

Local Mobility Analysis  
Clairemont Village  
City of San Diego

PTS # 697307



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## 1.0 EXECUTIVE SUMMARY

Urban Systems Associates, Inc (USAI) has prepared this Local Mobility Analysis to determine potential transportation effects and appropriate improvements for the proposed 224-unit apartments located in the City of San Diego, Clairemont Mesa Community Plan Area.

The project is located at 3001 through 3089 Clairemont Drive in San Diego (APN 425-680-09 and 425-680-10). The 12.96-acre Clairemont Village Shopping Center is bounded by multi-family residences to the north, Cowley Way to the east, Field Street to the south, Burgener Boulevard to the southwest, and Clairemont Drive to the northwest.

The project will entail redevelopment of a small portion of the existing shopping center into a 314,901-square-foot, 5-story multi-family residential apartment project with 224-units (including 23 affordable units at 60% AMI) over 2 levels of parking. A minimum of 342 parking spaces will be provided within the parking garage consisting of one partially below-grade level and one at-grade level of the structure. In addition, 43 existing retail parking spaces will be shared between the existing retail use and residents and their guests between the hours of 6 PM and 9 AM. A minimum of 385 parking spaces are required and will be provided for residential use with this shared parking. Access to the apartment parking garage will be provided via an existing driveway along Field Street and an existing driveway on Cowley Way. The project will include demolition of approximately 3,770 square feet (SF) of retail commercial space, leaving 120,313 SF of existing community retail to remain.

The Project site has a General Plan land use designation of Commercial Employment, Retail, and Services (Community Commercial), and is part of the Clairemont Mesa Community. The

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Clairemont Mesa Community Plan designates the entire 12.96-acre site to be within Community Plan Implementation Overlay Zone (CPIOZ) - Type B. The property is zoned CC-1-3, which permits residential development at a density of 1 unit per 1500 SF of lot area (SDMC Section 131.0531, Table 131-05E). This would allow for up to 376 units on the 12.96-acre property.

The proposed project will require a Neighborhood Development Permit, Site Development Permit, and Easement Vacation. Currently: (1) This site is governed by PCD No. 39 recorded January 13, 1978 as Instrument No. 78-017032. (2) the Community Plan Implementation Overlay Zone Permit No. 90-0830 was recorded June 7, 1991 as Instrument No. 91-0274137. Both of these documents are proposed to be rescinded with the current project approval.

The proposed project is expected to generate **1,792** average daily trips with **143** AM (**29** in and **119** out) peak hour trips and **179** PM (**125** in and **54** out) peak hour trips.

## 1.1 Study Results

Results for this study are shown in the proceeding summary tables:

**Table 1-1, and 1-2** show a summary of the street segment analysis in the Existing and Opening Year 2026 conditions.

**Table 1-1: Existing Street Segments**

Road	Segment	Standard	# of Ln.	Roadway Classification	Capacity	Volume	V/C	LOS
Burgener Blvd	Clairemont Dr. to Field St.	SD	2	2-C (w/ TWLTL)	15,000	10,595	0.706	D
Field Street	Fairfield St. to Burgener Blvd.	SD	2	2-C (w/o TWLTL)	8,000	8,786	1.098	F
Field Street	Burgener Blvd. to Cowley Wy.	SD	2	2-C (w/o fronting property)	10,000	8,786	0.879	D
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	SD	2	2-C (w/o TWLTL)	8,000	2,230	0.279	A
Iroquois Ave.	Clairemont Dr. to Cowley Way	SD	2	2-C (w/o TWLTL)	8,000	3,404	0.426	B
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	SD	4	4-C (w/ TWLTL)	30,000	16,609	0.554	C

**Legend:**

- LOS = Level of Service
- V/C = Volume to Capacity Ratio
- 4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane
- 2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane
- 2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane
- 2-C (w/o fronting property) = 2-Lane Collector with no fronting property

Date of counts: June 29, 2021, volumes for Clairemont Drive (Burgener Blvd to Iroquois Ave) obtained from 2017 Clairemont Mesa CPU

**Table 1-2: Opening Year 2026 and Opening Year 2026 Plus Project Street Segments**

Road	Segment	# of Ln.	Capacity	Roadway Classification	Opening Year 2026			Opening Year 2026 + Project					
					LOS	Volume	V/C	LOS	Volume	V/C	Project ADT Added	% of Project Traffic Over Total Daily Traffic	I ?
Burgener Blvd	Clairemont Dr. to Field St.	2	15,000	2-C (w/ TWLTL)	D	12,502	0.83	E	13,398	0.89	896	7%	No
Field Street	Fairfield St. to Burgener Blvd.	2	8,000	2-C (w/o TWLTL)	F	10,368	1.30	F	10,368	1.30	0	0%	No
Field Street	Burgener Blvd. to Cowley Wy.	2	10,000	2-C (w/o fronting property)	F	10,368	1.04	F	11,353	1.14	986	10%	No
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	2	8,000	2-C (w/o TWLTL)	B	2,632	0.33	C	3,528	0.44	896	34%	No
Iroquois Ave.	Clairemont Dr. to Cowley Way	2	8,000	2-C (w/o TWLTL)	C	4,017	0.50	C	4,555	0.57	538	13%	No
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	4	30,000	4-C (w/ TWLTL)	C	19,598	0.65	C	19,688	0.66	90	0%	No

**Legend:**

- LOS= Level of Service
- V/C= Volume to Capacity Ratio
- ΔV/C= Change in V/C ratio
- 4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane
- 2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane
- 2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane
- 2-C (w/o fronting property) = 2-Lane Collector with no fronting property
- I = Improvement Required

Table 1-3, and 1-4 show a summary of the intersection analysis in the Existing, and Near Term (2026) conditions.

Table 1-3: Existing Intersections

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Clairemont Dr. / Burgener Blvd.	Signalized	15.1	B	17.5	B
2	Field St. / Burgener Blvd.	All-Way Stop	11.2	B	14.4	B
3	Mt. Acadia Blvd. / Cowley Way.	All-Way Stop	9.8	A	13.2	B
4	Iroquois Ave. / Clairemont Dr.	Signalized	7.7	A	7.4	A
5	Iroquois Ave. / Cowley Way	All-Way Stop	7.8	A	7.9	A
6	Project Driveway / Field St.	One-Way Stop	13.2	B	13.7	B
7	Project Driveway / Cowley Way	One-Way Stop	9.1	A	9.2	A

**Notes:**

LOS = Level of Service

D = Delay (in sec.)

Table 1-4: Opening Year 2026 and Opening Year 2026 Plus Project Intersections

#	Intersection	Year 2026				Year 2026 + Project								Is the intersection within 1/2-mile path of travel of a Major Transit Stop?	Not within a 1/2-mile distance of a Major Transit Stop: Does the Project cause the intersection to degrade to LOS E or F? / Does the project add traffic to a signal already operating at LOS E or F?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		Δ	I?	PM Peak Hour		Δ	I?		
		D	LOS	D	LOS	D	LOS			D	LOS				
1	Clairemont Dr. / Burgener Blvd.	16.5	B	21.0	C	17.1	B	0.6	No	21.9	C	0.9	No	No	No
2	Field St. / Burgener Blvd.	13.1	B	19.8	C	15.0	B	1.9	No	29.5	D	9.7	No	No	No
3	Mt. Acadia Blvd. / Cowley Way.	10.9	B	18.1	C	11.2	B	0.3	No	19.4	C	1.3	No	No	No
4	Iroquois Ave. / Clairemont Dr.	7.9	A	7.6	A	8.0	A	0.1	No	7.6	A	0.0	No	No	No
5	Iroquois Ave. / Cowley Way	8.1	A	8.2	A	8.4	A	0.3	No	8.5	A	0.3	No	No	No
6	Project Driveway / Field St.	14.9	B	15.6	C	15.4	C	0.5	No	17.2	C	1.6	No	No	No
7	Project Driveway / Cowley Way	9.2	A	9.4	A	13.3	B	4.1	No	10.0	A	0.6	No	No	No

**Notes:**

LOS = Level of Service

D = Delay (in sec.)

Δ = Change in Delay (in sec.)

I = Improvement Required

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## 2.0 INTRODUCTION

Urban Systems Associates, Inc. (USAI) has produced this Local Mobility Analysis to determine the project's potential transportation effects and any appropriate improvement measures for the development of the proposed apartments located in Clairemont Mesa, San Diego, CA.

### 2.1 Project Location and Description

The project is located at the northwest corner of the intersection of Field Street / Cowley Way within the City of San Diego. The existing site is considered as "Community Retail" with residential development land use with CC-1-3 base zone within the Clairemont Mesa Community Plan area. The existing CC-1-3 zone allows mixed use of residential and community commercial. The residential development at a density of 1 unit per 1,500 S.F. (or 29 units per acre) of lot area (SDMC section 131.0531 Table 131-05E). The project lies on 12.96 acres and would allow up to 376 dwelling units. The project is proposing to provide 224 dwelling units (including 23 affordable units at 60% AMI). Access to and from the project will be on two existing driveways, one driveway is located along Field Street and is an existing driveway for the shopping center, and the other existing driveway is located along Cowley Way. A project site plan is provided on **Figure 2-1**.

The current Clairemont Mesa Community Plan Land Use figure is shown on **Figure 2-2**. The project vicinity map is shown on **Figure 2-3**.

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**Figure 2-1: Project Site Plan**

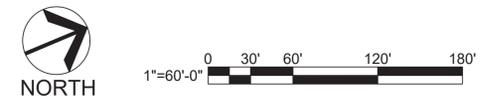
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**LEGEND**

- (E) EXISTING RETAIL
- ⊠ TRAFFIC SIGNAL
- ADA ACCESSIBILITY
- NEIGHBORHOOD CONNECTION
- ▨ AREA OF IMPACT

PROJECT DESCRIPTION		
A 5 STORY TYPE III-A RESIDENTIAL BUILDING CONSISTING OF 224 UNITS OVER 2 STORY TYPE I PARKING STRUCTURE WITH 342 PARKING STALLS		
GROSS SITE AREA:	564,537 S.F.	12.96 ACRES
TOTAL UNITS:		224 UNITS
GROSS DENSITY:		17.28 DU/AC
EXISTING RETAIL AREA:		124,083 S.F.
EXISTING RETAIL PARKING PROVIDED:		666 STALLS
EXISTING RETAIL PARKING RATIO:		5.37
REMAINING RETAIL AREA:		120,313 S.F.
REMAINING RETAIL PARKING PROVIDED:		516 STALLS
REMAINING RETAIL PARKING RATIO:		4.29
PROPOSED APARTMENT PARKING:		342 STALLS
PROPOSED TOTAL PARKING:		858 STALLS
AREA OF IMPACT		2.67 ACRES



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**CLAIREMONT VILLAGE QUAD, LLC**  
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SAN DIEGO, CA

OVERALL SITE PLAN

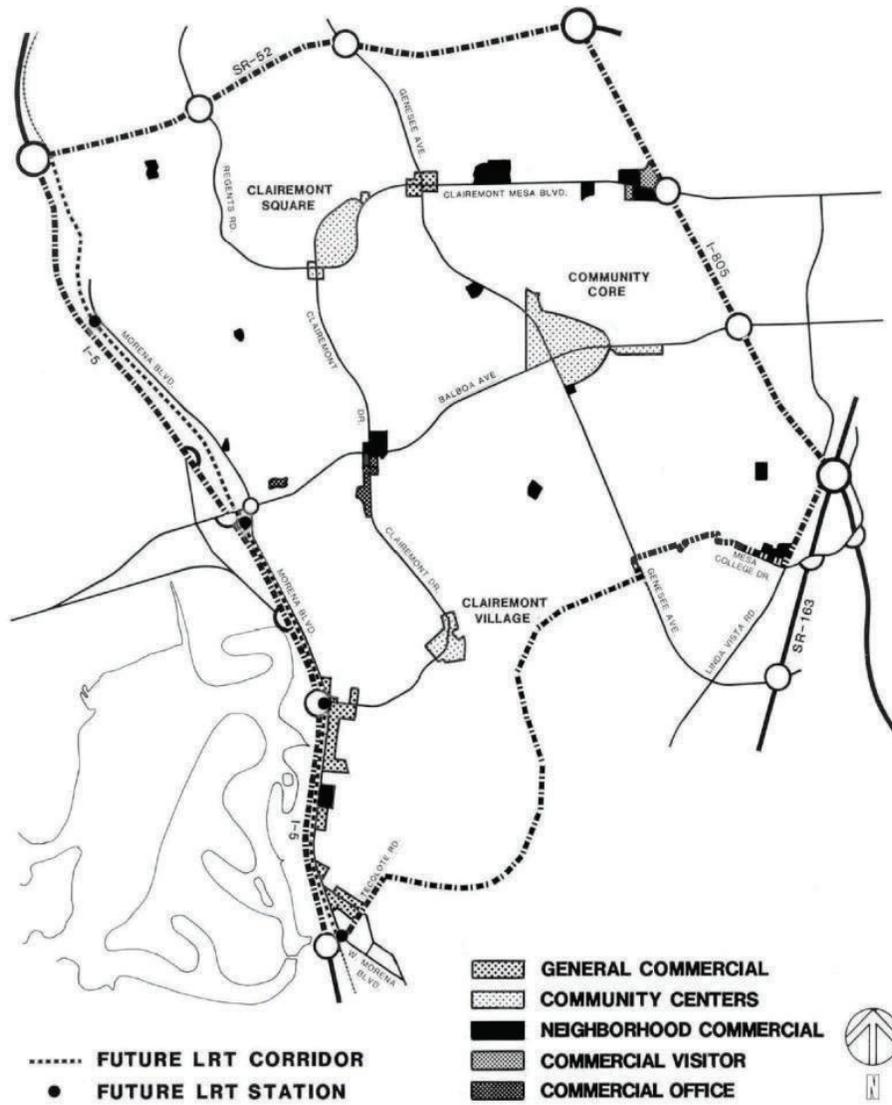
DATE: 08-10-22  
 JOB NO.: 2020-020

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 SHEET 7 OF 38

Architecture.  
 Design.  
 Relationships.

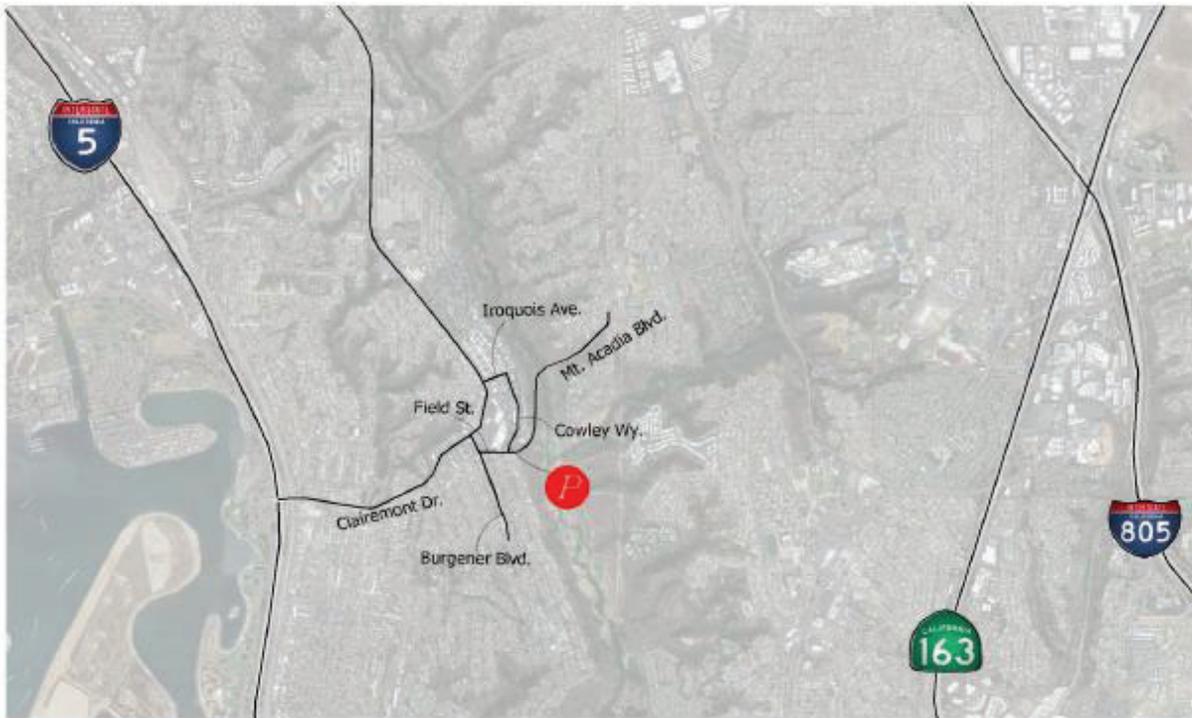
Figure 2-2: Community Land Use Map



**Commercial Land Use Recommendations**  
 Clairemont Mesa Community Plan

**12**  
 FIGURE

Figure 2-3: Project Vicinity Map



Legend

 = Project Location



Using the City of San Diego’s Transportation Study Manual (TSM) (September 2022) criteria, the study area was determined by including signalized and unsignalized intersections that will have 50 or more project trips added for a project that generates less than 2,400 ADT. Additionally, roadway segments where the project adds 1,000 or more primary trips were also studied. **Figure 2-4** shows the study area which includes seven (7) intersections and six (6) roadway segments.

