ave





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	5	0	2002	1740	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	5	0	2002	1740	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				227	481	
pX, platoon unblocked	0.78	0.77	0.77			
vC, conflicting volume	2410	582	1745			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	901			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	798	830	574			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	667	667	667	696	696	353
Volume Left	0	0	0	0	0	0	0
Volume Right	5	0	0	0	0	0	5
cSH	830	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.39	0.39	0.39	0.41	0.41	0.21
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.4	0.0			0.0		
Approach LOS	A						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	6	0	1885	2094	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	6	0	1885	2094	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				223	485	
pX, platoon unblocked	0.84	0.69	0.69			
vC, conflicting volume	2729	704	2107			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1017			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	858	745	466			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	628	628	628	838	838	432
Volume Left	0	0	0	0	0	0	0
Volume Right	6	0	0	0	0	0	13
cSH	745	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.37	0.37	0.37	0.49	0.49	0.25
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.9	0.0			0.0		
Approach LOS	A						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

Existing Conditions + Project Traffic
2018

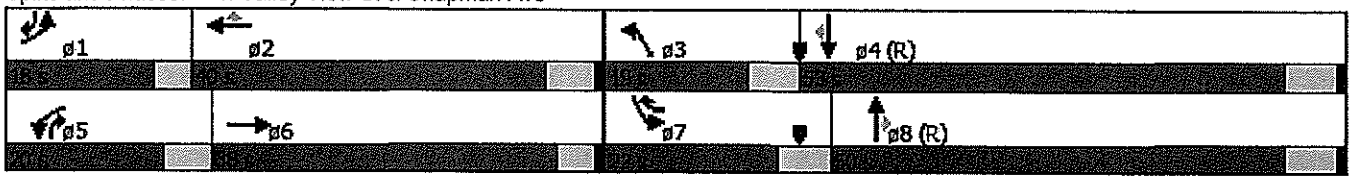
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	67	182	61	176	110	134	72	1818	99	108	1444	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3178	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3178	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34				121			67			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			481			417	
Travel Time (s)		14.4			14.5			8.2			7.1	
Lane Group Flow (vph)	67	243	0	176	110	134	72	1818	99	108	1444	18
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.38	0.29		0.41	0.12	0.18	0.34	0.95	0.13	0.43	0.71	0.02
Control Delay	60.7	33.9		55.8	35.8	5.2	57.8	53.0	6.9	57.1	36.8	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	33.9		55.8	35.8	5.2	57.8	53.0	6.9	57.1	36.8	0.1
LOS	E	C		E	D	A	E	D	A	E	D	A
Approach Delay		39.7			34.4			50.9			37.8	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 43 (33%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 43.7 Intersection LOS: D
Intersection Capacity Utilization 70.5% ICU Level of Service C
Analysis Period (min) 15
Description: Chapman Ave.

* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave

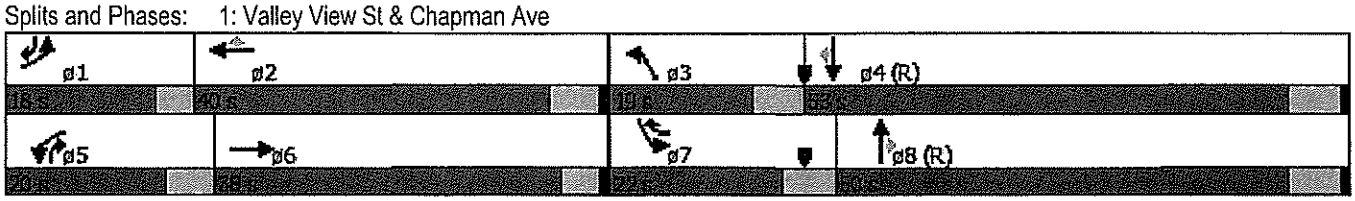


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	198	116	209	224	158	161	1611	189	177	1799	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3122	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3122	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		89				64			72			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			485			417	
Travel Time (s)		14.4			14.5			8.3			7.1	
Lane Group Flow (vph)	120	314	0	209	224	158	161	1611	189	177	1799	46
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.68	0.36		0.49	0.25	0.23	0.77	0.84	0.24	0.70	0.88	0.06
Control Delay	75.4	29.0		57.4	37.5	13.8	79.2	43.7	11.7	69.1	44.2	1.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.4	29.0		57.4	37.5	13.8	79.2	43.7	11.7	69.1	44.2	1.8
LOS	E	C		E	D	B	E	D	B	E	D	A
Approach Delay		41.8			38.2			43.6			45.4	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 37 (28%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			
Description: Chapman Ave.			

* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave

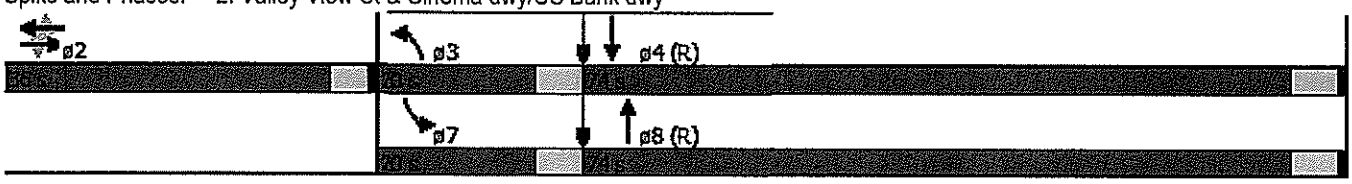


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	0	20	2	0	0	39	1950	3	64	1619	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1597	0	0	1652	0	1652	4746	0	1652	4737	0
Flt Permitted		0.865			0.744		0.950			0.950		
Satd. Flow (perm)	0	1423	0	0	1293	0	1652	4746	0	1652	4737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62									2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		221			105			422			227	
Travel Time (s)		5.0			2.4			7.2			3.9	
Lane Group Flow (vph)	0	50	0	0	2	0	39	1953	0	64	1637	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.13			0.01		0.19	0.76		0.32	0.64	
Control Delay		7.3			37.0		75.1	3.4		66.4	10.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		7.3			37.0		75.1	3.4		66.4	10.3	
LOS		A			D		E	A		E	B	
Approach Delay		7.3			37.0			4.8			12.4	
Approach LOS		A			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 30 (23%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 8.3 Intersection LOS: A
Intersection Capacity Utilization 64.4% ICU Level of Service C
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

Splits and Phases: 2: Valley View St & Cinema dwy/US Bank dwy

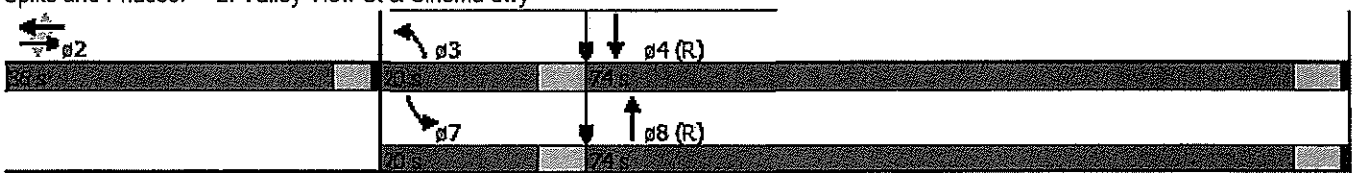


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	0	38	2	0	0	77	1862	8	55	2064	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1597	0	0	1652	0	1652	4742	0	1652	4732	0
Flt Permitted		0.839			0.689		0.950			0.950		
Satd. Flow (perm)	0	1380	0	0	1198	0	1652	4742	0	1652	4732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62						1			3	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		254			133			422			223	
Travel Time (s)		5.8			3.0			7.2			3.8	
Lane Group Flow (vph)	0	95	0	0	2	0	77	1870	0	55	2103	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.25			0.01		0.38	0.73		0.27	0.83	
Control Delay		17.8			37.0		77.9	2.5		63.4	14.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.8			37.0		77.9	2.5		63.4	14.8	
LOS		B			D		E	A		E	B	
Approach Delay		17.8			37.0			5.5			16.1	
Approach LOS		B			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 26 (20%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 67.4% ICU Level of Service C
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