Figure 2-4: Project Study Area



Legend

- = Studied Intersection Location
- X = Studied Street Segment



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The study area includes the following intersections and street segments:

**Street Segments**

1. Burgener Boulevard – Clairemont Drive to Field Street
2. Field Street – Fairfield Street to Burgener Boulevard
3. Field Street – Burgener Boulevard to Cowley Way
4. Cowley Way – Mount Acadia Boulevard to Iroquois Avenue
5. Iroquois Avenue – Clairemont Drive to Cowley Way
6. Clairemont Drive – Burgener Boulevard to Iroquois Avenue

**Intersections**

1. Clairemont Drive at Burgener Boulevard
2. Field Street at Burgener Boulevard
3. Mount Acadia Boulevard at Cowley Way
4. Iroquois Avenue at Clairemont Drive
5. Iroquois Avenue at Cowley Way
6. Project Driveway at Field Street
7. Project Driveway at Cowley Way

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### 3.0 ANALYSIS METHODOLOGY

The City of San Diego has developed a Transportation Study Manual, TSM (*September 2022*). The purpose of a Local Mobility Analysis (LMA) is to “identify any off-site improvements in the project vicinity that may be triggered with the development of the proposed project.” The TSM provides guidance regarding preparation of a Local Mobility Analysis in the City of San Diego. Since the Project is located within City of San Diego jurisdiction, this Local Mobility Analysis follows the procedures outlined in the TSM. The TSM includes guidelines for trip generation, trip assignment, and analysis procedures.

#### Intersection Level of Service (LOS) Thresholds:

To determine an intersection peak hour LOS, the TSM requires the use of the most recent procedure from the HCM (HCM 6<sup>th</sup> Edition, *Transportation Research Board, 2016*). The procedure in Chapter 19, which is used to analyze signalized intersections, is the “operational method.” This method determines LOS based on average control delay expressed in seconds. **Table 3-1** shows the LOS based upon the delay. A computer program called Synchro 10 supports this methodology and is used to complete the analysis for both signalized and unsignalized intersections. The intersection analysis includes pedestrian and bike volumes based on actual count data obtained in the field on Tuesday, June 29, 2021.

Table 3-1: Intersection Level of Service

**Signalized Intersections**

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	$\leq 1.0$	$> 1.0$
$\leq 10$	A	F
$> 10-20$	B	F
$> 20-35$	C	F
$> 35-55$	D	F
$> 55-80$	E	F
$> 80$	F	F

Source: HCM 6th Edition, Transportation Research Board 2016, Table 19-8

**Two-Way Stop Controlled Intersections**

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	$v/c \leq 1.0$	$v/c > 1.0$
0-10	A	F
$> 10-15$	B	F
$> 15-25$	C	F
$> 25-35$	D	F
$> 35-50$	E	F
$> 50$	F	F

Source: HCM 6th Edition, Transportation Research Board 2016, Table 20-2

**All-Way Stop Controlled Intersections**

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	$v/c \leq 1.0$	$v/c > 1.0$
0-10	A	F
$> 10-15$	B	F
$> 15-25$	C	F
$> 25-35$	D	F
$> 35-50$	E	F
$> 50$	F	F

Source: HCM 6th Edition, Transportation Research Board 2016, Table 21-8

Street Segment Level of Service (LOS) Thresholds:

Street segments will be evaluated using the “Roadway Segment LOS by Classification and Average Daily Traffic (ADT)” provided in the TSM. The road classifications are shown in **Table 3-2** below:

**Table 3-2: Street Segment Level of Service**

ROADWAY CLASSIFICATIONS, LOS, AND AVERAGE DAILY TRAFFIC (ADT)						
STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Expressway	8 lanes	40,000	56,000	80,000	93,500	107,000
Expressway	7 lanes	35,000	49,000	70,000	82,000	93,500
Expressway	6 lanes	30,000	42,000	60,000	70,000	80,000
Prime Arterial <sup>1</sup>	8 lanes	35,000	50,000	70,000	75,000	80,000
Prime Arterial <sup>1</sup>	7 lanes	30,000	42,500	60,000	65,000	70,000
Prime Arterial	6 lanes	25,000	35,000	50,000	55,000	60,000
Prime Arterial <sup>10</sup>	5 lanes	20,000	28,000	40,000	45,000	50,000
Prime Arterial <sup>11</sup>	4 lanes	17,500	24,500	35,000	40,000	45,000
Major Arterial <sup>2</sup>	7 lanes	22,500	31,500	45,000	50,000	55,000
Major Arterial	6 lanes	20,000	28,000	40,000	45,000	50,000
Major Arterial <sup>3</sup>	5 lanes	17,500	24,500	35,000	40,000	45,000
Major Arterial	4 lanes	15,000	21,000	30,000	35,000	40,000
Major Arterial	3 lanes	11,250	15,750	22,500	26,250	30,000
Major Arterial	2 lanes	7,500	10,500	15,000	17,500	20,000
Major Arterial (one-way) <sup>4</sup>	3 lanes	12,500	16,500	22,500	25,000	27,500
Major Arterial (one-way) <sup>5</sup>	2 lanes	10,000	13,000	17,500	20,000	22,500

STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Collector (with two-way left turn lane)	5 lanes	12,500	17,500	25,000	30,750	37,500
Collector (with two-way left turn lane)	4 lanes	10,000	14,000	20,000	25,000	30,000
Collector (with two-way left turn lane)	3 lanes	7,500	10,500	15,000	18,750	22,500
Collector (with two-way left turn lane)	2 lanes	5,000	7,000	10,000	13,000	15,000
Collector (without two-way left turn lane)	4 lanes	5,000	7,000	10,000	13,000	15,000
Collector (without two-way left turn lane) <sup>6</sup>	3 lanes	4,000	5,000	7,500	10,000	11,000
Collector (without two-way left turn lane)	2 lanes	2,500	3,500	5,000	6,500	8,000
Collector (with no fronting property)	2 lanes	4,000	5,500	7,500	9,000	10,000
Collector (one-way) <sup>7</sup>	3 lanes	11,000	14,000	19,000	22,500	26,000
Collector (one-way) <sup>8</sup>	2 lanes	7,500	9,500	12,500	15,000	17,500
Collector (one-way) <sup>9</sup>	1 lane	2,500	3,500	5,000	6,500	7,500
Sub-Collector (Single-family)	2 lanes	--	--	2,200	--	--

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

<sup>1</sup>Calculated assuming that each additional lane above a 6-Ln Arterial adds 5,000 ADT for LOS A, 7,500 ADT for LOS B and 10,000 ADT for LOS C, D, and E

<sup>2</sup>Calculated assuming that ADT is 1/2 way between steps of a 6-Ln Major Arterial & 6 Ln Prime Arterial

<sup>3</sup>Calculated assuming that ADT is 1/2 way between steps of a 4-Ln Major Arterial & 6 Ln Major Arterial

<sup>4</sup>Calculated using: Capacity = 0.5 (6-Ln Major (2-way) + Added Capacity of 2,500 ADT)

<sup>5</sup>Calculated using: Capacity = 0.5 (4-Ln Major (2-way) + Added Capacity of 2,500 ADT)

<sup>6</sup>Calculated using: Capacity = 4-Ln Collector (no center lane) \* (3/4)

<sup>7</sup>Calculated using: Capacity = 2-Ln Collector (one-way) \* (3/2)

<sup>8</sup>Calculated using: Capacity = 0.5 (4-Ln Collector w/continuous left turn lane) + Added Capacity of 2,500 ADT)

<sup>9</sup>Calculated using: Capacity = 0.5 (2-Ln Collector w/ continuous left turn lane). Capacity took into account parking friction from both sides of roadway

<sup>10</sup> Calculated by applying same differences between 8-Ln Prime & 7-Ln Prime & 7-Ln Prime & 6-Ln Prime

<sup>11</sup> Calculated assuming ratio between 6-Ln Prime & 6-Ln Major applied to 4-Ln Major

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Thresholds for Improvements

The City's TSM outlines thresholds for project off-site improvements for intersections. The criteria for signalized intersections and unsignalized intersections that apply are included below:

A signal timing improvement or signal modification is required if:

- The project is within ½ mile path of travel of a Major Transit Stop, and the project causes the intersection to degrade to a LOS F, or if the project adds traffic to a signal that is already operating at a LOS F.
- The project is outside ½ mile path of travel of a Major Transit Stop, and the project causes an intersection to degrade to a LOS E or F, or if the project adds traffic to a signal already operating at a LOS E or F.

A signalized intersection's turn lanes should be improved if:

- No Existing Left-Turn Lane: If the project adds traffic to an individual left turn movement causing the total number of peak hour left turns to exceed 100, consider adding a left turn lane.
- Existing Single Left-Turn Lane: If the project adds traffic to an individual left turn movement causing the total number of peak hour left turns to exceed 300, consider adding a second left turn lane
- No Existing Right-Turn Lane: If the addition of a right turn lane will not negatively affect other roadway users, will maintain a comfortable roadway environment, AND the project adds traffic to individual right turn movement causing the total number of peak hour right turns to exceed 500, consider adding a right turn lane.

- 
- Existing Single Right-Turn Lane: If the addition of a right turn lane will not negatively affect other roadway users, will maintain a comfortable roadway environment, AND the project adds traffic to an individual right turn movement causing the total number of peak hour right turns to exceed 800, consider adding a second right turn lane. In addition to the considerations previously stated, dual-right turn (or more) treatments may require supplementary improvements including but not limited to no right-turn on red with blank-out signs, lead pedestrian intervals (LPIs) for pedestrians and cycle track treatment for bicyclists.
  - Lengthening a Turn Pocket: If the project adds traffic to a turning movement and causes the 95<sup>th</sup> percentile queue to exceed the available turn pocket length, consider lengthening the turn pocket.

Consider the construction of a traffic signal or roundabout to a side-street stop-controlled intersection if:

- The project is within ½ mile path of travel of a Major Transit Stop, and the project causes the worst movement of a side street stop-controlled intersection to degrade to a LOS F, or if the project adds traffic to the worst movement that is operating at a LOS F without project traffic.
- The project is outside ½ mile path of travel of a Major Transit Stop, and the project causes the worst movement of a side street stop-controlled intersection to degrade to a LOS E or F, or if the project adds traffic to the worst movement that is operating at a LOS E or F without project traffic.

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Consider the construction of a traffic signal or roundabout to an all-way stop-controlled intersection if:

- The project is within ½ mile path of travel of a Major Transit Stop: If the project causes an all-way stop-controlled intersection located to degrade to LOS F, or if the project adds traffic to an all-way stop-controlled intersection already operating at LOS F.
- Outside of a ½ mile path of travel of a Major Transit Stop: If the project causes an all-way stop-controlled intersection to degrade to LOS E or F, or if the project adds traffic to an all-way stop controlled intersection already operating at LOS E or F.

A roadway segment should be improved as identified in the community plan (including upgrading to ultimate classification) based on the following:

- If the project adds greater than 50% of total daily vehicle trips to the segment, the project should consider implementing the improvement as identified in the community plan.
- If the project adds less than or equal to 50% of total daily vehicle trips on the segment, the project should evaluate its fair share towards the improvement.

## 4.0 PROPOSED PROJECT

The proposed project includes 224 dwelling units of residential apartments. Access to and from the project will be on two existing driveways, one driveway is located along Field Street and is an existing driveway for the shopping center, the other existing driveway is located along Cowley Way.

### 4.1 Trip Generation

The project’s trip generation was determined using the City of San Diego’s Trip Generation Manual (dated May 2003). The project will generate **1,792** average daily trips with **143 AM (29 in and 119 out)** peak hour trips and **179 PM (125 in and 54 out)** peak hour trips. **Table 4-1** shows the Trip Generation calculations.

**Table 4-1: Project Trip Generation**

Land Use	Intensity	Rate*	ADT	AM					PM				
				Peak%*	Vol.	In %	Out%	In	Out	Peak%*	Vol.	In %	Out%
Multiple Dwelling Units	224 units	8 /unit	1,792	8%	143	20% : 80%	29	115	10%	179	70% : 30%	125	54
<b>Total</b>			<b>1,792</b>		<b>143</b>		<b>29</b>	<b>115</b>		<b>179</b>		<b>125</b>	<b>54</b>

**Source:**

\*Rates taken from the City of San Diego Trip Generation Manual, May 2003, for multi-dwelling units (under 20 dwelling units/acre)

**Note:**

ADT= Average Daily Trips

units = dwelling units

## 4.1 Trip Distribution and Assignment

A project distribution was determined based on the location of the proposed project, knowledge of the area, existing traffic patterns based on traffic counts, and engineering judgement. The project distribution is shown in **Figure 4-1**.

As shown on Figure 4-1, project traffic will use either driveway located along Field Street or Cowley Way, 45% of project traffic would be expected to travel to and from the west along Clairemont Drive, 35% to and from the north along Clairemont Drive, 15% to and from the east along Mount Acadia Boulevard, and 5% to and from the south along Burgener Boulevard. 5% of project traffic is expected to travel along Clairemont Drive between Burgener Boulevard and Iroquois Avenue and 30% of project traffic will travel along Cowley Way to head north towards Iroquois Avenue as it is closer than going around towards Clairemont Drive.

Figure 4-1: Project Distribution



Legend

-  = Studied Intersection Location
- X = Studied Street Segment
-  = Distribution Percentage
-  = Project Location



The project average daily traffic volumes shown in **Figure 4-2** are based on the daily new traffic generation from **Table 4-1** and distribution of project traffic.

**Figure 4-2: Project Only ADT**



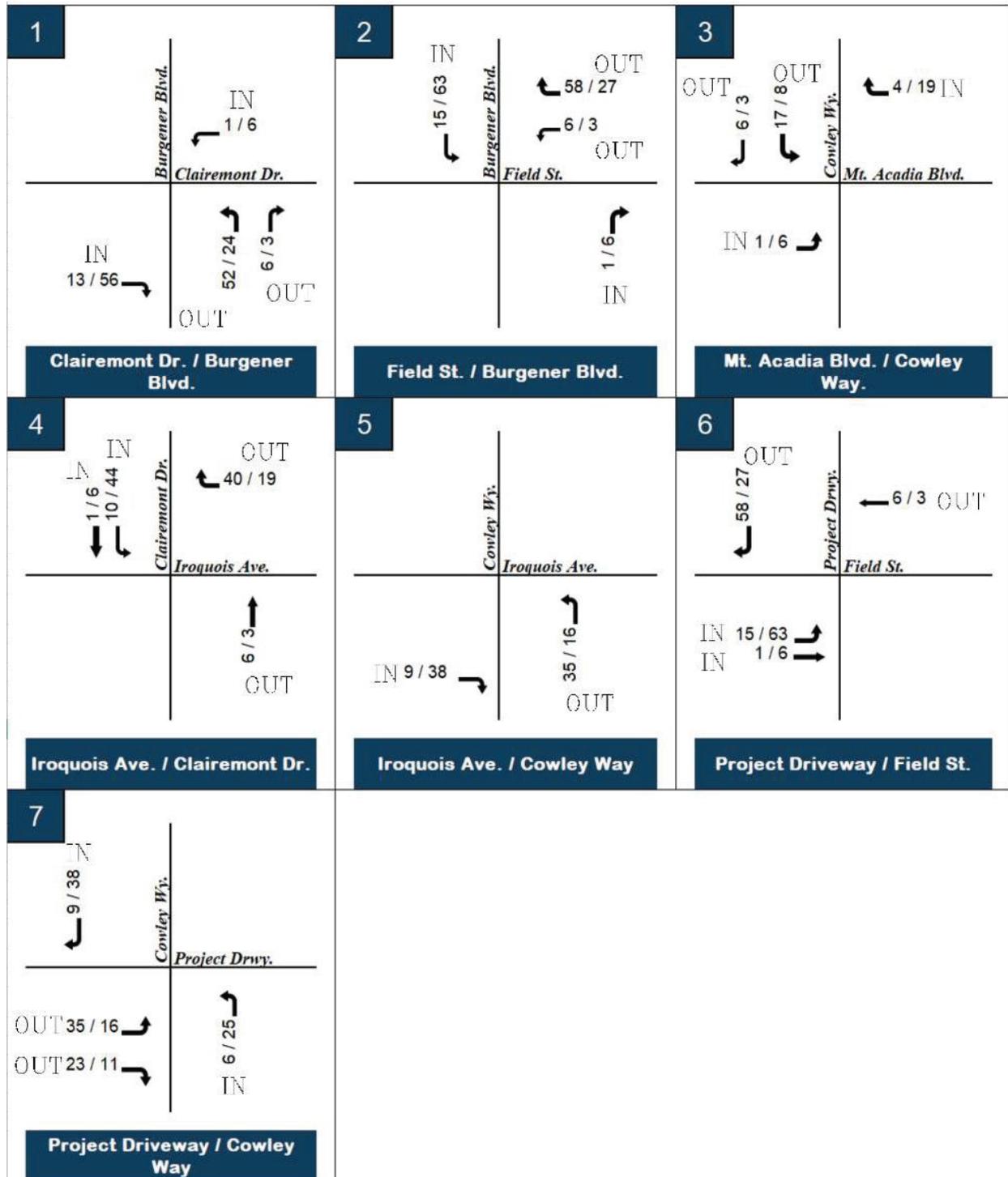
Legend

- = Studied Intersection Location
- = Studied Street Segment
- = Project Location
- XX,XXX = ADT Number



**Figure 4-3** shows the Project traffic AM and PM peak hour volumes.

Figure 4-3: Project Only AM/PM Peak Hour Volumes



XX / XX = AM / PM Peak hour volumes

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## 5.0 EXISTING CONDITIONS

The purpose of this chapter is to evaluate street segments and intersections within the project's study area in the Existing condition. Refer to **Figure 2-3** for the project location map.

### 5.1 Existing Roadway Facilities

**Burgener Boulevard** – is a north-south directional road and is currently built as a two-lane collector. The cross-section of the roadway segment is 40 feet curb to curb. Per the draft Clairemont Community Plan, the proposed planned classification of Burgener Boulevard is a 2-lane collector. The posted speed limit for this segment is 30 mph. Contiguous sidewalk exists on both east and west sides of the street segment. Crosswalks are provided on all four legs of the signalized intersection of Clairemont Drive / Burgener Boulevard. No bike lanes are present along the studied segment. However, the draft Clairemont Mesa Community Plan Update proposes a Class III bicycle route along this segment of Burgener Boulevard. A southbound bus stop is located on the northwest corner of Clairemont Drive / Burgener Boulevard and is serviced by MTS Route 105, which operates on weekdays at a frequency of approximately every 30 minutes between 5:00 AM and 10:00 PM. The amenity provided at this bus stop includes a sheltered bench. A northbound bus stop is located just east of Clairemont Drive / Burgener Boulevard and is serviced by MTS Route 105, which operates on weekdays at a frequency of approximately every 30 minutes between 5:00 AM and 10:00 PM. The amenity provided at this bus stop includes a sheltered bench.

**Field Street** – is an east-west directional road and is currently built as a two-lane collector without fronting property (except for the shopping center driveway). The cross-section of the

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roadway segment is 40 feet curb to curb. Per the draft Clairemont Community Plan, the proposed planned classification of Field Street is a 2-lane collector. The posted speed limit for the segment is 30 MPH. Contiguous sidewalks exist on both north and south sides of the street segment. Crosswalks are provided on all four legs of the all-way stop controlled intersection of Field Street / Burgener Boulevard. No bike lanes are present along the studied segment. However, the draft Clairemont Mesa Community Plan Update proposes a Class III bicycle route along this segment of Field Street.

**Cowley Way** – is a north-south directional road and is currently built as a two-lane collector. The cross-section of the roadway segment is approximately 40 feet curb to curb. The posted speed limit for the segment is 25 MPH. Contiguous sidewalk exists on the east and west sides of the street segment. No striped crosswalks are provided at the all-way stop intersection of Field Street / Cowley Way and three-way stop intersection of Cowley Street/Iroquois Avenue. A mid-block crosswalk exists approximately 280 feet north of Field Street to connect pedestrians from the apartments from the east to the Clairemont Village shopping center to the west. No bike lanes are present along the studied segment and no bike facilities are planned along this segment based on the draft Clairemont Mesa Community Plan Update.

**Iroquois Avenue** – is an east-west directional road and is currently built as a two-lane collector. The cross-section of the roadway segment is approximately 40 feet curb to curb. Non-contiguous sidewalks generally exist on both north and south sides of the street segment except for approximately 100 feet east of the intersection of Clairemont Drive / Iroquois Avenue where contiguous sidewalk exist on the south side. Crosswalks are provided on all four legs of the signalized intersection of Clairemont Drive / Iroquois Avenue. No bike lanes are present

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along the studied segment and no bike facilities are planned along this segment based on the draft Clairemont Mesa Community Plan Update. A southbound bus stop is located on the southwest corner of Clairemont Drive / Iroquois Avenue and is serviced by MTS Route 105. The amenity provided at this bus stop includes a sheltered bench. A northbound bus stop is located on the southeast corner of Clairemont Drive / Iroquois Avenue and is serviced by MTS Route 105, which operates on weekdays at a frequency of approximately every 30 minutes. The amenity provided at this bus stop includes a sheltered bench.

**Clairemont Drive** – is a north-south directional road and is currently built as a four-lane collector. The cross-section of the roadway segment is approximately 70 feet curb to curb west of Burgener, and 80 feet curb to curb east of Burgener. Contiguous sidewalks generally exist on both sides of the street and on-street parking is allowed except where existing red curb exists. Crosswalks are provided on all four legs of the signalized intersection of Clairemont Drive / Iroquois Avenue and Clairemont Drive / Burgener Blvd. No bike lanes are present along the studied segment. A one-way Class IV cycle track is planned along this segment based on the draft Clairemont Mesa Community Plan Update. A southbound bus stop is located on the southwest corner of Clairemont Drive / Iroquois Avenue and is serviced by MTS Route 105. The amenity provided at this bus stop includes a sheltered bench. A northbound bus stop is located on the southeast corner of Clairemont Drive / Iroquois Avenue and is serviced by MTS Route 105, which operate on weekdays at a frequency of approximately every 30 minutes. The amenity provided at this bus stop includes a sheltered bench.

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## 5.2 Existing Traffic Volumes

**Figure 5-1** shows the existing average weekday 24-hour traffic volumes for street segments in the project study area. Traffic counts summarized in **Figure 5-1** were conducted on Tuesday, June 29, 2021. **Figure 5-2** shows the lane configurations and intersection control for the existing roadway network in the study area intersections evaluated. Due to the traffic counts being conducted during the ongoing Covid-19 pandemic, an adjustment was made to the Existing traffic count volumes. A comparison of historical counts obtained from the 2017 Clairemont Mesa Community Plan Update Mobility Element Existing Conditions Report (taken December 7, 2016) were done to determine an appropriate growth factor. Intersection volumes from Clairemont Drive at Burgener Blvd from the 2017 Clairemont CPU Mobility Element Existing Conditions Report were compared to the traffic counts USAI obtained in June 2021. An 18% growth factor was determined and applied to all Existing volumes to account for Covid 19's effect on traffic in 2021. The historical counts were also obtained for the intersections of Field Street at Burgener Boulevard and Iroquois Avenue at Clairemont Drive from the Clairemont Mesa Community Plan Update (2017) and were compared to the 2021 traffic counts. The growth for those intersections were 35% and 23% respectively, however, the total peak hour volumes for those intersections are much lower than the total peak hour volume for Clairemont Drive at Burgener Blvd and may not be representative on the area; therefore, the growth factor of 18% was chosen instead of the previous two. Additionally, school traffic was not present during the time the traffic counts were conducted on June 29, 2021. The nearest school to the project site is Longfellow K-8 Elementary at 5055 July Street which is south of the Project. To account for the

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school traffic and therefore better represent typical travel patterns, an additional 10% increase was applied to the following movements:

- Clairemont Dr. at Burgener Blvd.
  - Northbound left AM – accounts for school traffic after drop off for parents of students who are traveling to work and will most likely use the freeway.
  - Eastbound right AM – school traffic traveling from the west where the freeway is located.
- Field St. at Burgener Blvd.
  - Eastbound through AM - accounts for school traffic after drop off for students that live west of Burgener Blvd. Vehicles may come from the Burgener Blvd, Deerpark Dr. or Cowley Way direction where the school is located.
  - Westbound through AM - accounts for drop off school traffic for students that live west of Burgener Blvd. Vehicles may turn right on Burgener Blvd, Deerpark Dr. or Cowley Way to head towards school.
- Mt. Acadia / Field St. at Cowley Wy.
  - Eastbound through AM - accounts for school traffic after drop off for students that live east of Cowley Way for vehicles that are returning home.
  - Westbound through AM – accounts for drop off school traffic for students that live east of Cowley Way.

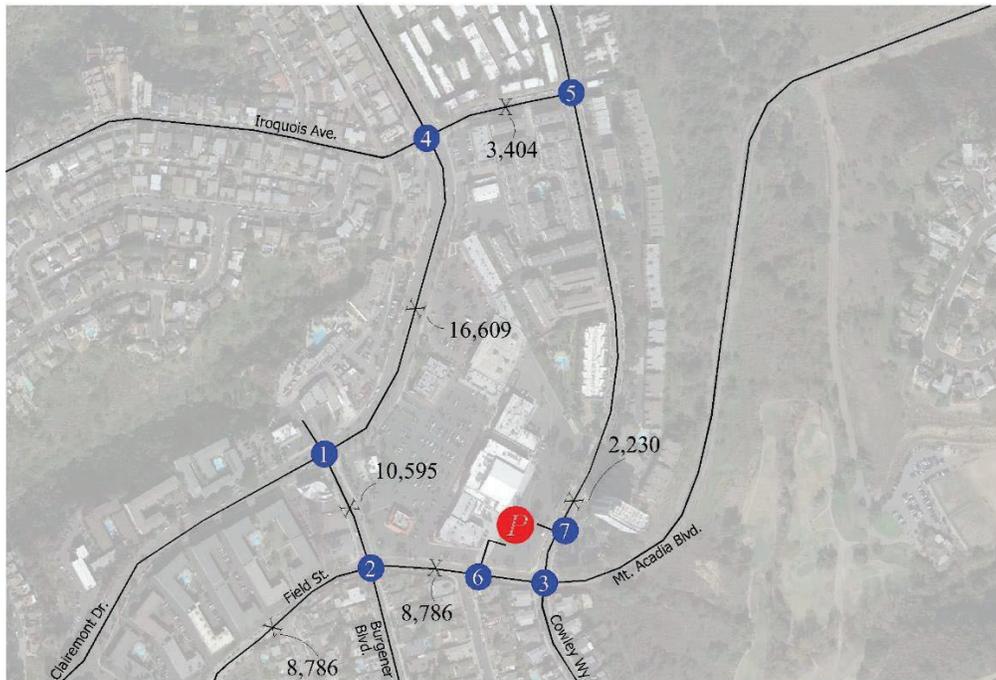
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The 10% increase was applied to account for parents that may be running late for school drop offs in the morning. School traffic would only apply in the AM peak hour with Longfellow Elementary having an 8:00 AM start time, the AM peak hour was 8:00 to 9:00 AM.

The calculation of the growth factor is provided in **Appendix A** of this report.

**Appendix A** includes historical counts, existing count data for street segments and intersections, signal timing sheets for study intersections, and calculation of growth factor.

Figure 5-1: Existing ADT



Legend

# = Studied Intersection Location

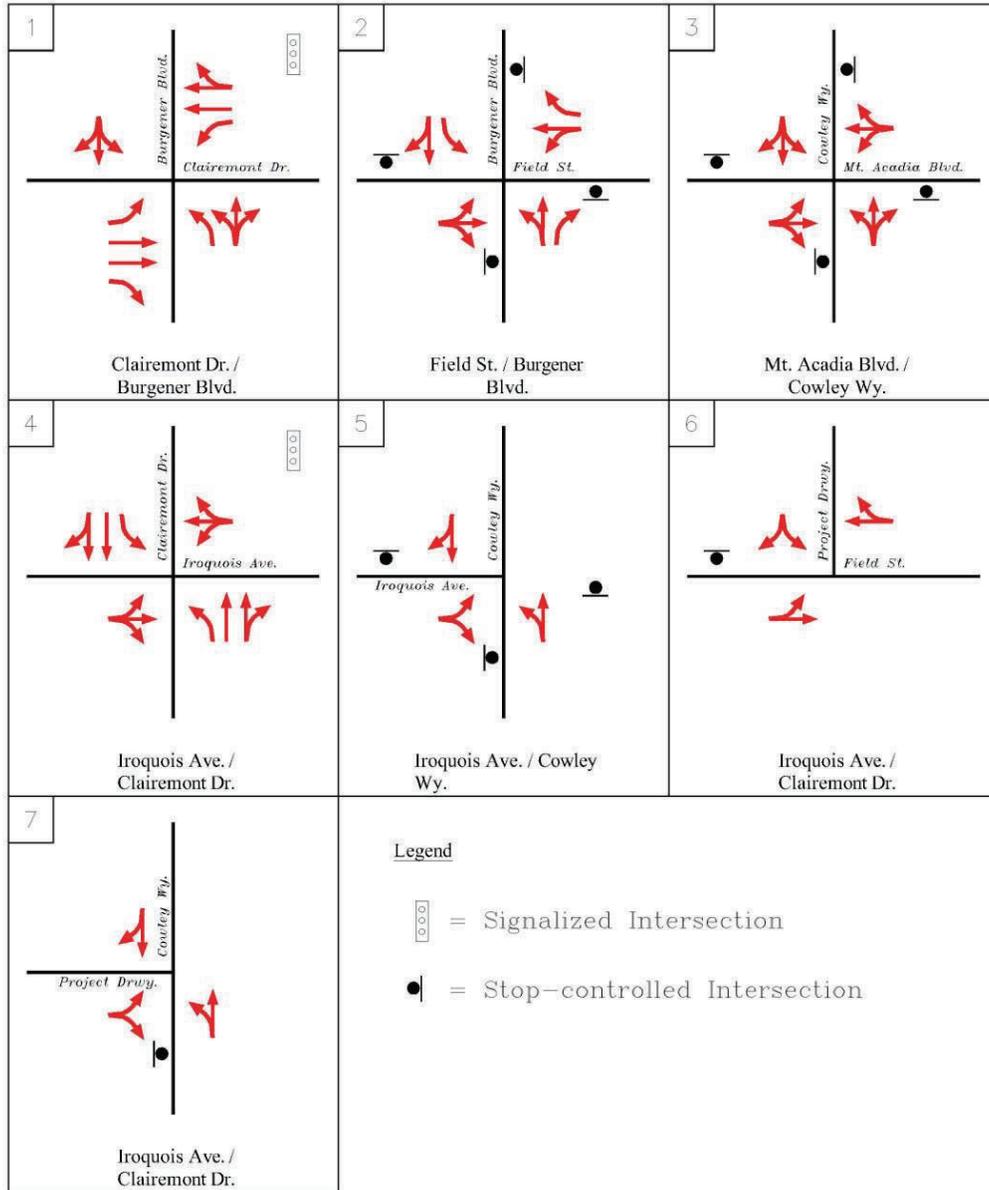
X = Studied Street Segment

P = Project Location

XX,XXX = ADT Number



Figure 5-2: Existing Lane Configurations



### 5.3 Street Segments

Table 5-1 shows the Existing street segment analysis.