Splits and Phases: 2: Valley View St & Cinema dwy

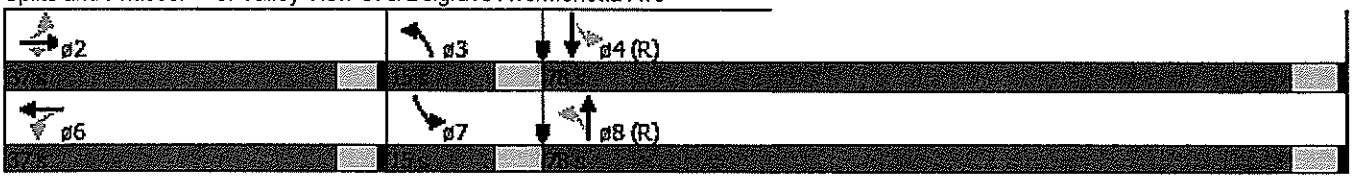


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	2	42	5	0	6	32	1966	6	10	1608	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1667	1478	0	1574	0	1652	4746	0	1652	4742	0
Flt Permitted		0.869			0.939		0.097			0.055		
Satd. Flow (perm)	0	1511	1478	0	1512	0	169	4746	0	96	4742	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		62			1			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		575			159			1322			422	
Travel Time (s)		13.1			3.6			22.5			7.2	
Lane Group Flow (vph)	0	13	42	0	11	0	32	1972	0	10	1616	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.03	0.10		0.03		0.14	0.73		0.05	0.60	
Control Delay		37.3	4.7		0.1		10.1	34.9		0.5	1.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		37.3	4.7		0.1		10.1	34.9		0.5	1.1	
LOS		D	A		A		B	C		A	A	
Approach Delay		12.4			0.1			34.5			1.1	
Approach LOS		B			A			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 58.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

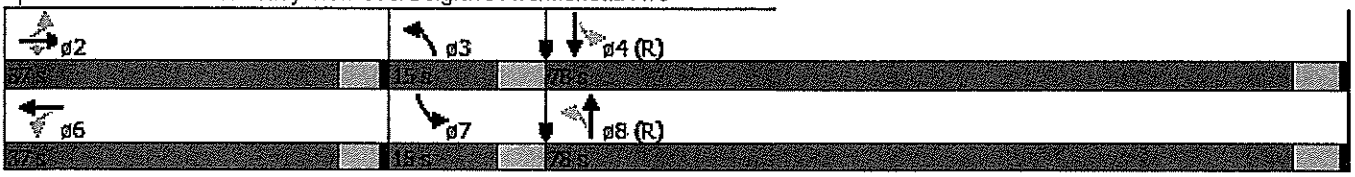


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	1	27	5	1	7	72	1879	7	9	2063	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1660	1478	0	1581	0	1652	4742	0	1652	4737	0
Flt Permitted		0.826			0.946		0.055			0.062		
Satd. Flow (perm)	0	1436	1478	0	1525	0	96	4742	0	108	4737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		7			1			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		574			188			1322			422	
Travel Time (s)		13.0			4.3			22.5			7.2	
Lane Group Flow (vph)	0	20	27	0	13	0	72	1886	0	9	2090	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.06	0.06		0.03		0.37	0.70		0.04	0.77	
Control Delay		37.7	0.3		25.5		15.1	29.8		0.7	1.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.2	
Total Delay		37.7	0.3		25.5		15.1	29.8		0.7	1.9	
LOS		D	A		C		B	C		A	A	
Approach Delay		16.2			25.5			29.3			1.9	
Approach LOS		B			C			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 15.1 Intersection LOS: B
Intersection Capacity Utilization 67.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

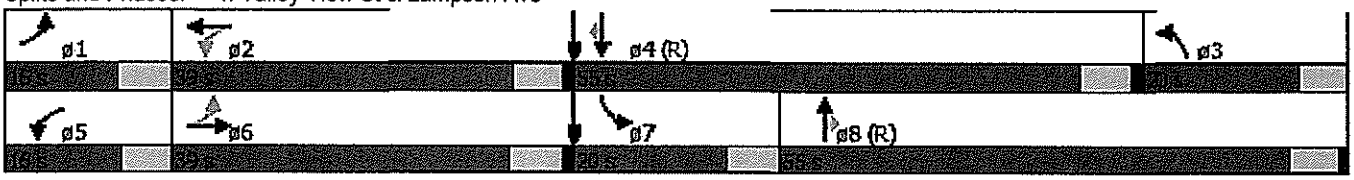


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	126	127	120	113	139	70	94	1766	69	85	1420	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3062	0	1652	3138	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.464			0.385			0.950			0.950		
Satd. Flow (perm)	807	3062	0	669	3138	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		120			66				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	126	247	0	113	209	0	94	1766	69	85	1420	141
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		20.0	55.0	55.0	20.0	55.0	55.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	24.9	13.6		24.7	13.5		15.2	73.9	73.9	13.2	71.7	71.7
Actuated g/C Ratio	0.19	0.10		0.19	0.10		0.12	0.57	0.57	0.10	0.55	0.55
v/c Ratio	0.55	0.58		0.53	0.54		0.49	0.65	0.08	0.51	0.54	0.16
Control Delay	51.7	33.5		51.1	42.7		45.5	19.0	3.0	87.0	2.8	1.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	33.5		51.1	42.7		45.5	19.0	3.0	87.0	2.8	1.2
LOS	D	C		D	D		D	B	A	F	A	A
Approach Delay		39.6			45.6			19.7			7.0	
Approach LOS		D			D			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 90 (69%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 18.5 Intersection LOS: B
Intersection Capacity Utilization 74.1% ICU Level of Service D
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

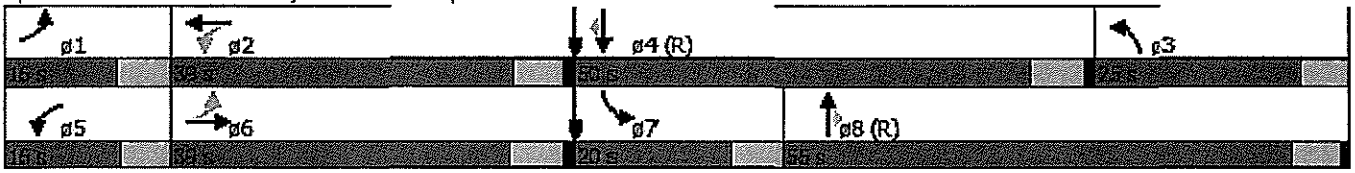


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	228	225	105	181	259	108	217	1601	112	112	1798	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3145	0	1652	3158	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.290			0.343			0.950			0.950		
Satd. Flow (perm)	504	3145	0	596	3158	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			48				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	228	330	0	181	367	0	217	1601	112	112	1798	177
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		25.0	55.0	55.0	20.0	50.0	50.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	31.6	20.1		31.6	20.1		20.2	50.5	50.5	29.9	59.9	59.9
Actuated g/C Ratio	0.24	0.15		0.24	0.15		0.16	0.39	0.39	0.23	0.46	0.46
v/c Ratio	1.02	0.62		0.76	0.69		0.85	0.87	0.17	0.30	0.82	0.24
Control Delay	106.8	46.8		59.4	51.7		65.1	29.3	1.5	42.2	8.9	2.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.8	46.8		59.4	51.7		65.1	29.3	1.5	42.2	8.9	2.4
LOS	F	D		E	D		E	C	A	D	A	A
Approach Delay		71.3			54.3			31.7			10.1	
Approach LOS		E			D			C			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 85 (65%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 29.6 Intersection LOS: C
Intersection Capacity Utilization 85.3% ICU Level of Service E
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