**Table 5-1: Existing Street Segment Analysis**

Road	Segment	Standard	# of Ln.	Roadway Classification	Capacity	Volume	V/C	LOS
Burgener Blvd	Clairemont Dr. to Field St.	SD	2	2-C (w/ TWLTL)	15,000	10,595	0.706	D
Field Street	Fairfield St. to Burgener Blvd.	SD	2	2-C (w/o TWLTL)	8,000	8,786	1.098	F
Field Street	Burgener Blvd. to Cowley Wy.	SD	2	2-C (w/o fronting property)	10,000	8,786	0.879	D
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	SD	2	2-C (w/o TWLTL)	8,000	2,230	0.279	A
Iroquois Ave.	Clairemont Dr. to Cowley Way	SD	2	2-C (w/o TWLTL)	8,000	3,404	0.426	B
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	SD	4	4-C (w/ TWLTL)	30,000	16,609	0.554	C

**Legend:**

LOS = Level of Service

V/C = Volume to Capacity Ratio

4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane

2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane

2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane

2-C (w/o fronting property) = 2-Lane Collector with no fronting property

Date of counts: June 29, 2021, volumes for Clairemont Drive (Burgener Blvd to Iroquois Ave) obtained from 2017 Clairemont Mesa CPU

As shown on Table 5-1, all studied street segments are operating at an acceptable level of service

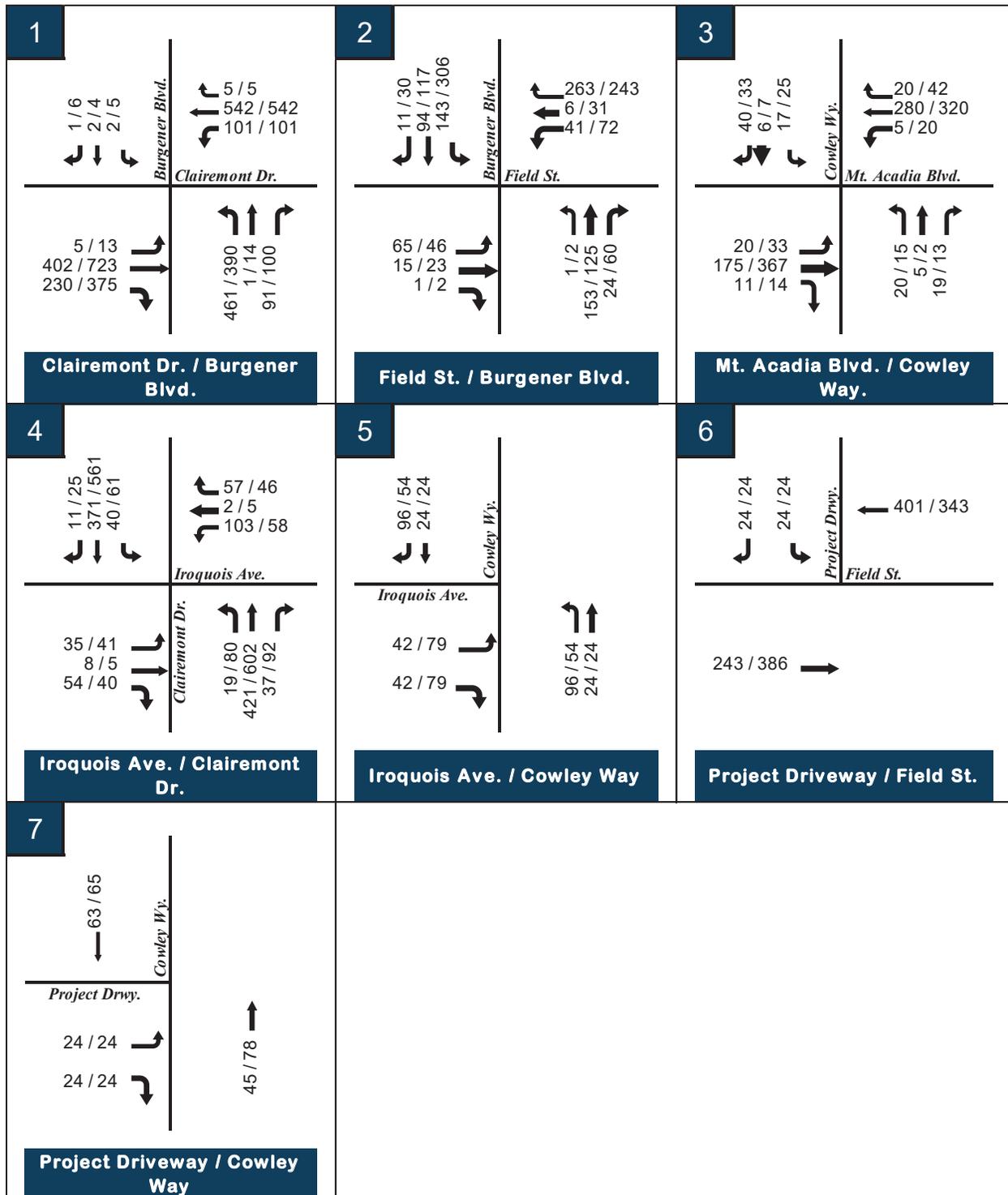
D or better in the Existing conditions except for the following:

- Field Street – Fairfield Street to Burgener Blvd. – LOS F

### 5.4 Intersections

Figure 5-3 shows the Existing AM and PM peak hour volumes.

Figure 5-3: Existing AM/PM Peak Hour Volumes



XX / XX = AM / PM Peak hour volumes

**Table 5-2** shows the Existing intersection analysis.

**Table 5-2: Existing Intersection Analysis**

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Clairemont Dr. / Burgener Blvd.	Signalized	15.1	B	17.5	B
2	Field St. / Burgener Blvd.	All-Way Stop	11.2	B	14.4	B
3	Mt. Acadia Blvd. / Cowley Way.	All-Way Stop	9.8	A	13.2	B
4	Iroquois Ave. / Clairemont Dr.	Signalized	7.7	A	7.4	A
5	Iroquois Ave. / Cowley Way	All-Way Stop	7.8	A	7.9	A
6	Project Driveway / Field St.	One-Way Stop	13.2	B	13.7	B
7	Project Driveway / Cowley Way	One-Way Stop	9.1	A	9.2	A

**Notes:**

LOS = Level of Service

D = Delay (in sec.)

As shown on **Table 5-2**, all studied intersections are operating at an acceptable level of service B or better in the Existing conditions. The Existing conditions Synchro worksheets are provided in **Appendix B**.

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## 6.0 OPENING YEAR 2026 CONDITIONS

The purpose of this chapter is to evaluate street segments and intersections within the project's study area in the Opening Year 2026 condition. No changes were assumed involving intersection lane configurations or the number of lanes for the studied intersections and street segments.

### 6.1 Opening Year 2026 Volumes Determination

Cumulative projects are other reasonably foreseeable development projects in the study area that are expected to add traffic to the surrounding street segments and intersections within the study area. Urban Systems Associates Inc has reviewed the City of San Diego's Open DSD map and website for potential cumulative projects in the area that are expected to be completed by Year 2026. Due to lack of foreseeable cumulative projects, a growth factor was determined and used to estimate growth for the Opening Year analysis. The 18% growth factor used to establish the existing conditions baseline volumes was applied to the existing volumes (2021) to calculate the Opening Day Year 2026 volumes.

### 6.2 Street Segments

**Figure 6-1** shows the Opening Year 2026 average daily trips.

**Table 6-1** shows the Opening Year 2026 street segment analysis.

Figure 6-1: Opening Year 2026 ADT



Legend

-  = Studied Intersection Location
- X = Studied Street Segment
-  = Project Location
- XX,XXX = ADT Number



**Table 6-1: Opening Year 2026 Street Segment Analysis**

Road	Segment	Standard	# of Ln.	Roadway Classification	Capacity	Volume	V/C	LOS
Burgener Blvd	Clairemont Dr. to Field St.	SD	2	2-C (w/ TWLTL)	15,000	12,502	0.833	D
Field Street	Fairfield St. to Burgener Blvd.	SD	2	2-C (w/o TWLTL)	8,000	10,368	1.296	F
Field Street	Burgener Blvd. to Cowley Wy.	SD	2	2-C (w/o fronting property)	10,000	10,368	1.037	F
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	SD	2	2-C (w/o TWLTL)	8,000	2,632	0.329	B
Iroquois Ave.	Clairemont Dr. to Cowley Way	SD	2	2-C (w/o TWLTL)	8,000	4,017	0.502	C
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	SD	4	4-C (w/ TWLTL)	30,000	19,598	0.653	C

**Legend:**

LOS = Level of Service

V/C = Volume to Capacity Ratio

4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane

2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane

2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane

2-C (w/o fronting property) = 2-Lane Collector with no fronting property

As shown on **Table 6-1**, all studied street segments are expected to operate at an acceptable level of service D or better in the Opening Year 2026 conditions except for the following segments:

- Field Street – Fairfield Street to Burgener Blvd. – LOS F
- Field Street – Burgener Blvd. to Cowley Way – LOS F

### 6.3 Intersections

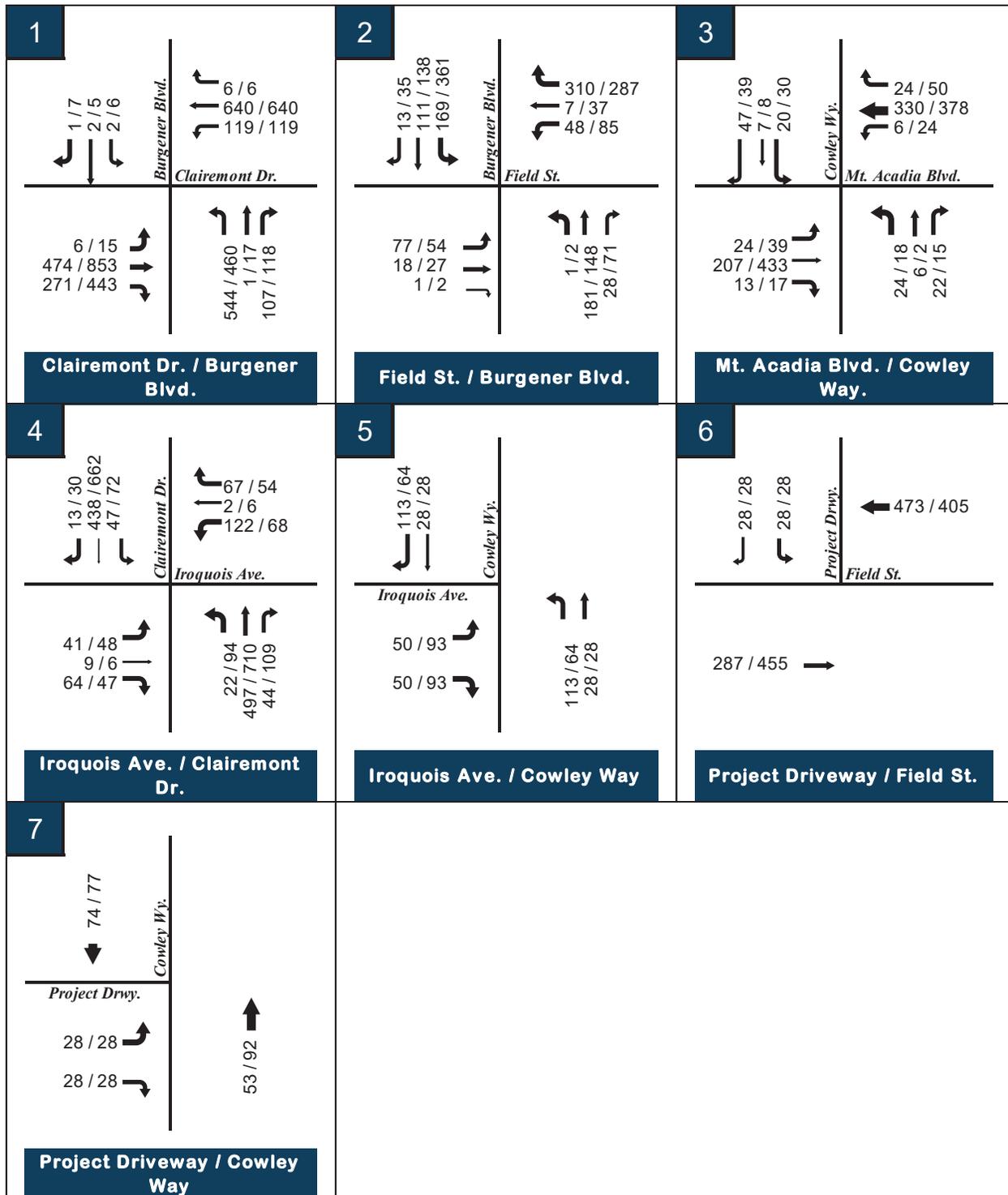
Opening Year 2026 intersection peak hour volumes were determined by applying an 18% growth factor to each turning movement volumes used in the Existing conditions.

**Figure 6-2** shows the Opening Year 2026 AM and PM peak hour volumes.

**Table 6-2** shows the Opening Year 2026 intersection analysis.

The Opening Year Synchro worksheets are provided in **Appendix C**.

Figure 6-2: Opening Year 2026 AM/PM Peak Hour Volumes



XX / XX = AM / PM Peak hour volumes

**Table 6-2: Opening Year 2026 Intersection Analysis**

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Clairemont Dr. / Burgener Blvd.	Signalized	16.5	B	21.0	C
2	Field St. / Burgener Blvd.	All-Way Stop	13.1	B	19.8	C
3	Mt. Acadia Blvd. / Cowley Way.	All-Way Stop	10.9	B	18.1	C
4	Iroquois Ave. / Clairemont Dr.	Signalized	7.9	A	7.6	A
5	Iroquois Ave. / Cowley Way	All-Way Stop	8.1	A	8.2	A
6	Project Driveway / Field St.	One-Way Stop	14.9	B	15.6	C
7	Project Driveway / Cowley Way	One-Way Stop	9.2	A	9.4	A

**Notes:**

LOS = Level of Service

D = Delay (in sec.)

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## 7.0 OPENING YEAR 2026 PLUS PROJECT CONDITIONS

### 7.1 Street Segments

Figure 7-1 shows the Opening Year 2026 Plus Project average daily trips.

Figure 7-1: Opening Year 2026 Plus Project ADT



Legend

- = Studied Intersection Location
- X = Studied Street Segment
- = Project Location
- XX,XXX = ADT Number



**Table 7-1** shows the Opening Year 2026 Plus Project street segment analysis.

**Table 7-1: Opening Year 2026 Plus Project Street Segment Analysis**

Road	Segment	Standard	# of Ln.	Roadway Classification	Capacity	Volume	V/C	LOS
Burgener Blvd	Clairemont Dr. to Field St.	SD	2	2-C (w/ TWLTL)	15,000	13,398	0.893	E
Field Street	Fairfield St. to Burgener Blvd.	SD	2	2-C (w/o TWLTL)	8,000	10,368	1.296	F
Field Street	Burgener Blvd. to Cowley Wy.	SD	2	2-C (w/o fronting property)	10,000	11,353	1.135	F
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	SD	2	2-C (w/o TWLTL)	8,000	3,528	0.441	C
Iroquois Ave.	Clairemont Dr. to Cowley Way	SD	2	2-C (w/o TWLTL)	8,000	4,555	0.569	C
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	SD	4	4-C (w/ TWLTL)	30,000	19,688	0.656	C

**Legend:**

LOS = Level of Service

V/C = Volume to Capacity Ratio

4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane

2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane

2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane

2-C (w/o fronting property) = 2-Lane Collector with no fronting property

As shown on **Table 7-1**, all studied street segments are expected to operate at an acceptable level of service of C or better in the Opening Year 2026 Plus Project conditions except for the following segments:

- Burgener Blvd. (between Clairemont Drive to Field Street)– LOS E
- Field Street (between Fairfield St. to Burgener Blvd.) – LOS F
- Field Street (between Burgener Blvd. to Cowley Way) – LOS F

**Table 7-2** shows the Opening Year 2026 and Opening Year 2026 Plus Project street segment analysis comparisons.

**Table 7-2: Opening Year 2026 and Opening Year 2026Plus Project Street Segment Analysis Comparisons**

Road	Segment	# of Ln.	Capacity	Roadway Classification	Opening Year 2026			Opening Year 2026 + Project					
					LOS	Volume	V/C	LOS	Volume	V/C	Project ADT Added	% of Project Traffic Over Total Daily Traffic	I?
Burgener Blvd	Clairemont Dr. to Field St.	2	15,000	2-C (w/ TWLTL)	D	12,502	0.83	E	13,398	0.89	896	7%	No
Field Street	Fairfield St. to Burgener Blvd.	2	8,000	2-C (w/o TWLTL)	F	10,368	1.30	F	10,368	1.30	0	0%	No
Field Street	Burgener Blvd. to Cowley Wy.	2	10,000	2-C (w/o fronting property)	F	10,368	1.04	F	11,353	1.14	986	10%	No
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	2	8,000	2-C (w/o TWLTL)	B	2,632	0.33	C	3,528	0.44	896	34%	No
Iroquois Ave.	Clairemont Dr. to Cowley Way	2	8,000	2-C (w/o TWLTL)	C	4,017	0.50	C	4,555	0.57	538	13%	No
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	4	30,000	4-C (w/ TWLTL)	C	19,598	0.65	C	19,688	0.66	90	0%	No