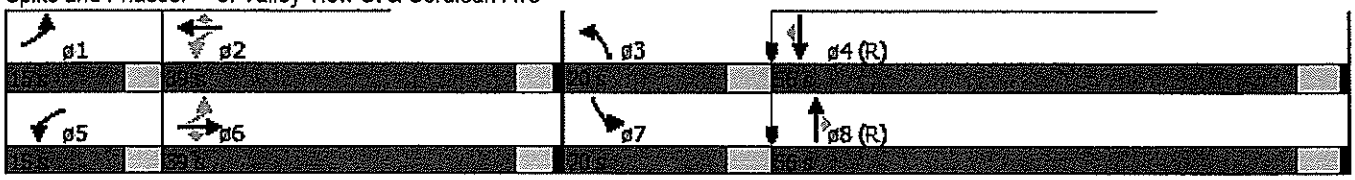


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	17	121	111	22	46	43	1908	48	22	1604	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.743			0.746			0.950			0.950		
Satd. Flow (perm)	1292	1739	1478	1297	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	40	17	121	111	22	46	43	1908	48	22	1604	22
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	46.0	35.0	35.0	46.0	35.0	35.0	16.0	52.0	52.0	16.0	52.0	52.0
Actuated g/C Ratio	0.35	0.27	0.27	0.35	0.27	0.27	0.12	0.40	0.40	0.12	0.40	0.40
v/c Ratio	0.08	0.04	0.25	0.23	0.05	0.10	0.21	1.01	0.08	0.11	0.85	0.03
Control Delay	25.9	35.5	7.5	27.9	35.7	1.3	54.3	60.8	1.7	70.6	22.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	35.5	7.5	27.9	35.7	1.3	54.3	60.8	1.7	70.6	22.8	0.4
LOS	C	D	A	C	D	A	D	E	A	E	C	A
Approach Delay		14.3			22.0			59.3			23.1	
Approach LOS		B			C			E			C	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 40.7 Intersection LOS: D
Intersection Capacity Utilization 63.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Valley View St & Cerulean Ave

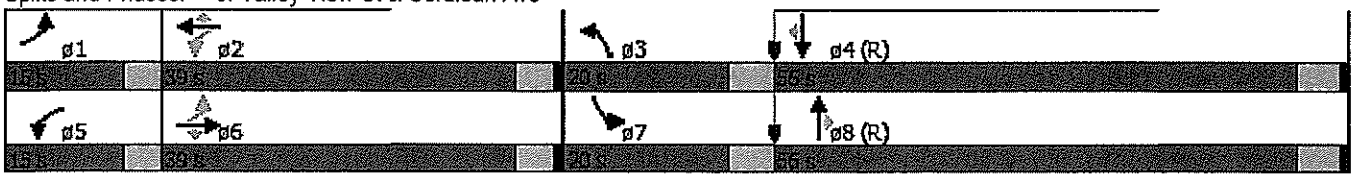


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	47	103	88	42	64	112	1844	111	66	1925	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.730			0.595			0.950			0.950		
Satd. Flow (perm)	1269	1739	1478	1034	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	56	47	103	88	42	64	112	1844	111	66	1925	34
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	21.1	11.1	11.1	22.8	14.3	14.3	14.6	83.5	83.5	11.8	77.8	77.8
Actuated g/C Ratio	0.16	0.09	0.09	0.18	0.11	0.11	0.11	0.64	0.64	0.09	0.60	0.60
v/c Ratio	0.24	0.32	0.47	0.38	0.22	0.27	0.61	0.60	0.11	0.44	0.68	0.04
Control Delay	45.8	61.7	17.3	49.2	58.1	8.1	68.1	15.7	4.2	74.8	3.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	61.7	17.3	49.2	58.1	8.1	68.1	15.7	4.2	74.8	3.2	0.0
LOS	D	E	B	D	E	A	E	B	A	E	A	A
Approach Delay		35.2			37.6			17.9			5.4	
Approach LOS		D			D			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 13.9 Intersection LOS: B
Intersection Capacity Utilization 67.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Valley View St & Cerulean Ave



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	15	0	2019	1747	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	15	0	2019	1747	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				227	481	
pX, platoon unblocked	0.78	0.76	0.76			
vC, conflicting volume	2428	591	1764			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	917			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	802	828	565			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	15	673	673	673	699	699	366
Volume Left	0	0	0	0	0	0	0
Volume Right	15	0	0	0	0	0	17
cSH	828	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.40	0.40	0.40	0.41	0.41	0.22
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.4	0.0			0.0		
Approach LOS	A						

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	25	0	1919	2112	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	25	0	1919	2112	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				223	485	
pX, platoon unblocked	0.83	0.68	0.68			
vC, conflicting volume	2769	722	2147			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1055			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	852	741	448			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	25	640	640	640	845	845	457
Volume Left	0	0	0	0	0	0	0
Volume Right	25	0	0	0	0	0	35
cSH	741	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.38	0.38	0.38	0.50	0.50	0.27
Queue Length 95th (ft)	3	0	0	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.0	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Opening Day Conditions
2020

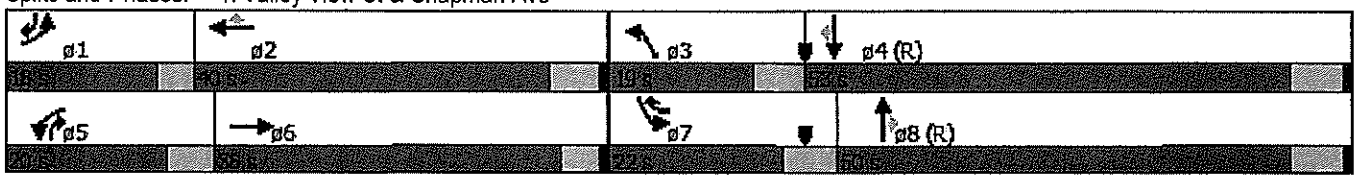
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	186	57	173	112	137	68	1847	96	110	1465	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3188	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3188	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30				119			67			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			481			417	
Travel Time (s)		14.4			14.5			8.2			7.1	
Lane Group Flow (vph)	68	243	0	173	112	137	68	1847	96	110	1465	18
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.38	0.29		0.40	0.12	0.19	0.32	0.97	0.12	0.44	0.72	0.02
Control Delay	60.9	34.6		55.7	35.8	5.7	57.4	55.5	6.6	57.3	37.1	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	34.6		55.7	35.8	5.7	57.4	55.5	6.6	57.3	37.1	0.1
LOS	E	C		E	D	A	E	E	A	E	D	A
Approach Delay		40.3			34.2			53.2			38.1	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 43 (33%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 44.9 Intersection LOS: D
Intersection Capacity Utilization 70.9% ICU Level of Service C
Analysis Period (min) 15
Description: Chapman Ave.

* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave



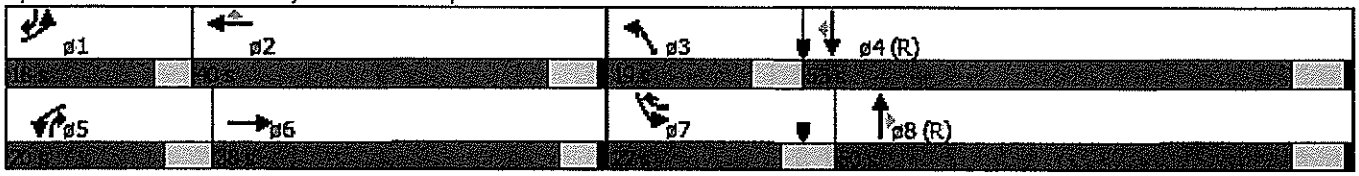
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	202	106	200	228	161	153	1629	182	181	1820	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3131	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3131	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				62			69			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			485			417	
Travel Time (s)		14.4			14.5			8.3			7.1	
Lane Group Flow (vph)	122	308	0	200	228	161	153	1629	182	181	1820	47
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.69	0.36		0.47	0.25	0.23	0.73	0.85	0.23	0.72	0.89	0.06
Control Delay	76.3	31.1		56.9	37.6	14.3	75.7	44.2	11.6	70.2	44.9	1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.3	31.1		56.9	37.6	14.3	75.7	44.2	11.6	70.2	44.9	1.9
LOS	E	C		E	D	B	E	D	B	E	D	A
Approach Delay		43.9			37.8			43.7			46.2	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 37 (28%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 44.0 Intersection LOS: D
Intersection Capacity Utilization 74.3% ICU Level of Service D
Analysis Period (min) 15
Description: Chapman Ave.

* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave

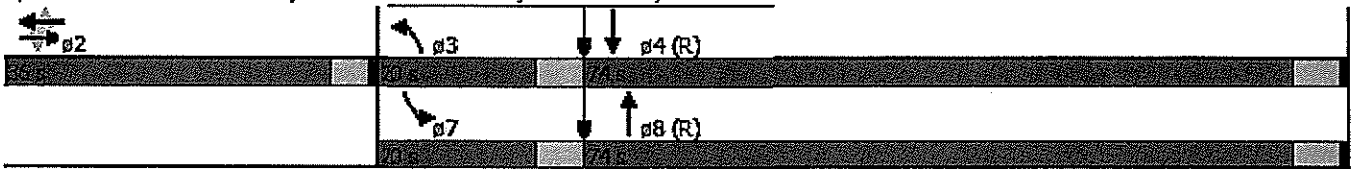


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	0	4	2	0	0	10	1999	3	65	1651	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1571	0	0	1652	0	1652	4746	0	1652	4746	0
Flt Permitted		0.954			0.753		0.950			0.950		
Satd. Flow (perm)	0	1531	0	0	1309	0	1652	4746	0	1652	4746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62										
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		221			105			422			227	
Travel Time (s)		5.0			2.4			7.2			3.9	
Lane Group Flow (vph)	0	7	0	0	2	0	10	2002	0	65	1652	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.02			0.01		0.05	0.78		0.32	0.65	
Control Delay		0.1			37.0		72.9	3.6		66.3	10.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.1			37.0		72.9	3.6		66.3	10.2	
LOS		A			D		E	A		E	B	
Approach Delay		0.1			37.0			4.0			12.3	
Approach LOS		A			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 30 (23%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 7.8 Intersection LOS: A
Intersection Capacity Utilization 65.4% ICU Level of Service C
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

Splits and Phases: 2: Valley View St & Cinema dwy/US Bank dwy

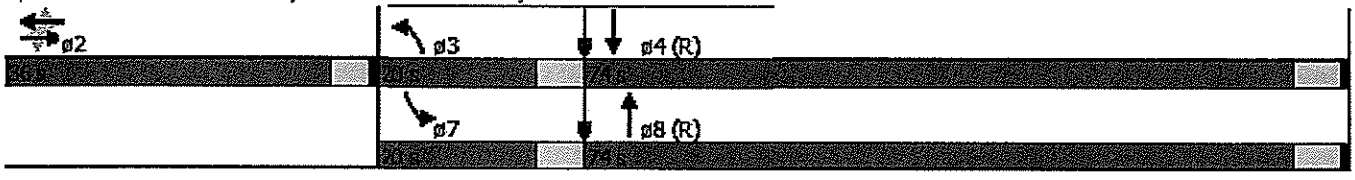


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	0	8	2	0	0	20	1916	8	56	2100	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1576	0	0	1652	0	1652	4742	0	1652	4746	0
Flt Permitted		0.934			0.748		0.950			0.950		
Satd. Flow (perm)	0	1507	0	0	1300	0	1652	4742	0	1652	4746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62						1				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		254			133			422			223	
Travel Time (s)		5.8			3.0			7.2			3.8	
Lane Group Flow (vph)	0	15	0	0	2	0	20	1924	0	56	2106	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.04			0.01		0.10	0.75		0.28	0.82	
Control Delay		0.1			37.0		72.3	2.6		63.7	15.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.1			37.0		72.3	2.6		63.7	15.0	
LOS		A			D		E	A		E	B	
Approach Delay		0.1			37.0			3.3			16.2	
Approach LOS		A			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 26 (20%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 10.1 Intersection LOS: B
Intersection Capacity Utilization 61.5% ICU Level of Service B
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

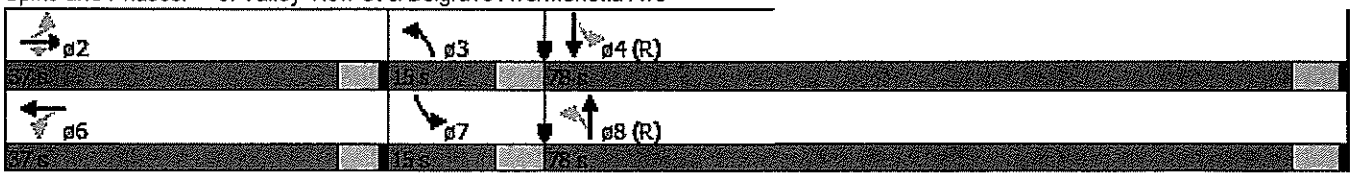
Splits and Phases: 2: Valley View St & Cinema dwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	2	43	5	0	4	33	1992	6	8	1629	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1674	1478	0	1590	0	1652	4746	0	1652	4746	0
Flt Permitted		0.895			0.929		0.095			0.055		
Satd. Flow (perm)	0	1556	1478	0	1518	0	165	4746	0	96	4746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		62			1			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		575			159			1322			422	
Travel Time (s)		13.1			3.6			22.5			7.2	
Lane Group Flow (vph)	0	9	43	0	9	0	33	1998	0	8	1634	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.02	0.10		0.02		0.14	0.74		0.04	0.60	
Control Delay		37.1	4.8		0.1		10.2	35.5		0.4	0.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		37.1	4.8		0.1		10.2	35.5		0.4	0.9	
LOS		D	A		A		B	D		A	A	
Approach Delay		10.4			0.1			35.1			0.9	
Approach LOS		B			A			D			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 33 (25%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green			
Control Type: Pretimed			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

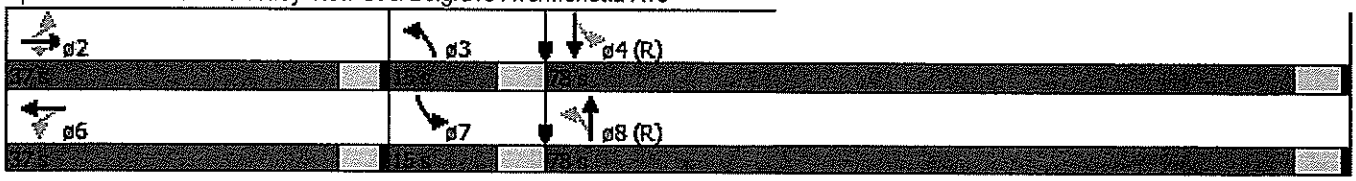


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	1	28	5	1	3	73	1887	7	5	2079	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1662	1478	0	1615	0	1652	4742	0	1652	4742	0
Flt Permitted		0.861			0.928		0.055			0.061		
Satd. Flow (perm)	0	1497	1478	0	1541	0	96	4742	0	106	4742	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		3			1			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		574			188			1322			422	
Travel Time (s)		13.0			4.3			22.5			7.2	
Lane Group Flow (vph)	0	12	28	0	9	0	73	1894	0	5	2099	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.03	0.07		0.02		0.38	0.70		0.03	0.78	
Control Delay		37.2	0.8		30.4		15.5	30.1		0.2	1.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay		37.2	0.8		30.4		15.5	30.1		0.2	1.4	
LOS		D	A		C		B	C		A	A	
Approach Delay		11.8			30.4			29.5			1.4	
Approach LOS		B			C			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 15.0 Intersection LOS: B
Intersection Capacity Utilization 67.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