**Legend:**

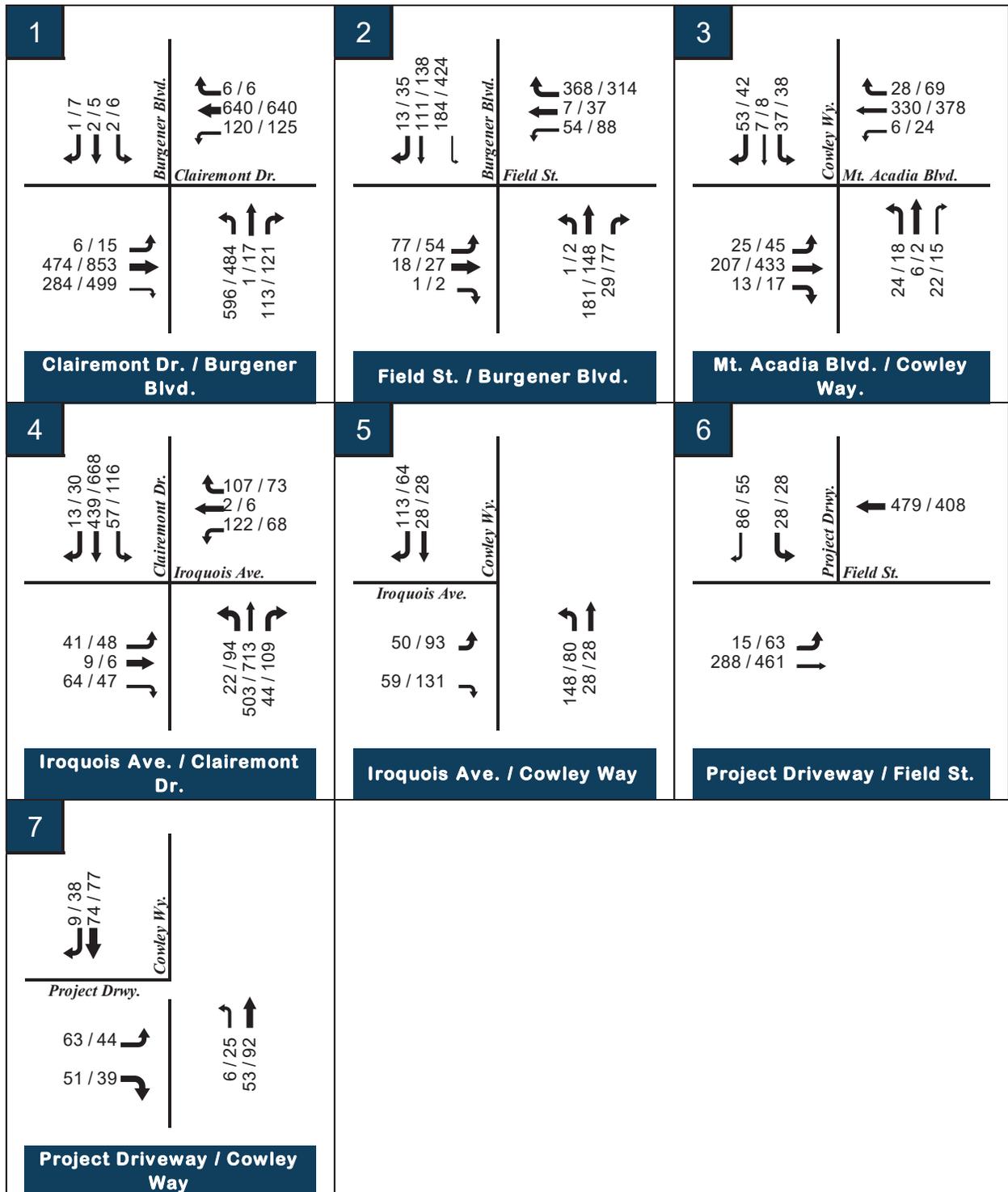
- LOS= Level of Service
- V/C= Volume to Capacity Ratio
- ΔV/C= Change in V/C ratio
- 4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane
- 2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane
- 2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane
- 2-C (w/o fronting property) = 2-Lane Collector with no fronting property
- I = Improvement Required

As shown on **Table 7-2**, no improvements will be required. The project will add less than 50% of total daily vehicle trips on all study segments and the studied street segments have been built to their ultimate classification, therefore no segment improvements will be required.

## 7.2 Intersections

**Figure 7-2** shows the Opening Year 2026 Plus Project AM and PM peak hour volumes.

Figure 7-2: Opening Year 2026 Plus Project AM/PM Peak Hour Volumes



XX / XX = AM / PM Peak hour volumes

**Table 7-3** shows the Opening Year 2026 Plus Project Intersection analysis.

**Table 7-3: Opening Year 2026 Plus Project Intersection Analysis**

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Clairemont Dr. / Burgener Blvd.	Signalized	17.1	B	21.9	C
2	Field St. / Burgener Blvd.	All-Way Stop	15.0	B	29.5	D
3	Mt. Acadia Blvd. / Cowley Way.	All-Way Stop	11.2	B	19.4	C
4	Iroquois Ave. / Clairemont Dr.	Signalized	8.0	A	7.6	A
5	Iroquois Ave. / Cowley Way	All-Way Stop	8.4	A	8.5	A
6	Project Driveway / Field St.	One-Way Stop	15.4	C	17.2	C
7	Project Driveway / Cowley Way	One-Way Stop	13.3	B	10.0	A

**Notes:**

LOS = Level of Service

D = Delay (in sec.)

As shown on **Table 7-3**, all studied intersections are expected to operate at an acceptable level of service of D or better in the Opening Year Plus Project conditions. The Opening Year Plus Project Synchro worksheets are provided in **Appendix D**.

**Table 7-4** shows the Opening Year and Opening Year Plus Project intersection analysis comparisons.

**Table 7-4: Opening Year 2026 and Opening Year 2026Plus Project Intersection Analysis Comparisons**

#	Intersection	Year 2026				Year 2026 + Project								Is the intersection within 1/2-mile path of travel of a Major Transit Stop?	Not within a 1/2-mile distance of a Major Transit Stop: Does the Project cause the intersection to degrade to LOS E or F? / Does the project add traffic to a signal already operating at LOS E or F?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		Δ	I ?	PM Peak Hour		Δ	I ?		
		D	LOS	D	LOS	D	LOS			D	LOS				
1	Clairemont Dr. / Burgener Blvd.	16.5	B	21.0	C	17.1	B	0.6	No	21.9	C	0.9	No	No	No
2	Field St. / Burgener Blvd.	13.1	B	19.8	C	15.0	B	1.9	No	29.5	D	9.7	No	No	No
3	Mt. Acadia Blvd. / Cowley Way.	10.9	B	18.1	C	11.2	B	0.3	No	19.4	C	1.3	No	No	No
4	Iroquois Ave. / Clairemont Dr.	7.9	A	7.6	A	8.0	A	0.1	No	7.6	A	0.0	No	No	No
5	Iroquois Ave. / Cowley Way	8.1	A	8.2	A	8.4	A	0.3	No	8.5	A	0.3	No	No	No
6	Project Driveway / Field St.	14.9	B	15.6	C	15.4	C	0.5	No	17.2	C	1.6	No	No	No
7	Project Driveway / Cowley Way	9.2	A	9.4	A	13.3	B	4.1	No	10.0	A	0.6	No	No	No

**Notes:**  
 LOS = Level of Service  
 D = Delay (in sec.)  
 Δ = Change in Delay (in sec.)  
 I = Improvement Required

As shown on **Table 7-4**, no improvements for level of service will be required to the studied intersections based on the TSM’s improvement threshold requirements. No studied intersection is expected to operate at an unacceptable LOS in the without and with project conditions, however, the proposed project will add traffic to the northbound left turn movement on Burgener Blvd. at Clairemont Drive which exceeds the 300 peak hour left turns criteria outlined in **Chapter 3.0** of this LMA. A second left turn lane would be required to satisfy the criteria, however, the existing lane configurations for this intersection currently has an exclusive left turn lane and a shared-left, through, and right turn lane. Additionally, the street appears built out where space for a second exclusive left turn lane may not be possible.

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## 8.0 OTHER MODES OF TRANSPORTATION

### 8.1 Pedestrian Facilities

Pedestrian facilities within a ½ mile walking distance from the project site’s pedestrian access points have been observed. The area of observation currently provides pedestrians with the following facilities:

**Burgener Boulevard** – Contiguous sidewalk exists on both east and west sides of the street segment from Clairemont Drive to Field Street. Crosswalks are provided on all four legs of the signalized intersection of Clairemont Drive / Burgener Boulevard. Single curb ramps with truncated domes exist on the northwest, southwest, southeast corners and only a directional curb ramp across the driveway exists on the northeast corner of the intersection of Clairemont Drive / Burgener Boulevard. The following photos show the northwest, southwest, and southeast corners.

Northwest Corner



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**Southwest and Southeast Corners**

**Field Street** – Contiguous sidewalk exists on both north and south sides of the street segment between Burgener Blvd. and Cowley Way. Crosswalks are provided on all four legs of the all-way stop controlled intersection of Field Street / Burgener Boulevard. Single curb ramps with truncated domes exist on the northwest, northeast, southwest, and southeast corners of the intersection of Field Street / Burgener Boulevard.

**Cowley Way** – Contiguous sidewalk exists on the east and west sides of the street segment between Field Street and Iroquois Avenue. No striped crosswalks are provided at the all-way stop intersection of Field Street / Cowley Way. A mid-block crosswalk exists approximately 280 feet north of Field Street to connect pedestrians from the apartments from the east to the Clairemont Village shopping center to the west. Single curb ramps with truncated domes exist on the northwest, northeast, southwest, and southeast corners of the intersection of Field Street / Cowley Way.

**Iroquois Avenue** – Contiguous sidewalk exists on both north and south sides of the street segment between Clairemont Drive and Cowley Way. Crosswalks are provided on all four legs of the signalized intersection of Clairemont Drive / Iroquois Avenue. Single curb ramps with truncated domes exist on all four corners of Clairemont Drive and Iroquois Avenue. At the three-way intersection of Cowley Way / Iroquois Avenue, there is a directional curb ramp on the southeast corner and single curb ramps on the northwest and southwest corners.

**Clairemont Drive** – Contiguous sidewalk exists on both the east and west sides of the street segment between Burgener Boulevard and Iroquois Avenue.

**Table 8-1** shows the existing pedestrian facilities based on street segments.

**Table 8-2** shows the existing pedestrian facilities based on intersections.

**Table 8-1: Street Segment Pedestrian Facilities**

Road	Segment	Contiguous Sidewalk	Noncontiguous Sidewalk	Missing Sidewalk	Notes
Burgener Blvd	Clairemont Dr. to Field St.	Yes	No	No	-
Field Street	Fairfield Street to Burgener Blvd.	Yes	No	No	-
Field Street	Burgener Blvd. to Cowley Wy.	Yes	No	No	-
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	Yes	No	No	-
Iroquois Ave.	Clairemont Dr. to Cowley Way	Yes	No	No	-
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	Yes	No	No	-

**Table 8-2: Intersection Pedestrian Facilities**

#	Intersection	Control	Marked Crosswalks	Unmarked Crosswalks	Curb Ramps	Missing Curb Ramps	Truncated Domes	Missing Truncated Domes
1	Clairemont Dr. / Burgener Blvd.	Signalized	N, S, E, W	-	NW+, NE+, SW+, SE+	-	NW, NE, SW, SE	-
2	Field St. / Burgener Blvd.	All-Way Stop	N, S, E, W	-	NW+, NE+, SW+, SE+	-	NW, NE, SW, SE	-
3	Mt. Acadia Blvd. / Cowley Way.	All-Way Stop	-	N, S, E, W	NW+, NE+, SW+, SE+	-	NW, NE, SW, SE	-
4	Iroquois Ave. / Clairemont Dr.	Signalized	N, S, E*, W	-	NW+, NE+, SW+, SE+	-	NW, NE, SW, SE	-
5	Iroquois Ave. / Cowley Way	All-Way Stop	-	N, S, E	NW+, SW+, SE	-	SW, SE, NW	-
6	Project Driveway / Field St.	One-Way Stop	-	-	NW, NE	-	NW, NE	-
7	Project Driveway / Cowley Way	One-Way Stop	-	-	-	-	-	-

Notes:

- N = North Quadrant / North Leg
- S = South Quadrant / South Leg
- E = East Quadrant / East Leg
- W = West Quadrant / West Leg
- \* = Continental Crosswalk
- + = not directional curb ramp

Pedestrian Walkshed Area

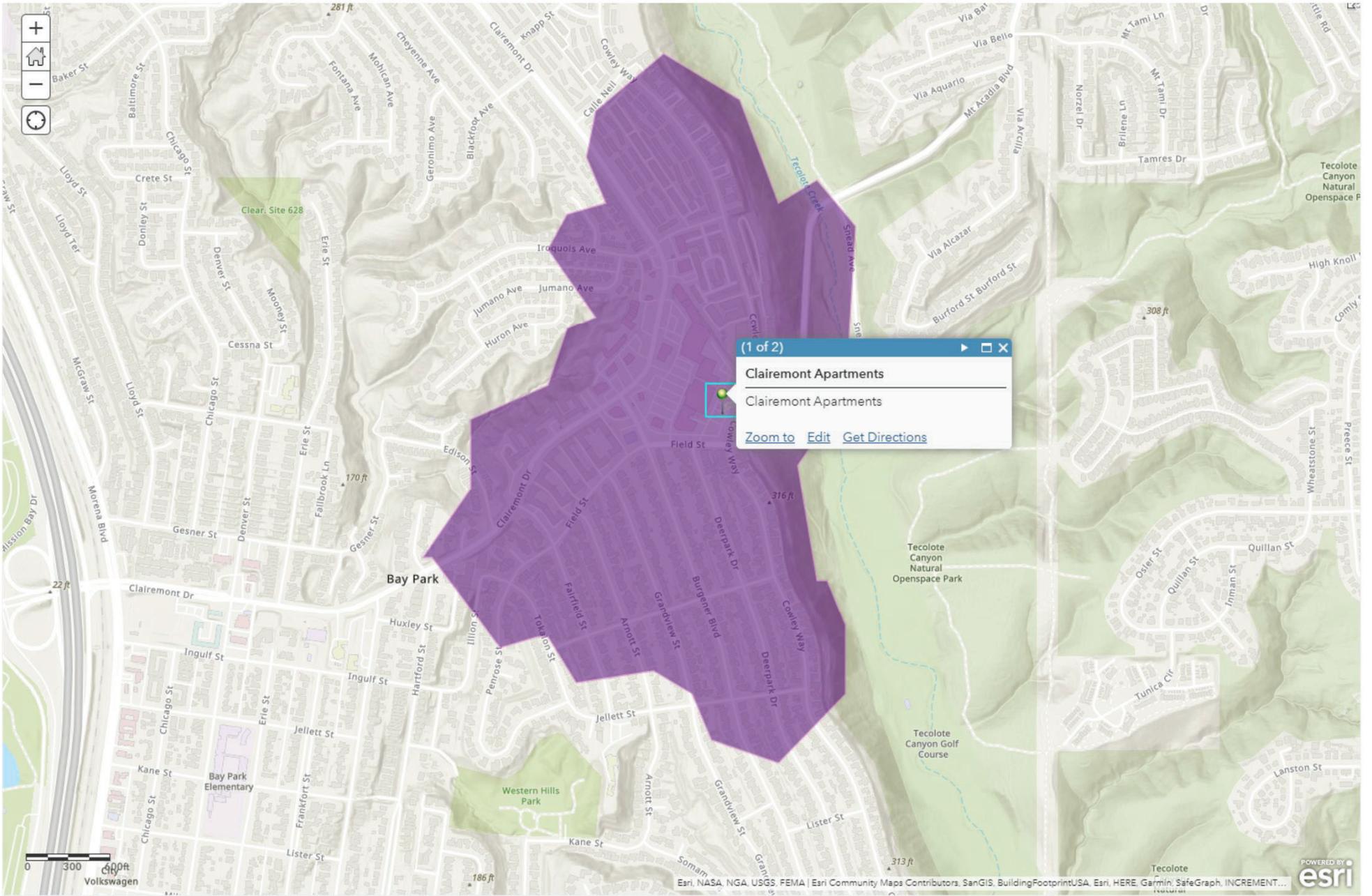
A walkshed area shows the connectivity for pedestrians related to the project site location. The project is located on the northwest corner of Cowley Way / Field Street. From this point, a ½ mile walking distance was measured to the surrounding area. The shaded regions within the shed represent areas where standard sidewalk facilities exist for pedestrians to travel. **Figure 8-1** shows the walkshed area. The level of pedestrian activity as it relates to the project site would most likely be busier than a residential neighborhood due to the proximity to commercial businesses. The existing sidewalks appear to be adequate to provide connectivity to the area and meet the City of San Diego 5 feet standard for sidewalk widths.