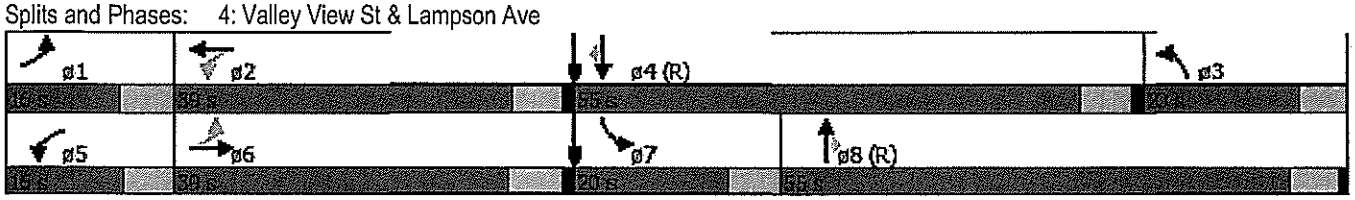


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	130	122	115	142	68	96	1795	70	84	1443	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3062	0	1652	3141	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.463			0.376			0.950			0.950		
Satd. Flow (perm)	805	3062	0	654	3141	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		122			60				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	124	252	0	115	210	0	96	1795	70	84	1443	141
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		20.0	55.0	55.0	20.0	55.0	55.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	25.1	13.7		24.8	13.6		15.2	73.9	73.9	13.2	71.6	71.6
Actuated g/C Ratio	0.19	0.11		0.19	0.10		0.12	0.57	0.57	0.10	0.55	0.55
v/c Ratio	0.54	0.58		0.55	0.55		0.50	0.67	0.08	0.50	0.55	0.16
Control Delay	51.0	33.6		51.5	44.5		45.4	19.5	3.0	87.5	2.7	1.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	33.6		51.5	44.5		45.4	19.5	3.0	87.5	2.7	1.2
LOS	D	C		D	D		D	B	A	F	A	A
Approach Delay		39.3			47.0			20.2			6.8	
Approach LOS		D			D			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 90 (69%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 74.7% ICU Level of Service D
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

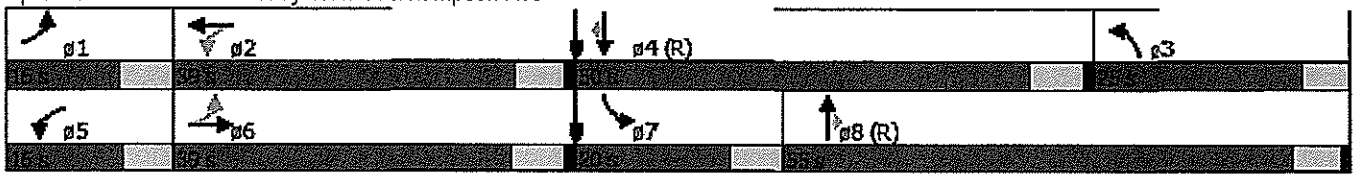


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	223	230	107	185	264	101	221	1621	114	107	1823	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3145	0	1652	3165	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.294			0.334			0.950			0.950		
Satd. Flow (perm)	511	3145	0	581	3165	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			42				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	223	337	0	185	365	0	221	1621	114	107	1823	173
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		25.0	55.0	55.0	20.0	50.0	50.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	31.7	20.2		31.7	20.2		20.2	50.5	50.5	29.8	59.8	59.8
Actuated g/C Ratio	0.24	0.16		0.24	0.16		0.16	0.39	0.39	0.23	0.46	0.46
v/c Ratio	0.99	0.63		0.78	0.69		0.86	0.88	0.18	0.28	0.84	0.23
Control Delay	99.6	47.0		61.8	52.5		66.8	29.6	1.5	42.6	9.0	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.6	47.0		61.8	52.5		66.8	29.6	1.5	42.6	9.0	2.3
LOS	F	D		E	D		E	C	A	D	A	A
Approach Delay		68.0			55.6			32.2			10.1	
Approach LOS		E			E			C			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 85 (65%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 29.6 Intersection LOS: C
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

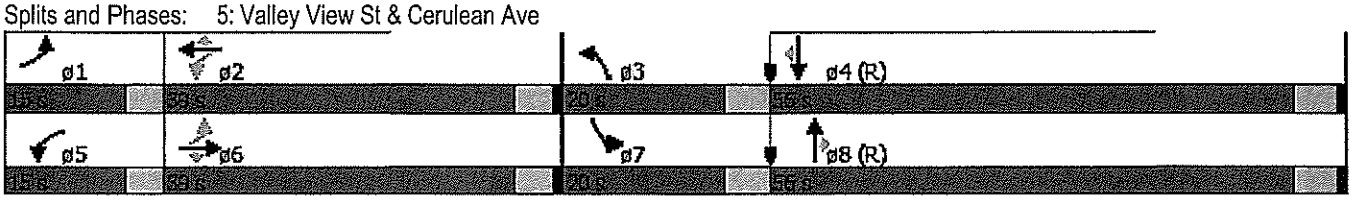


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	17	123	113	22	45	44	1944	49	20	1635	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.743			0.746			0.950			0.950		
Satd. Flow (perm)	1292	1739	1478	1297	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	39	17	123	113	22	45	44	1944	49	20	1635	20
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	46.0	35.0	35.0	46.0	35.0	35.0	16.0	52.0	52.0	16.0	52.0	52.0
Actuated g/C Ratio	0.35	0.27	0.27	0.35	0.27	0.27	0.12	0.40	0.40	0.12	0.40	0.40
v/c Ratio	0.08	0.04	0.25	0.23	0.05	0.10	0.22	1.02	0.08	0.10	0.86	0.03
Control Delay	25.9	35.5	7.5	28.0	35.7	1.0	54.5	65.6	1.8	71.3	23.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	35.5	7.5	28.0	35.7	1.0	54.5	65.6	1.8	71.3	23.4	0.3
LOS	C	D	A	C	D	A	D	E	A	E	C	A
Approach Delay		14.2			22.2			63.8			23.7	
Approach LOS		B			C			E			C	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 43.3 Intersection LOS: D
Intersection Capacity Utilization 64.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Valley View St & Cerulean Ave

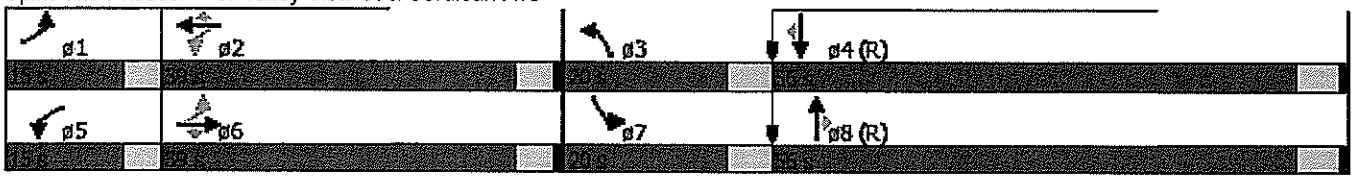


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	48	105	90	43	61	114	1878	113	63	1960	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.729			0.590			0.950			0.950		
Satd. Flow (perm)	1267	1739	1478	1026	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	53	48	105	90	43	61	114	1878	113	63	1960	31
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	21.1	11.2	11.2	22.9	14.4	14.4	14.8	83.6	83.6	11.7	77.6	77.6
Actuated g/C Ratio	0.16	0.09	0.09	0.18	0.11	0.11	0.11	0.64	0.64	0.09	0.60	0.60
v/c Ratio	0.23	0.32	0.47	0.39	0.22	0.25	0.61	0.62	0.12	0.43	0.69	0.03
Control Delay	45.5	61.7	17.3	49.3	58.0	7.5	68.1	15.9	4.3	74.3	3.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	61.7	17.3	49.3	58.0	7.5	68.1	15.9	4.3	74.3	3.2	0.0
LOS	D	E	B	D	E	A	E	B	A	E	A	A
Approach Delay		34.9			38.1			18.1			5.4	
Approach LOS		C			D			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 14.0 Intersection LOS: B
Intersection Capacity Utilization 67.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Valley View St & Cerulean Ave



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	5	0	2002	1740	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	5	0	2002	1740	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				227	481	
pX, platoon unblocked	0.78	0.77	0.77			
vC, conflicting volume	2410	582	1745			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	901			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	798	830	574			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	667	667	667	696	696	353
Volume Left	0	0	0	0	0	0	0
Volume Right	5	0	0	0	0	0	5
cSH	830	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.39	0.39	0.39	0.41	0.41	0.21
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.4	0.0			0.0		
Approach LOS	A						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	6	0	1923	2136	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	6	0	1923	2136	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				223	485	
pX, platoon unblocked	0.83	0.68	0.68			
vC, conflicting volume	2784	718	2149			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1028			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	853	734	454			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	641	641	641	854	854	440
Volume Left	0	0	0	0	0	0	0
Volume Right	6	0	0	0	0	0	13
cSH	734	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.38	0.38	0.38	0.50	0.50	0.26
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.9	0.0			0.0		
Approach LOS	A						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Opening Day Conditions + Project Traffic
2020

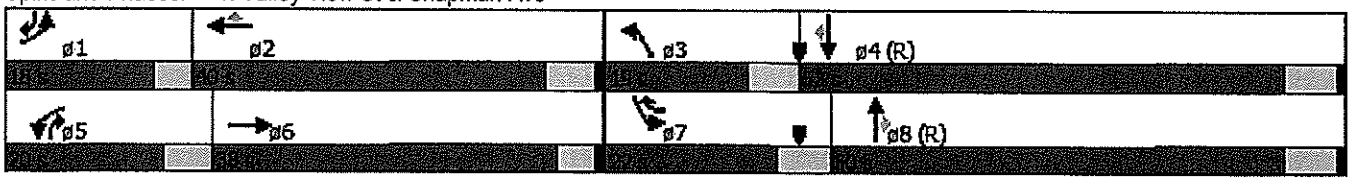
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	186	62	179	112	137	73	1854	101	110	1473	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3178	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3178	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34				119			67			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			481			417	
Travel Time (s)		14.4			14.5			8.2			7.1	
Lane Group Flow (vph)	68	248	0	179	112	137	73	1854	101	110	1473	18
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.38	0.29		0.42	0.12	0.19	0.35	0.97	0.13	0.44	0.72	0.02
Control Delay	60.9	34.1		56.0	35.8	5.7	58.0	56.1	7.1	57.3	37.2	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	34.1		56.0	35.8	5.7	58.0	56.1	7.1	57.3	37.2	0.1
LOS	E	C		E	D	A	E	E	A	E	D	A
Approach Delay		39.9			34.6			53.8			38.2	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 43 (33%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 45.2 Intersection LOS: D
Intersection Capacity Utilization 71.4% ICU Level of Service C
Analysis Period (min) 15
Description: Chapman Ave.

* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave



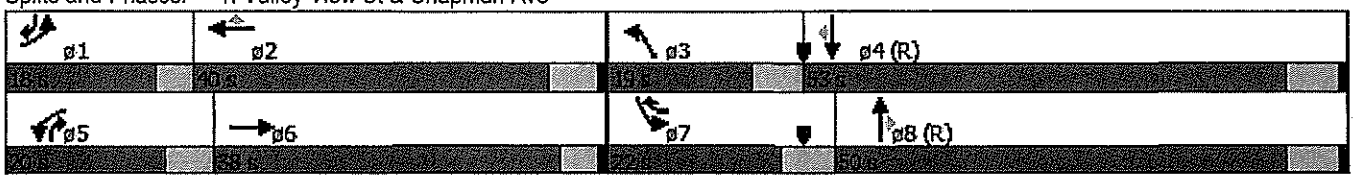
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	202	118	213	228	161	164	1643	193	181	1835	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	170		140	165		75	180		80
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3122	0	*3500	3303	1478	*1800	*5400	1478	*1800	*5400	1478
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1652	3122	0	3204	3303	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88				62			72			67
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		633			640			485			417	
Travel Time (s)		14.4			14.5			8.3			7.1	
Lane Group Flow (vph)	122	320	0	213	228	161	164	1643	193	181	1835	47
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2	7	3	8	5	7	4	1
Permitted Phases						2			8			4
Total Split (s)	18.0	38.0		20.0	40.0	22.0	19.0	50.0	20.0	22.0	53.0	18.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	14.0	33.8		16.0	35.8	58.0	15.2	46.0	66.0	18.2	49.0	67.0
Actuated g/C Ratio	0.11	0.26		0.12	0.28	0.45	0.12	0.35	0.51	0.14	0.38	0.52
v/c Ratio	0.69	0.37		0.50	0.25	0.23	0.78	0.86	0.25	0.72	0.90	0.06
Control Delay	76.3	29.4		57.6	37.6	14.3	80.7	44.6	11.9	70.2	45.5	1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.3	29.4		57.6	37.6	14.3	80.7	44.6	11.9	70.2	45.5	1.9
LOS	E	C		E	D	B	F	D	B	E	D	A
Approach Delay		42.4			38.4			44.4			46.7	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 37 (28%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 44.5 Intersection LOS: D
Intersection Capacity Utilization 75.6% ICU Level of Service D
Analysis Period (min) 15
Description: Chapman Ave.

* User Entered Value

Splits and Phases: 1: Valley View St & Chapman Ave

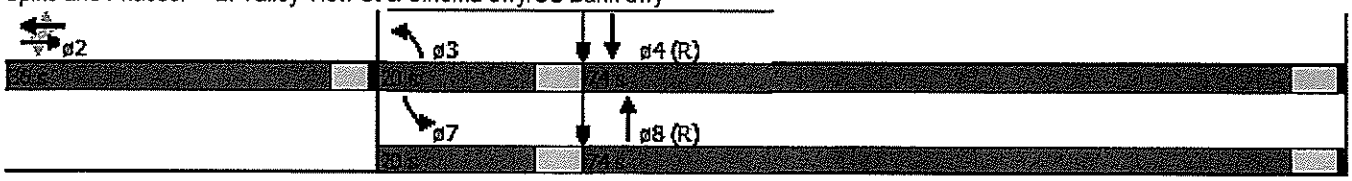


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	0	20	2	0	0	39	1999	3	65	1651	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1597	0	0	1652	0	1652	4746	0	1652	4737	0
Flt Permitted		0.865			0.744		0.950			0.950		
Satd. Flow (perm)	0	1423	0	0	1293	0	1652	4746	0	1652	4737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62									2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		221			105			422			227	
Travel Time (s)		5.0			2.4			7.2			3.9	
Lane Group Flow (vph)	0	50	0	0	2	0	39	2002	0	65	1669	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.13			0.01		0.19	0.78		0.32	0.65	
Control Delay		7.3			37.0		74.2	3.8		66.1	10.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		7.3			37.0		74.2	3.8		66.1	10.4	
LOS		A			D		E	A		E	B	
Approach Delay		7.3			37.0			5.2			12.5	
Approach LOS		A			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 30 (23%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 65.4% ICU Level of Service C
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