The project is proposing to dedicate 6 inches along the project’s frontage on Cowley Way to provide a 10-foot-wide parkway and reconstruct the existing 5-foot-wide contiguous sidewalk to non-contiguous sidewalk. The project is also proposing to reconstruct the existing curb ramp along the project frontage on Cowley Way for the existing mid-block crossing.

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**Figure 8-1: Walkshed and Bikeshed Area**

Provided on the following page. The page is intentionally left blank.



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## 8.2 Bicycle Facilities

Bicycle facilities within a ½ mile bicycling distance in the surrounding area from the project site have been observed. The observed area includes the following characteristics:

**Burgener Boulevard** – No bike lanes are present along the studied segment from Clairemont Drive to Field Street. However, the draft Clairemont Mesa Community Plan Update proposes a Class III bicycle route along this segment of Burgener Boulevard.

**Field Street** – No bike lanes are present along the studied segment from Burgener Blvd. to Cowley Way. However, the draft Clairemont Mesa Community Plan Update proposes a Class III bicycle route along this segment of Field Street.

**Cowley Way** – No bike lanes are present along the studied segment from Field Street to Iroquois Avenue and no bike facilities are planned along this segment based on the draft Clairemont Mesa Community Plan Update.

**Iroquois Avenue** – No bike lanes are present along the studied segment from Cowley Way to Clairemont Drive and no bike facilities are planned along this segment based on the draft Clairemont Mesa Community Plan Update.

**Clairemont Drive** – No bike lanes are present along the studied segment from Burgener Blvd. to Iroquois Avenue and a one-way Class IV cycle track is planned along this segment based on the draft Clairemont Mesa Community Plan Update

Refer to section 9.0 for improvements as it relates to bicycle facilities.

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### **8.3 Transit Facilities**

Transit facilities within a ½ mile walking distance from the project site have been observed.

Currently there are four (4) bus stops along Clairemont Drive within a ½ mile walking distance from the project. **Figure 8-2** shows the bus stop locations. The bus stops identified are the following:

A southbound bus stop is located on the northwest corner of Clairemont Drive / Burgener Boulevard and is serviced by MTS Route 105, which operates on weekdays at a frequency of approximately every 30 minutes between 5:14 AM and 10:16 PM. The amenity provided at this bus stop includes a sheltered bench.

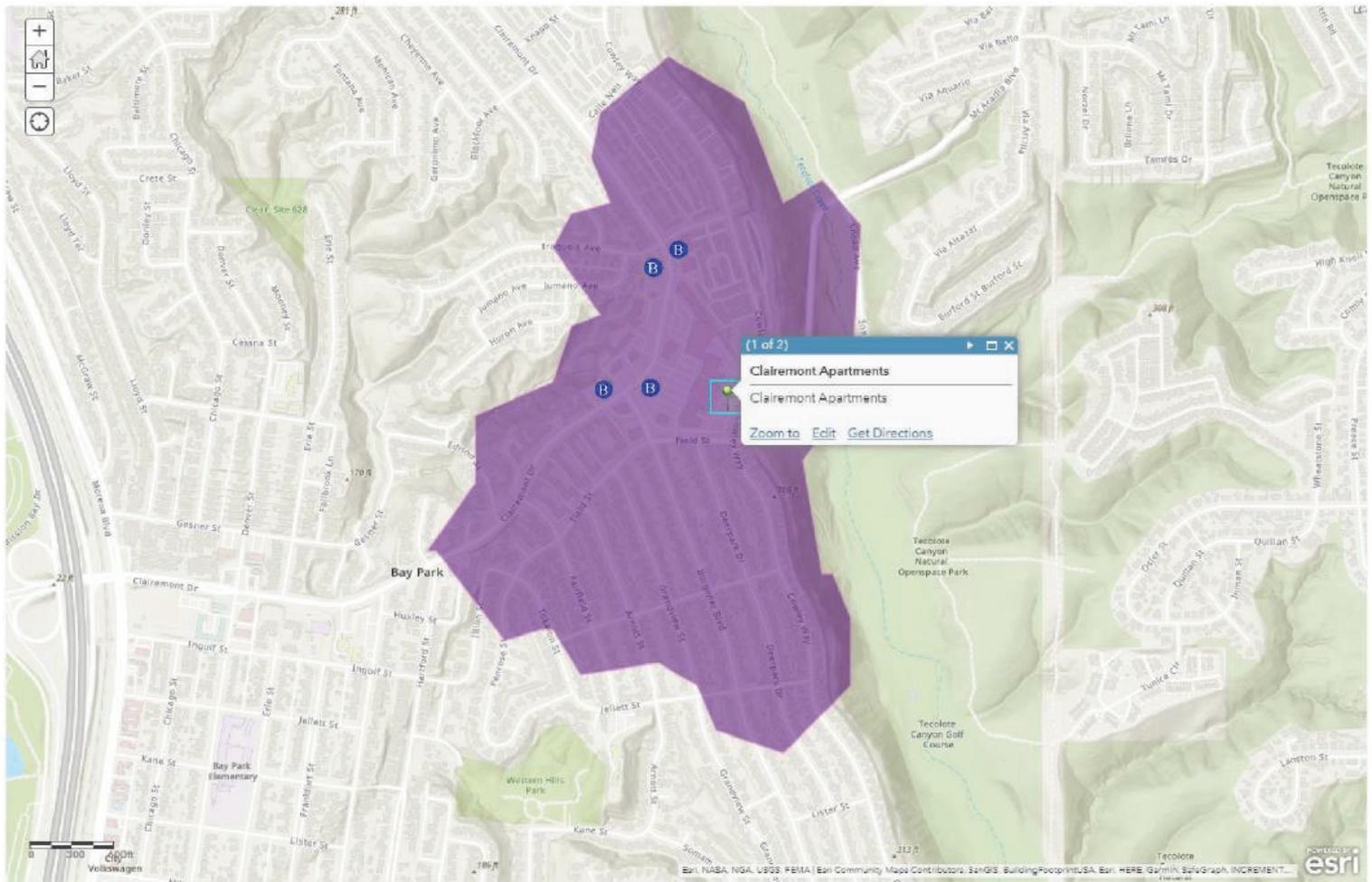
A northbound bus stop is located just east of Clairemont Drive / Burgener Boulevard and is serviced by MTS Route 105, which operates on weekdays at a frequency of approximately every 30 minutes between the hours of 5:14 AM and 10:16 PM. The amenity provided at this bus stop includes a sheltered bench.

A southbound bus stop is located on the southwest corner of Clairemont Drive / Iroquois Avenue and is serviced by MTS Route 105. The amenity provided at this bus stop includes a sheltered bench.

A northbound bus stop is located on the southeast corner of Clairemont Drive / Iroquois Avenue and is serviced by MTS Route 105, which operate on weekdays at a frequency of approximately every 30 minutes. The amenity provided at this bus stop includes a sheltered bench.

The project does not propose to provide any improvements as it relates to transit facilities.

Figure 8-2: Bus Stop Locations Map



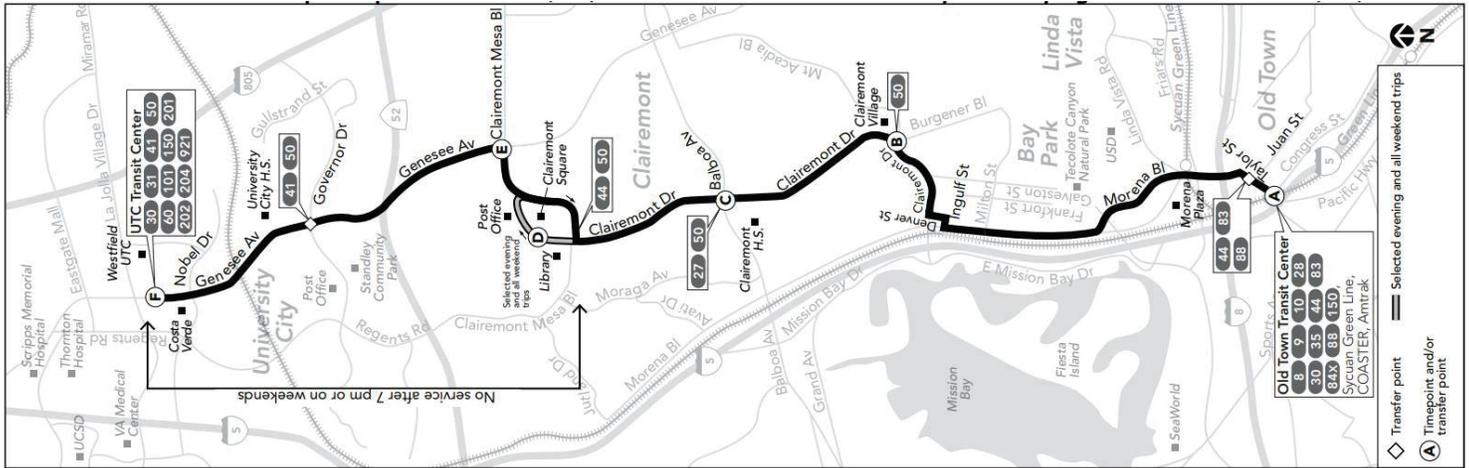
Legend

**B** = Bus Stop Location



Figure 8-3 shows the weekday schedule and route for MTS Route 105.

Figure 8-3: MTS 105 Route and Schedule



**Route 105 – Monday through Friday / lunes a viernes**

Old Town → Clairemont → University City						University City → Clairemont → Old Town					
(A) Old Town Transit Ctr. DEPART	(B) Clairemont Dr. & Burgener Bl.	(C) Clairemont Dr. & Balboa Av.	(D) Clairemont Square	(E) Genesee Av. & Clairemont Mesa Bl.	(F) UTC Transit Ctr. ARRIVE	(F) UTC Transit Ctr. DEPART	(E) Genesee Av. & Clairemont Mesa Bl.	(D) Clairemont Square	(C) Clairemont Dr. & Balboa Av.	(B) Burgener Bl. & Clairemont Dr.	(A) Old Town Transit Ctr. ARRIVE
5:14a	5:25a	5:29a	—	5:37a	5:44a	—	—	—	5:12a	5:18a	5:30a
5:44	5:55	5:59	—	6:07	6:14	5:27a	5:35a	—	5:42	5:48	6:00
6:14	6:26	6:31	—	6:40	6:48	5:57	6:05	—	6:12	6:18	6:30
6:44	6:57	7:03	—	7:12	7:21	6:24	6:33	—	6:41	6:47	7:00
7:14	7:27	7:33	—	7:42	7:51	6:51	7:01	—	7:10	7:16	7:30
7:44	7:59	8:05	—	8:14	8:23	7:21	7:31	—	7:40	7:46	8:00
8:14	8:29	8:35	—	8:44	8:53	7:51	8:01	—	8:10	8:16	8:30
8:44	8:58	9:04	—	9:12	9:20	8:21	8:31	—	8:40	8:46	9:00
9:14	9:28	9:34	—	9:42	9:50	8:51	9:01	—	9:10	9:16	9:30
9:41	9:55	10:01	—	10:09	10:17	9:21	9:31	—	9:40	9:46	10:00
10:11	10:25	10:31	—	10:39	10:47	9:51	10:01	—	10:10	10:16	10:30
10:41	10:55	11:01	—	11:09	11:17	10:24	10:34	—	10:43	10:49	11:03
11:11	11:25	11:31	—	11:39	11:47	10:54	11:04	—	11:13	11:19	11:33
11:41	11:55	12:01p	—	12:09p	12:17p	11:24	11:34	—	11:43	11:49	12:03p
12:11p	12:25p	12:31	—	12:39	12:47	11:54	12:04p	—	12:13p	12:19p	12:33
12:41	12:55	1:01	—	1:09	1:17	12:24p	12:34	—	12:43	12:49	1:03
1:11	1:25	1:31	—	1:39	1:47	12:54	1:04	—	1:13	1:19	1:33
1:44	1:58	2:04	—	2:12	2:20	1:24	1:34	—	1:43	1:49	2:03
2:14	2:28	2:34	—	2:42	2:50	1:54	2:04	—	2:13	2:19	2:33
2:44	2:58	3:04	—	3:12	3:20	2:19	2:31	—	2:40	2:46	3:01
3:14	3:29	3:35	—	3:44	3:53	2:47	3:00	—	3:10	3:16	3:31
3:44	3:59	4:05	—	4:14	4:23	3:17	3:30	—	3:40	3:46	4:01
4:14	4:29	4:35	—	4:44	4:53	3:45	4:00	—	4:10	4:16	4:31
4:44	4:59	5:05	—	5:14	5:23	4:15	4:30	—	4:40	4:46	5:01
5:14	5:29	5:35	—	5:44	5:53	4:45	5:00	—	5:10	5:16	5:31
5:44	5:58	6:03	—	6:12	6:20	5:16	5:31	—	5:41	5:47	6:02
6:12	6:26	6:31	—	6:40	6:48	5:46	6:01	—	6:11	6:17	6:32
6:42	6:56	7:01	—	7:10	7:18	6:20	6:33	—	6:42	6:48	7:02
7:27	7:39	7:43	7:47p	—	—	6:54	7:05	—	7:14	7:19	7:32
8:27	8:39	8:43	—	—	—	—	—	7:53p	8:00	8:05	8:16
9:27	9:38	9:42	9:46	—	—	—	—	8:53	9:00	9:05	9:16
10:27	10:38	10:42	10:46	—	—	—	—	9:53	10:00	10:05	10:16

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As shown on **Figure 8-3**, MTS Route 105 provides service between Old Town Transit Center and UTC Transit Center. On a typical weekday during the AM and PM peak hours, MTS Route 105 approximately has a 30-minute headway. Route 105 is in service from 5:14 AM to 10:16 PM on a weekday.

Additionally, bus stops located within ½ mile walking distance from the project site will transport riders to the Clairemont Drive Trolley Station down the hill to the west along Clairemont Drive approximately 0.9 miles from the project site. The trolley station services the “Blue” light rail line which transports riders from UTC to San Ysidro and locations in between.

## 9.0 SYSTEMIC SAFETY REVIEW

A systemic safety review was conducted to determine if any of the study area intersections satisfy hotspot criteria as defined under Appendix C of the City of San Diego’s Systemic Safety, The Data-Driven Path To Vision Zero (April 2019).

An analysis summary of the study intersections that meet any of the hotspot systemic safety intersection footprints along with existing countermeasures and proposed engineering countermeasures is found in **Table 9-1** (for pedestrians), **Table 9-2** (for bicycles), and **Table 9-3** (for vehicles).

**Table 9-1: Systemic Safety Analysis for Pedestrians**

#	Intersection	Pedestrian Matrix Footprint Met	Existing Countermeasures	Proposed Engineering Countermeasures
1	Clairemont Dr. / Burgener Blvd.	Footprint #2	-	Pedestrian Countdown Signals
2	Field St. / Burgener Blvd.	-	-	-
3	Mt. Acadia Blvd. / Cowley Way.	-	-	-
4	Iroquois Ave. / Clairemont Dr.	Footprint #2, #3	-	Pedestrian Countdown Signals
5	Iroquois Ave. / Cowley Way	-	-	-
6	Project Driveway / Field St.	-	-	-
7	Project Driveway / Cowley Way	-	-	-

As shown on **Table 9-1**, the intersection of Clairemont Drive at Burgener Blvd. satisfies Pedestrian Footprint #2. The behaviors associated with this hotspot intersection include “failure to yield, crossing in crosswalk at intersection” for pedestrians, and “making a left turn” for vehicles. The project is proposing as a permit condition to install pedestrian countdown signal heads at Clairemont Drive / Burgener Blvd. on all approaches, as a recommended systemic safety countermeasure per Appendix C of the City of San Diego’s Systemic Safety, The Data-Driven Path To Vision Zero (April 2019). The intersection of Clairemont Drive at Iroquois Ave. satisfies

Pedestrian Footprints #2 and #3. The behaviors associated with this hotspot intersection include vehicles failure to yield when making a left turn while pedestrians are crossing in crosswalks at intersections for Pedestrian Footprint #2 and vehicles failure to yield when making a right turn while pedestrians are crossing in crosswalks at intersection for Pedestrian Footprint #3. The project is proposing as a permit condition to install pedestrian countdown signal heads at Clairemont Drive at Iroquois Avenue on all approaches as a recommended systemic safety countermeasure per Appendix C of the City of San Diego’s Systemic Safety, The Data-Driven Path To Vision Zero (April 2019).