Splits and Phases: 2: Valley View St & Cinema dwy/US Bank dwy

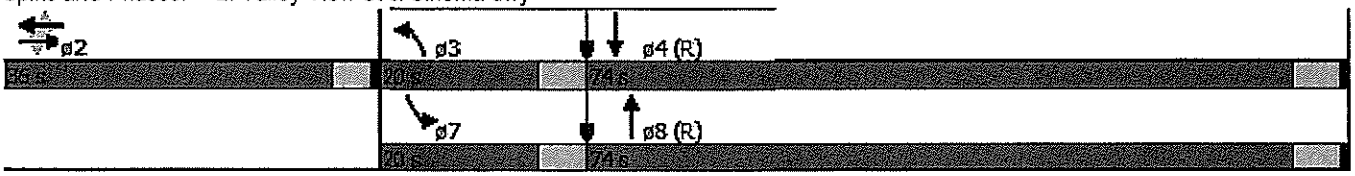


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	0	38	2	0	0	77	1900	8	56	2105	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		0	125		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1597	0	0	1652	0	1652	4742	0	1652	4732	0
Flt Permitted		0.839			0.689		0.950			0.950		
Satd. Flow (perm)	0	1380	0	0	1198	0	1652	4742	0	1652	4732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62						1			3	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		254			133			422			223	
Travel Time (s)		5.8			3.0			7.2			3.8	
Lane Group Flow (vph)	0	95	0	0	2	0	77	1908	0	56	2144	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			2		3	8		7	4	
Permitted Phases	2			2								
Total Split (s)	36.0	36.0		36.0	36.0		20.0	74.0		20.0	74.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.0			32.0		16.0	70.0		16.0	70.0	
Actuated g/C Ratio		0.25			0.25		0.12	0.54		0.12	0.54	
v/c Ratio		0.25			0.01		0.38	0.75		0.28	0.84	
Control Delay		17.8			37.0		77.2	2.8		63.0	15.8	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		17.8			37.0		77.2	2.8		63.0	15.8	
LOS		B			D		E	A		E	B	
Approach Delay		17.8			37.0			5.7			17.0	
Approach LOS		B			D			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 26 (20%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 11.8 Intersection LOS: B
Intersection Capacity Utilization 68.2% ICU Level of Service C
Analysis Period (min) 15
Description: 4 Stars Cinema Driveway

Splits and Phases: 2: Valley View St & Cinema dwy

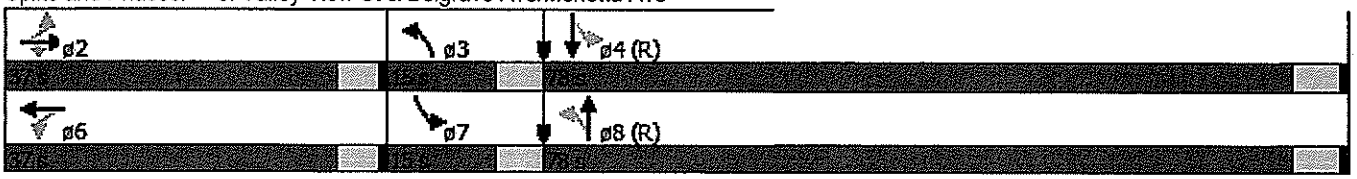


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	2	43	5	0	6	33	2005	6	10	1640	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1667	1478	0	1574	0	1652	4746	0	1652	4742	0
Flt Permitted		0.869			0.939		0.092			0.055		
Satd. Flow (perm)	0	1511	1478	0	1512	0	160	4746	0	96	4742	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		62			1			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		575			159			1322			422	
Travel Time (s)		13.1			3.6			22.5			7.2	
Lane Group Flow (vph)	0	13	43	0	11	0	33	2011	0	10	1648	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.03	0.10		0.03		0.14	0.74		0.05	0.61	
Control Delay		37.3	4.8		0.1		10.2	35.7		0.5	1.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		37.3	4.8		0.1		10.2	35.7		0.5	1.1	
LOS		D	A		A		B	D		A	A	
Approach Delay		12.3			0.1			35.2			1.1	
Approach LOS		B			A			D			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 19.8 Intersection LOS: B
Intersection Capacity Utilization 59.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

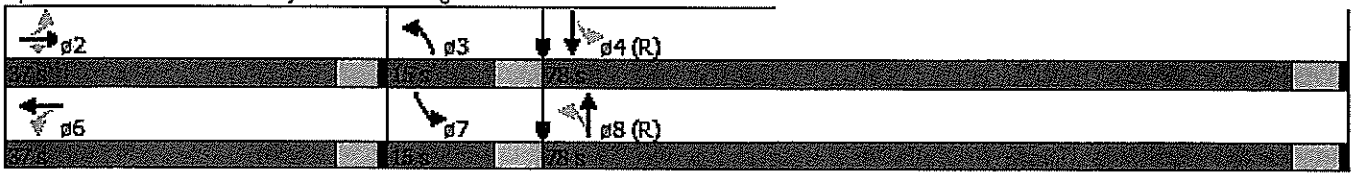


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	1	28	5	1	7	73	1916	7	9	2104	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	130		0	110		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1660	1478	0	1581	0	1652	4742	0	1652	4737	0
Flt Permitted		0.826			0.946		0.055			0.058		
Satd. Flow (perm)	0	1436	1478	0	1525	0	96	4742	0	101	4737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			62		7			1			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		574			188			1322			422	
Travel Time (s)		13.0			4.3			22.5			7.2	
Lane Group Flow (vph)	0	20	28	0	13	0	73	1923	0	9	2131	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Total Split (s)	37.0	37.0	37.0	37.0	37.0		15.0	78.0		15.0	78.0	
Total Lost Time (s)		4.4	4.4		4.4		4.0	4.0		4.0	4.0	
Act Effct Green (s)		32.6	32.6		32.6		85.0	74.0		85.0	74.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.65	0.57		0.65	0.57	
v/c Ratio		0.06	0.07		0.03		0.38	0.71		0.05	0.79	
Control Delay		37.7	0.8		25.5		15.5	30.1		0.6	1.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.2	
Total Delay		37.7	0.8		25.5		15.5	30.1		0.6	1.9	
LOS		D	A		C		B	C		A	A	
Approach Delay		16.2			25.5			29.6			1.9	
Approach LOS		B			C			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 15.3 Intersection LOS: B
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Valley View St & Belgrave Ave/Merietta Ave

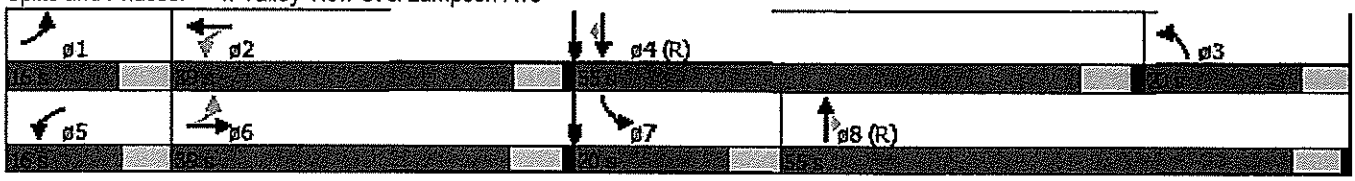


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	130	122	115	142	71	96	1801	70	87	1448	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3062	0	1652	3138	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.456			0.376			0.950			0.950		
Satd. Flow (perm)	793	3062	0	654	3138	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		122			65				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	128	252	0	115	213	0	96	1801	70	87	1448	144
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		20.0	55.0	55.0	20.0	55.0	55.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	25.0	13.7		24.8	13.6		15.2	73.7	73.7	13.4	71.6	71.6
Actuated g/C Ratio	0.19	0.11		0.19	0.10		0.12	0.57	0.57	0.10	0.55	0.55
v/c Ratio	0.56	0.58		0.55	0.55		0.50	0.67	0.08	0.51	0.55	0.17
Control Delay	52.0	33.6		51.5	43.4		45.6	19.6	3.1	86.4	2.8	1.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	33.6		51.5	43.4		45.6	19.6	3.1	86.4	2.8	1.2
LOS	D	C		D	D		D	B	A	F	A	A
Approach Delay		39.8			46.3			20.3			7.0	
Approach LOS		D			D			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 90 (69%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 74.8% ICU Level of Service D
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