**Table 9-2: Systemic Safety Analysis for Bicycles**

#	Intersection	Bicycle Matrix Footprint Met	Existing Countermeasures	Proposed Engineering Countermeasures
1	Clairemont Dr. / Burgener Blvd.	Footprint #1	-	Bicycle loop detector for EB approach**
2	Field St. / Burgener Blvd.	-	-	-
3	Mt. Acadia Blvd. / Cowley Way.	-	-	-
4	Iroquois Ave. / Clairemont Dr.	Footprint #1	-	*
5	Iroquois Ave. / Cowley Way	-	-	-
6	Project Driveway / Field St.	-	-	-
7	Project Driveway / Cowley Way	-	-	-

**Notes:**  
 \* - no bicycle lane present for approaches , no bicycle loop detector will be implemented  
 \*\* = no bicycle lane present for WB approach

As shown on **Table 9-2**, the intersections of Clairemont Drive at Burgener Blvd and Clairemont Drive at Iroquois Avenue both satisfy Bicycle Footprint #1. The behaviors associated with this hotspot intersection include “bicyclist-at-fault, and “control violation through movement.” The project will provide bicycle loop detectors for the eastbound approach for Clairemont Drive at Burgener Boulevard. No bike lanes are currently present along Clairemont Drive from Burgener Boulevard to north or Iroquois Avenue within the study area.

**Table 9-3: Systemic Safety Analysis for Vehicles**

#	Intersection	Vehicle Matrix Footprint Met	Existing Countermeasures	Proposed Engineering Countermeasures
1	Clairemont Dr. / Burgener Blvd.	-	-	-
2	Field St. / Burgener Blvd.	-	-	-
3	Mt. Acadia Blvd. / Cowley Way.	-	-	-
4	Iroquois Ave. / Clairemont Dr.	Footprint #1	-	Backplates w/ Retroreflective Borders
5	Iroquois Ave. / Cowley Way	-	-	-
6	Project Driveway / Field St.	-	-	-
7	Project Driveway / Cowley Way	-	-	-

As shown on **Table 9-3**, the intersection of Clairemont Drive at Iroquois Avenue satisfies Vehicle Intersection Footprint #1. The behaviors associated with this hotspot roadway include “control violation through movement” and a “broadside” collision. The project is proposing to install backplates with retroreflective borders as a systemic countermeasure. If approved by the asset-owning City department, the Project will install these.

## 10.0 QUEUING ANALYSIS

A Queuing Analysis was conducted to determine if the addition of project traffic would cause queue lengths beyond the existing turn pocket storage length of the studied intersections and project driveways where gates are proposed. **Tables 10-1**, and **10-2** show the queuing analysis for the Existing, and Opening Year 2026 with and without project conditions respectively. The software used to conduct the queuing analysis was SimTraffic where 10 runs with a seeding time of 15 minutes and a recording time of 60 minutes was used to obtain the average 95<sup>th</sup> percentile of 10 runs.

**Table 10-1: Existing Queuing Analysis**

#	Intersection	Existing							
		AM Peak Hour				PM Peak Hour			
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	94	88	NBL	Yes	98	88	NBL	Yes
		16	67	EBL	No	30	67	EBL	No
		64	97	EBR	No	94	97	EBR	No
		117	100	WBL	Yes	126	100	WBL	Yes
2	Field St. at Burgener Blvd.	39	37	NBR	Yes	50	37	NBR	Yes
		68	80	SBL	No	100	80	SBL	Yes
		53	60	WBR	No	66	60	WBR	Yes
4	Clairemont Dr. at Iroquois Ave.	26	75	NBL	No	58	75	NBL	No
		47	125	SBL	No	61	125	SBL	No
6	Field St. and gate at Project Drwy.	-	-	NB	No	-	-	NB	No
7	Cowley Way and gate at Project Driveway	-	-	WB	No	-	-	WB	No

\* = 4th leg of intersection is private property (northleg)

- = Project Parking Entrance Does Not Exist

**Table 10-2: Opening Year 2026 and Opening Year 2026 Plus Project Queuing Analysis**

#	Intersection	Opening Year 2026							
		AM Peak Hour				PM Peak Hour			
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	110	88	NBL	Yes	107	88	NBL	Yes
		19	67	EBL	No	36	67	EBL	No
		76	97	EBR	No	124	97	EBR	Yes
		133	100	WBL	Yes	142	100	WBL	Yes
2	Field St. at Burgener Blvd.	46	37	NBR	Yes	53	37	NBR	Yes
		77	80	SBL	No	115	80	SBL	Yes
		76	60	WBR	Yes	94	60	WBR	Yes
4	Clairemont Dr. at Iroquois Ave.	51	75	NBL	No	76	75	NBL	Yes
		52	125	SBL	No	65	125	SBL	No
6	Field St. and gate at Project Drwy.	-	-	NB	No	-	-	NB	No
7	Cowley Way and gate at Project Driveway	-	-	WB	No	-	-	WB	No

#	Intersection	Opening Year 2026 + Project							
		AM Peak Hour				PM Peak Hour			
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	108	88	NBL	Yes	112	88	NBL	Yes
		21	67	EBL	No	33	67	EBL	No
		78	97	EBR	No	158	97	EBR	Yes
		136	100	WBL	Yes	143	100	WBL	Yes
2	Field St. at Burgener Blvd.	74	37	NBR	Yes	61	37	NBR	Yes
		74	80	SBL	No	130	80	SBL	Yes
		104	60	WBR	Yes	110	60	WBR	Yes
4	Clairemont Dr. at Iroquois Ave.	32	75	NBL	No	78	75	NBL	Yes
		66	125	SBL	No	102	125	SBL	No
6	Field St. and gate at Project Drwy.	35	100	NB	No	52	100	NB	No
7	Cowley Way and gate at Project Driveway	36	110	WB	No	54	110	WB	No

\* = 4th leg of intersection is private property (northleg)

- = Project Parking Entrance Does Not Exist

For intersection 6 and 7, storage lengths are the estimated distance from the parking entrance to the nearest public street. Project site plan was referred to when determining distance. For intersection 6 and 7, the intersection was modeled as a stop controlled intersection to simulate a driver waiting at the gate. It is anticipated that the access control will be via RFID or License Plate Reader.

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As shown on Tables 10-1 and 10-2, there are instances where the queues exceed the existing turn pocket storage lengths in the with and without project conditions of each scenario. The following intersections and turn movements are listed below where the 95<sup>th</sup> queue percentile exceeds the existing turn pocket storage and if the turn pocket can be lengthened.

- Clairemont Dr. at Burgener Blvd.
  - NBL (AM & PM) – turn pocket may be lengthened, currently there are two lanes that can accommodate left turn movements. The Project will lengthen the existing storage lane by 25 feet and provide a total 113 feet of storage length to accommodate 95<sup>th</sup> percentile queues.
  - EBR (PM) – the storage lane lengthening is feasible however it is not recommended to be lengthened as it may block the existing driveway for the businesses located on the southwest corner of Clairemont Drive and Burgener Blvd.
  - WBL (AM & PM) – turn pocket may be lengthened, limited amount of space as the taper will need to be adjusted. The Project will lengthen the existing storage lane by 43 feet and provide a total 143 feet of storage length to accommodate 95<sup>th</sup> percentile queues.
- Field St. at Burgener Blvd.
  - NBR (AM & PM) – turn pocket may be lengthened, enough space to accommodate 95<sup>th</sup> percentile queue. The turn pocket can be increased by 37 feet and provide a total 74 feet of storage length to accommodate 95<sup>th</sup> percentile

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queues. However this is not recommended due to the pocket potentially blocking the existing driveway to the existing single dwelling unit.

- WBR (AM & PM) – turn pocket may be lengthened, enough space to accommodate 95<sup>th</sup> percentile queue. The Project will lengthen the existing storage lane by 51 feet and provide a total 111 feet of storage length to accommodate 95<sup>th</sup> percentile queues.
- SBL (PM) - turn pocket may be lengthened, enough space to accommodate 95<sup>th</sup> percentile queue. The Project will lengthen the existing storage lane by 50 feet and provide a total 130 feet of storage length to accommodate 95<sup>th</sup> percentile queues.
- Clairemont Drive at Iroquois Avenue
  - NBL (PM) - turn pocket may be lengthened, enough space to accommodate 95<sup>th</sup> percentile queue. The Project will lengthen the existing storage lane by 3 feet and provide a total 78 feet of storage length to accommodate 95<sup>th</sup> percentile queues.

**Table 10-3** shows the Opening Year 2026 and Opening Year 2026 plus Project Queueing Analysis after the proposed storage lane increases are applied. As shown on **Table 10-3**, no storage lane queues are exceeded.

**Table 10-3: Opening Year 2026 and Opening Year 2026 Plus Project Queuing Analysis with Proposed Lane Increase Improvements**

#	Intersection	Opening Year 2026											
		AM Peak Hour						PM Peak Hour					
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	110	88	NBL	25	113	No	107	88	NBL	25	113	No
		19	67	EBL	0	67	No	36	67	EBL	0	67	No
		76	97	EBR**	0	97	No	124	97	EBR**	0	97	Yes
		133	100	WBL	43	143	No	142	100	WBL	43	143	No
2	Field St. at Burgener Blvd.	46	37	NBR***	0	37	Yes	53	37	NBR***	0	37	Yes
		77	80	SBL	50	130	No	115	80	SBL	50	130	No
		76	60	WBR	51	111	No	94	60	WBR	51	111	No
4	Clairemont Dr. at Iroquois Ave.	51	75	NBL	3	78	No	76	75	NBL	3	78	No
		52	125	SBL	0	125	No	65	125	SBL	0	125	No

#	Intersection	Opening Year 2026 + Project											
		AM Peak Hour						PM Peak Hour					
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	108	88	NBL	25	113	No	112	88	NBL	25	113	No
		21	67	EBL	0	67	No	33	67	EBL	0	67	No
		78	97	EBR**	0	97	No	158	97	EBR**	0	97	Yes
		136	100	WBL	43	143	No	143	100	WBL	43	143	No
2	Field St. at Burgener Blvd.	74	37	NBR***	0	37	Yes	61	37	NBR***	0	37	Yes
		74	80	SBL	50	130	No	130	80	SBL	50	130	No
		104	60	WBR	51	111	No	110	60	WBR	51	111	No
4	Clairemont Dr. at Iroquois Ave.	32	75	NBL	3	78	No	78	75	NBL	3	78	No
		66	125	SBL	0	125	No	102	125	SBL	0	125	No

\* = 4th leg of intersection is private property (northleg)

\*\* = The existing storage lane lengthening is feasible, however, it is not recommended to be lengthened as it may block the existing driveway for the businesses located on the southwest corner of Clairemont Drive and Burgener Blvd.

\*\*\* = The existing storage lane lengthening is feasible, however, it is not recommended to be lengthened as it may block the existing driveway for the single dwelling unit home located on the southeast corner of Field Street and Burgener Blvd.

Additionally, for the project driveway along Field Street, there will be approximately 100 feet from Field Street to the lower-level entrance of the parking structure on site. For the project driveway along Cowley Way, there will be approximately 110 feet from Cowley Way to the upper-level entry of the parking structure. It is anticipated that no queuing issues will occur onto the public right-of-way. As shown in **Table 10-2** the queues at the project driveway along Field Street is 35 and 52 feet in the AM and PM peak hours, and the queues at the project driveway along Cowley Way are 36 and 54 feet in the AM and PM peak hours. The queues are not expected to reach the public right of way along Field Street and Cowley Way.

The Queuing SimTraffic worksheets can be referred to on **Appendix E**.

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Conceptual restriping plans are shown in **Figure 10-1** on the following pages to demonstrate the feasibility of the proposed storage lane increases to accommodate excessive queues.

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**Figure 10-1: Conceptual Striping Plans**

Page is intentionally left blank, please see the following pages for the conceptual restriping plans







**11.0 PROJECT ACCESS, CIRCULATION, AND PARKING**

**11.1 Parking**

A summary of the minimum parking required and parking provided is shown below. The parking calculations were taken directly from the project site plan. There are currently 666 parking stalls provided on the larger shopping center site for the existing 124,083 S.F. retail use. The project is required to provide a minimum of 385 automobile parking spaces and will provide 342 parking spaces within a 2-story parking structure and 43 existing retail parking spaces will be shared between the existing retail use and shared with the proposed residential use for residents and their guests between the hours of 6 PM and 9 AM. Therefore, a total of 385 parking spaces will be provided for residential use, which meets the minimum 385 parking spaces required. Also, 516 parking spaces of the existing 666 stalls will remain for the remaining 120,313 S.F. of retail use. A total of 858 automobile parking spaces for the remaining retail use and proposed apartments will be provided. The project will provide a total of 137 EV stalls in the parking garage, 18 EV retail parking spaces, and 7 accessible stalls. The project is also required to provide a minimum of 22 and 100 spaces for motorcycles and bikes, and will provide 23 and 102 spaces for motorcycles and bikes, respectively.

PROJECT DESCRIPTION		
A 5 STORY TYPE III-A RESIDENTIAL BUILDING CONSISTING OF 224 UNITS OVER 2 STORY TYPE I PARKING STRUCTURE WITH 342 STALLS AND 43 SHARED STALLS OUTSIDE		
GROSS SITE AREA:	564,537 S.F.	12.96 ACRES
TOTAL UNITS:		224 UNITS
GROSS DENSITY:		17.28 DU/AC
EXISTING RETAIL AREA:		124,083 S.F.
EXISTING RETAIL PARKING PROVIDED:		666 STALLS
EXISTING RETAIL PARKING RATIO:		5.37
REMAINING RETAIL AREA:		120,313 S.F.
REMAINING RETAIL PARKING PROVIDED:		516 STALLS
REMAINING RETAIL PARKING RATIO:		4.29
PROPOSED RESIDENTIAL STRUCTURED PARKING:		342 STALLS
PROPOSED RETAIL PARKING TO BE SHARED WITH RESIDENTIAL:		43 STALLS
PROPOSED TOTAL PARKING:		858 STALLS
AREA OF IMPACT		2.67 ACRES

## PARKING SUMMARY

UNIT TYPE	UNITS	REQUIRED PER CITY CODE	STALLS REQUIRED		
STUDIO	28	1.50	42		
1 BR	103	1.50	155		
2 BR	85	2.00	170		
3 BR	8	2.25	18		
TOTAL UNITS	224				
<b>STALLS REQUIRED - RESIDENTIAL</b>			<b>385</b>		
<b>TOTAL RESIDENTIAL STALLS REQUIRED</b>		<b>RATIO</b>			<b>1.72</b>

PARKING PROVIDED				
PARKING LEVEL	STALLS PER LEVEL	EV STALLS PER LEVEL (40% OF PARKING PROVIDED)	ACCESSIBLE STALLS	RESULTANT RATIO
LOWER LEVEL	109	69	3	
UPPER LEVEL	89	68	4	
SHARED RESIDENTIAL STALLS*		43		
<b>TOTAL RESIDENTIAL STALLS PROVIDED</b>		<b>385</b>		<b>1.72</b>

\*RETAIL STALLS WILL BE SHARED WITH RESIDENTIAL BETWEEN 6 PM AND 9 AM DAILY. SIGNS WILL BE POSTED TO CONVEY INTENT

MOTORCYCLE / BIKE PARKING		
	REQUIRED	PROVIDED
MOTORCYCLE	22.4	23
BIKE	99.7	102

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## 12.0 CONCLUSION

Results for this study are shown in the proceeding summary tables:

Based on the results shown on Tables 12-1, 12-2, 12-3, and 12-4, no level of service improvements will be necessary due to the addition of project traffic. All studied intersections are expected to operate at an acceptable LOS of D or better in Opening Year 2026 with project conditions. Additionally, no improvements will be required for the studied street segments due to the project adding less than 50% of total daily vehicle trips on the segment as well as all of the studied street segments currently being built to their ultimate classification, therefore no improvements will be required.

Where feasible, storage lanes may be increased to handle vehicle queues that exceed the existing storage lengths. The Project will lengthen the storage lanes of turn movements as stated in Section 10.0.

Systemic safety review identified several study intersections that meet the footprint criteria of the City's Systemic Safety, the Data-Driven Path to Vision Zero. The project is proposing engineering countermeasures based on the systemic safety criteria outline in Section 9.0.