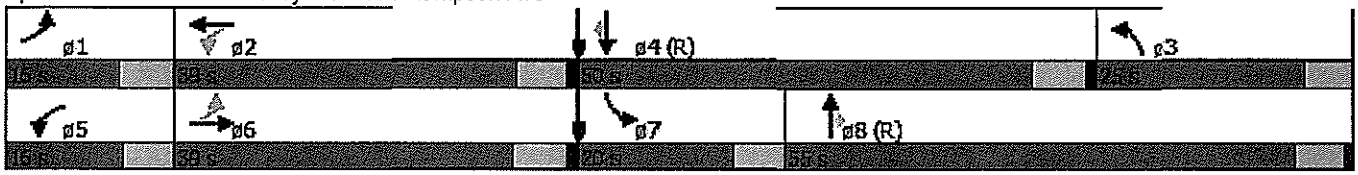


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	232	230	107	185	264	110	221	1633	114	114	1834	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	155		0	205		130	140		85
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	3145	0	1652	3158	0	1652	4746	1478	1652	4746	1478
Flt Permitted	0.285			0.337			0.950			0.950		
Satd. Flow (perm)	495	3145	0	586	3158	0	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			48				114			119
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1137			350			1122			1322	
Travel Time (s)		25.8			8.0			19.1			22.5	
Lane Group Flow (vph)	232	337	0	185	374	0	221	1633	114	114	1834	180
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2					8			4
Total Split (s)	16.0	39.0		16.0	39.0		25.0	55.0	55.0	20.0	50.0	50.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.8	4.5	4.5	4.5	4.5	4.5
Act Effct Green (s)	31.9	20.4		31.9	20.4		20.2	50.5	50.5	29.6	59.6	59.6
Actuated g/C Ratio	0.25	0.16		0.25	0.16		0.16	0.39	0.39	0.23	0.46	0.46
v/c Ratio	1.04	0.62		0.78	0.70		0.86	0.89	0.18	0.30	0.84	0.24
Control Delay	111.3	46.7		61.0	51.8		66.7	30.1	1.5	42.1	9.9	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.3	46.7		61.0	51.8		66.7	30.1	1.5	42.1	9.9	2.5
LOS	F	D		E	D		E	C	A	D	A	A
Approach Delay		73.0			54.8			32.5			11.0	
Approach LOS		E			D			C			B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 85 (65%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 30.5 Intersection LOS: C
Intersection Capacity Utilization 86.6% ICU Level of Service E
Analysis Period (min) 15
Description: Lampson Ave.

Splits and Phases: 4: Valley View St & Lampson Ave

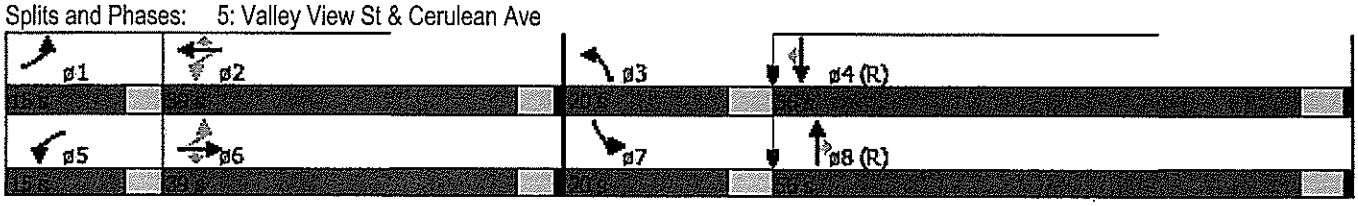


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	17	123	113	22	47	44	1946	49	22	1636	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.743			0.746			0.950			0.950		
Satd. Flow (perm)	1292	1739	1478	1297	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	41	17	123	113	22	47	44	1946	49	22	1636	22
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	46.0	35.0	35.0	46.0	35.0	35.0	16.0	52.0	52.0	16.0	52.0	52.0
Actuated g/C Ratio	0.35	0.27	0.27	0.35	0.27	0.27	0.12	0.40	0.40	0.12	0.40	0.40
v/c Ratio	0.08	0.04	0.25	0.23	0.05	0.10	0.22	1.03	0.08	0.11	0.86	0.03
Control Delay	26.0	35.5	7.5	28.0	35.7	1.5	54.5	65.9	1.8	70.7	23.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	35.5	7.5	28.0	35.7	1.5	54.5	65.9	1.8	70.7	23.6	0.4
LOS	C	D	A	C	D	A	D	E	A	E	C	A
Approach Delay		14.3			22.1			64.1			23.9	
Approach LOS		B			C			E			C	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green
Control Type: Pretimed
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 43.5 Intersection LOS: D
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15

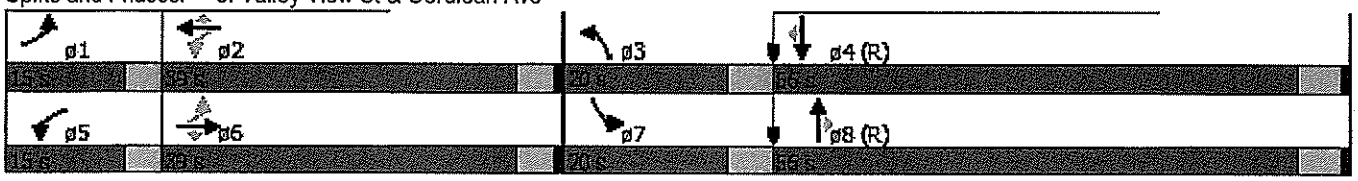
Splits and Phases: 5: Valley View St & Cerulean Ave

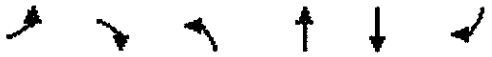


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	48	105	90	43	65	114	1881	113	67	1963	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		70	115		70	165		85	180		85
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1652	1739	1478	1652	1739	1478	1652	4746	1478	1652	4746	1478
Flt Permitted	0.729			0.595			0.950			0.950		
Satd. Flow (perm)	1267	1739	1478	1034	1739	1478	1652	4746	1478	1652	4746	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			86			80			80
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		687			379			648			1122	
Travel Time (s)		15.6			8.6			11.0			19.1	
Lane Group Flow (vph)	57	48	105	90	43	65	114	1881	113	67	1963	35
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	20.0	56.0	56.0	20.0	56.0	56.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	21.2	11.2	11.2	22.9	14.3	14.3	14.8	83.4	83.4	11.9	77.6	77.6
Actuated g/C Ratio	0.16	0.09	0.09	0.18	0.11	0.11	0.11	0.64	0.64	0.09	0.60	0.60
v/c Ratio	0.24	0.32	0.47	0.39	0.23	0.27	0.61	0.62	0.12	0.45	0.69	0.04
Control Delay	45.8	61.7	17.3	49.3	58.0	8.4	68.1	16.1	4.3	74.6	3.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	61.7	17.3	49.3	58.0	8.4	68.1	16.1	4.3	74.6	3.2	0.1
LOS	D	E	B	D	E	A	E	B	A	E	A	A
Approach Delay		35.2			37.8			18.2			5.5	
Approach LOS		D			D			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 103 (79%), Referenced to phase 4:SBT and 8:NBT, Start of 1st Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.1		Intersection LOS: B	
Intersection Capacity Utilization 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Valley View St & Cerulean Ave





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	15	0	2019	1747	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	15	0	2019	1747	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				227	481	
pX, platoon unblocked	0.78	0.76	0.76			
vC, conflicting volume	2428	591	1764			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	917			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	802	828	565			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	15	673	673	673	699	699	366
Volume Left	0	0	0	0	0	0	0
Volume Right	15	0	0	0	0	0	17
cSH	828	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.40	0.40	0.40	0.41	0.41	0.22
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.4	0.0			0.0		
Approach LOS	A						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	25	0	1957	2154	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	25	0	1957	2154	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				223	485	
pX, platoon unblocked	0.83	0.67	0.67			
vC, conflicting volume	2824	736	2189			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1067			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	847	730	437			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	25	652	652	652	862	862	466
Volume Left	0	0	0	0	0	0	0
Volume Right	25	0	0	0	0	0	35
cSH	730	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.38	0.38	0.38	0.51	0.51	0.27
Queue Length 95th (ft)	3	0	0	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.1	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		