**Table 12-1**, and **12-2** shows a summary of the street segment analysis in the Existing and Opening Year 2026.

**Table 12-1: Existing Street Segments**

Road	Segment	Standard	# of Ln.	Roadway Classification	Capacity	Volume	V/C	LOS
Burgener Blvd	Clairemont Dr. to Field St.	SD	2	2-C (w/ TWLTL)	15,000	10,595	0.706	D
Field Street	Fairfield St. to Burgener Blvd.	SD	2	2-C (w/o TWLTL)	8,000	8,786	1.098	F
Field Street	Burgener Blvd. to Cowley Wy.	SD	2	2-C (w/o fronting property)	10,000	8,786	0.879	D
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	SD	2	2-C (w/o TWLTL)	8,000	2,230	0.279	A
Iroquois Ave.	Clairemont Dr. to Cowley Way	SD	2	2-C (w/o TWLTL)	8,000	3,404	0.426	B
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	SD	4	4-C (w/ TWLTL)	30,000	16,609	0.554	C

**Legend:**

LOS = Level of Service

V/C = Volume to Capacity Ratio

4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane

2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane

2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane

2-C (w/o fronting property) = 2-Lane Collector with no fronting property

Date of counts: June 29, 2021, volumes for Clairemont Drive (Burgener Blvd to Iroquois Ave) obtained from 2017 Clairemont Mesa CPU

**Table 12-2: Opening Year 2026 and Opening Year 2026 Plus Project Street Segments**

Road	Segment	# of Ln.	Capacity	Roadway Classification	Opening Year 2026			Opening Year 2026 + Project					I?
					LOS	Volume	V/C	LOS	Volume	V/C	Project ADT Added	% of Project Traffic Over Total Daily Traffic	
Burgener Blvd	Clairemont Dr. to Field St.	2	15,000	2-C (w/ TWLTL)	D	12,502	0.83	E	13,398	0.89	896	7%	No
Field Street	Fairfield St. to Burgener Blvd.	2	8,000	2-C (w/o TWLTL)	F	10,368	1.30	F	10,368	1.30	0	0%	No
Field Street	Burgener Blvd. to Cowley Wy.	2	10,000	2-C (w/o fronting property)	F	10,368	1.04	F	11,353	1.14	986	10%	No
Cowley Way	Mt. Acadia Blvd. to Iroquois Ave.	2	8,000	2-C (w/o TWLTL)	B	2,632	0.33	C	3,528	0.44	896	34%	No
Iroquois Ave.	Clairemont Dr. to Cowley Way	2	8,000	2-C (w/o TWLTL)	C	4,017	0.50	C	4,555	0.57	538	13%	No
Clairemont Drive	Burgener Blvd. to Iroquois Ave.	4	30,000	4-C (w/ TWLTL)	C	19,598	0.65	C	19,688	0.66	90	0%	No

**Legend:**

LOS= Level of Service

V/C= Volume to Capacity Ratio

ΔV/C= Change in V/C ratio

4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane

2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane

2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane

2-C (w/o fronting property) = 2-Lane Collector with no fronting property

I = Improvement Required

Table 12-3, and 12-4 show a summary of the intersection analysis in the Existing, and Near Term (2026) conditions.

Table 12-3: Existing Intersections

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Clairemont Dr. / Burgener Blvd.	Signalized	15.1	B	17.5	B
2	Field St. / Burgener Blvd.	All-Way Stop	11.2	B	14.4	B
3	Mt. Acadia Blvd. / Cowley Way.	All-Way Stop	9.8	A	13.2	B
4	Iroquois Ave. / Clairemont Dr.	Signalized	7.7	A	7.4	A
5	Iroquois Ave. / Cowley Way	All-Way Stop	7.8	A	7.9	A
6	Project Driveway / Field St.	One-Way Stop	13.2	B	13.7	B
7	Project Driveway / Cowley Way	One-Way Stop	9.1	A	9.2	A

**Notes:**

LOS = Level of Service

D = Delay (in sec.)

Table 12-4: Opening Year 2026 and Opening Year 2026 Plus Project Intersections

#	Intersection	Year 2026				Year 2026 + Project								Is the intersection within 1/2-mile path of travel of a Major Transit Stop?	Not within a 1/2-mile distance of a Major Transit Stop: Does the Project cause the intersection to degrade to LOS E or F? / Does the project add traffic to a signal already operating at LOS E or F?
		AM Peak Hour		PM Peak Hour		AM Peak Hour				PM Peak Hour					
		D	LOS	D	LOS	D	LOS	Δ	I?	D	LOS	Δ	I?		
1	Clairemont Dr. / Burgener Blvd.	16.5	B	21.0	C	17.1	B	0.6	No	21.9	C	0.9	No	No	No
2	Field St. / Burgener Blvd.	13.1	B	19.8	C	15.0	B	1.9	No	29.5	D	9.7	No	No	No
3	Mt. Acadia Blvd. / Cowley Way.	10.9	B	18.1	C	11.2	B	0.3	No	19.4	C	1.3	No	No	No
4	Iroquois Ave. / Clairemont Dr.	7.9	A	7.6	A	8.0	A	0.1	No	7.6	A	0.0	No	No	No
5	Iroquois Ave. / Cowley Way	8.1	A	8.2	A	8.4	A	0.3	No	8.5	A	0.3	No	No	No
6	Project Driveway / Field St.	14.9	B	15.6	C	15.4	C	0.5	No	17.2	C	1.6	No	No	No
7	Project Driveway / Cowley Way	9.2	A	9.4	A	13.3	B	4.1	No	10.0	A	0.6	No	No	No

**Notes:**

LOS = Level of Service

D = Delay (in sec.)

Δ = Change in Delay (in sec.)

I = Improvement Required

**Table 12-5: Existing Queuing Analysis**

#	Intersection	Existing							
		AM Peak Hour				PM Peak Hour			
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	94	88	NBL	Yes	98	88	NBL	Yes
		16	67	EBL	No	30	67	EBL	No
		64	97	EBR	No	94	97	EBR	No
		117	100	WBL	Yes	126	100	WBL	Yes
2	Field St. at Burgener Blvd.	39	37	NBR	Yes	50	37	NBR	Yes
		68	80	SBL	No	100	80	SBL	Yes
		53	60	WBR	No	66	60	WBR	Yes
4	Clairemont Dr. at Iroquois Ave.	26	75	NBL	No	58	75	NBL	No
		47	125	SBL	No	61	125	SBL	No
6	Field St. and gate at Project Drwy.	-	-	NB	No	-	-	NB	No
7	Cowley Way and gate at Project Driveway	-	-	WB	No	-	-	WB	No

\* = 4th leg of intersection is private property (northleg)

- = Project Parking Entrance Does Not Exist

**Table 12-6: Opening Year 2026 and Opening Year 2026 Plus Project Queuing Analysis**

#	Intersection	Opening Year 2026							
		AM Peak Hour				PM Peak Hour			
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	110	88	NBL	Yes	107	88	NBL	Yes
		19	67	EBL	No	36	67	EBL	No
		76	97	EBR	No	124	97	EBR	Yes
		133	100	WBL	Yes	142	100	WBL	Yes
2	Field St. at Burgener Blvd.	46	37	NBR	Yes	53	37	NBR	Yes
		77	80	SBL	No	115	80	SBL	Yes
		76	60	WBR	Yes	94	60	WBR	Yes
4	Clairemont Dr. at Iroquois Ave.	51	75	NBL	No	76	75	NBL	Yes
		52	125	SBL	No	65	125	SBL	No
6	Field St. and gate at Project Drwy.	-	-	NB	No	-	-	NB	No
7	Cowley Way and gate at Project Driveway	-	-	WB	No	-	-	WB	No

#	Intersection	Opening Year 2026 + Project							
		AM Peak Hour				PM Peak Hour			
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	108	88	NBL	Yes	112	88	NBL	Yes
		21	67	EBL	No	33	67	EBL	No
		78	97	EBR	No	158	97	EBR	Yes
		136	100	WBL	Yes	143	100	WBL	Yes
2	Field St. at Burgener Blvd.	74	37	NBR	Yes	61	37	NBR	Yes
		74	80	SBL	No	130	80	SBL	Yes
		104	60	WBR	Yes	110	60	WBR	Yes
4	Clairemont Dr. at Iroquois Ave.	32	75	NBL	No	78	75	NBL	Yes
		66	125	SBL	No	102	125	SBL	No
6	Field St. and gate at Project Drwy.	35	100	NB	No	52	100	NB	No
7	Cowley Way and gate at Project Driveway	36	110	WB	No	54	110	WB	No

\* = 4th leg of intersection is private property (northleg)

- = Project Parking Entrance Does Not Exist

For intersection 6 and 7, storage lengths are the estimated distance from the parking entrance to the nearest public street. Project site plan was referred to when determining distance. For intersection 6 and 7, the intersection was modeled as a stop controlled intersection to simulate a driver waiting at the gate. It is anticipated that the access control will be via RFID or License Plate Reader.

**Table 12-7: Opening Year 2026 and Opening Year 2026 Plus Project Queuing Analysis with Proposed Lane Increase Improvements**

#	Intersection	Opening Year 2026											
		AM Peak Hour						PM Peak Hour					
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	110	88	NBL	25	113	No	107	88	NBL	25	113	No
		19	67	EBL	0	67	No	36	67	EBL	0	67	No
		76	97	EBR**	0	97	No	124	97	EBR**	0	97	Yes
		133	100	WBL	43	143	No	142	100	WBL	43	143	No
2	Field St. at Burgener Blvd.	46	37	NBR***	0	37	Yes	53	37	NBR***	0	37	Yes
		77	80	SBL	50	130	No	115	80	SBL	50	130	No
		76	60	WBR	51	111	No	94	60	WBR	51	111	No
4	Clairemont Dr. at Iroquois Ave.	51	75	NBL	3	78	No	76	75	NBL	3	78	No
		52	125	SBL	0	125	No	65	125	SBL	0	125	No
#	Intersection	Opening Year 2026 + Project											
		AM Peak Hour						PM Peak Hour					
		Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?	Queue (95th percentile) (ft)	Storage Length (ft)	Turn Movement	Proposed Storage Length Increase	Total Storage Length After Increase	Exceed Storage?
1	Clairemont Dr. at Burgener Blvd. *	108	88	NBL	25	113	No	112	88	NBL	25	113	No
		21	67	EBL	0	67	No	33	67	EBL	0	67	No
		78	97	EBR**	0	97	No	158	97	EBR**	0	97	Yes
		136	100	WBL	43	143	No	143	100	WBL	43	143	No
2	Field St. at Burgener Blvd.	74	37	NBR***	0	37	Yes	61	37	NBR***	0	37	Yes
		74	80	SBL	50	130	No	130	80	SBL	50	130	No
		104	60	WBR	51	111	No	110	60	WBR	51	111	No
4	Clairemont Dr. at Iroquois Ave.	32	75	NBL	3	78	No	78	75	NBL	3	78	No
		66	125	SBL	0	125	No	102	125	SBL	0	125	No

\* = 4th leg of intersection is private property (northleg)

\*\* = The existing storage lane lengthening is feasible, however, it is not recommended to be lengthened as it may block the existing driveway for the businesses located on the southwest corner of Clairemont Drive and Burgener Blvd.

\*\*\* = The existing storage lane lengthening is feasible, however, it is not recommended to be lengthened as it may block the existing driveway for the single dwelling unit home located on the southeast corner of Field Street and Burgener Blvd.

**Table 12-10: Systemic Safety Analysis for Pedestrians**

#	Intersection	Pedestrian Matrix Footprint Met	Existing Countermeasures	Proposed Engineering Countermeasures
1	Clairemont Dr. / Burgener Blvd.	Footprint #2	-	Pedestrian Countdown Signals
2	Field St. / Burgener Blvd.	-	-	-
3	Mt. Acadia Blvd. / Cowley Way.	-	-	-
4	Iroquois Ave. / Clairemont Dr.	Footprint #2, #3	-	Pedestrian Countdown Signals
5	Iroquois Ave. / Cowley Way	-	-	-
6	Project Driveway / Field St.	-	-	-
7	Project Driveway / Cowley Way	-	-	-

**Table 12-1: Systemic Safety Analysis for Bicycles**

#	Intersection	Bicycle Matrix Footprint Met	Existing Countermeasures	Proposed Engineering Countermeasures
1	Clairemont Dr. / Burgener Blvd.	Footprint #1	-	Bicycle loop detector for EB approach**
2	Field St. / Burgener Blvd.	-	-	-
3	Mt. Acadia Blvd. / Cowley Way.	-	-	-
4	Iroquois Ave. / Clairemont Dr.	Footprint #1	-	*
5	Iroquois Ave. / Cowley Way	-	-	-
6	Project Driveway / Field St.	-	-	-
7	Project Driveway / Cowley Way	-	-	-

**Notes:**

\* = no bicycle lane present for approaches , no bicycle loop detector will be implemented

\*\* = no bicycle lane present for WB approach

**Table 12-12: Systemic Safety Analysis for Vehicles**

#	Intersection	Vehicle Matrix Footprint Met	Existing Countermeasures	Proposed Engineering Countermeasures
1	Clairemont Dr. / Burgener Blvd.	-	-	-
2	Field St. / Burgener Blvd.	-	-	-
3	Mt. Acadia Blvd. / Cowley Way.	-	-	-
4	Iroquois Ave. / Clairemont Dr.	Footprint #1	-	Backplates w/ Retroreflective Borders
5	Iroquois Ave. / Cowley Way	-	-	-
6	Project Driveway / Field St.	-	-	-
7	Project Driveway / Cowley Way	-	-	-

## 13.0 REFERENCES

- City of San Diego. 2003. San Diego Municipal Code, Land Development Code, Trip Generation Manual. San Diego, California: Development Services Department. May 2003.
- City of San Diego, *Transportation Study Manual*. San Diego, California: Development Services Department September 29, 2020
- City of San Diego. 2016. California Environmental Quality Act, Significance Determination Thresholds. San Diego, California: Development Services Department. July 2016.
- Transportation Research Board. 2016. Highway Capacity Manual 6<sup>th</sup> Edition. Washington, D.C.: Transportation Research Board.

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Traffic is a consequence of human behavior and as such is predictable only in a gross cumulative methodology of user opportunities, using accepted standards and following patterns of past behavior and physical constraints attempting to project into a future window of circumstances. Any counts or existing conditions cited are only as reliable as to the time and conditions under which they were recorded. As such the preparer of this analysis is unable to warrant, either express or implied, that any forecasts are statements of actual true conditions which will, in fact, exist at any future date.

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**Appendix A: Traffic Counts, Signal Timing, and Growth Factor Calculations**

Provided on the following page.

# VOLUME

Field St Bet. Burgener Blvd & Deerpark Dr

Day: Tuesday  
Date: 6/29/2021

City: San Diego  
Project #: CA21\_040112\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	3,613	3,833	7,446					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			7	5	12	12:00			80	80	160			
00:15			4	6	10	12:15			79	58	137			
00:30			6	1	7	12:30			59	70	129			
00:45			3	20	1	12:45			55	273	52	260	107	533
01:00			7	5	12	13:00			63	75	138			
01:15			2	3	5	13:15			57	61	118			
01:30			4	1	5	13:30			71	58	129			
01:45			2	15	1	13:45			59	250	53	247	112	497
02:00			1	1	2	14:00			50	57	107			
02:15			4	3	7	14:15			63	57	120			
02:30			3	3	6	14:30			66	59	125			
02:45			1	9	0	14:45			73	252	71	244	144	496
03:00			0	2	2	15:00			75	71	146			
03:15			2	1	3	15:15			80	55	135			
03:30			2	2	4	15:30			63	75	138			
03:45			3	7	0	15:45			85	303	61	262	146	565
04:00			0	0	0	16:00			88	55	143			
04:15			4	5	9	16:15			85	75	160			
04:30			1	5	6	16:30			99	79	178			
04:45			4	9	7	16:45			86	358	69	278	155	636
05:00			2	7	9	17:00			77	78	155			
05:15			7	12	19	17:15			86	77	163			
05:30			4	29	33	17:30			90	72	162			
05:45			18	31	20	17:45			73	326	79	306	152	632
06:00			20	21	41	18:00			74	72	146			
06:15			10	27	37	18:15			57	66	123			
06:30			13	35	48	18:30			65	51	116			
06:45			13	56	39	18:45			66	262	47	236	113	498
07:00			24	43	67	19:00			62	57	119			
07:15			37	80	117	19:15			49	46	95			
07:30			40	91	131	19:30			35	35	70			
07:45			48	149	67	19:45			53	199	41	179	94	378
08:00			43	70	113	20:00			38	48	86			
08:15			43	77	120	20:15			38	33	71			
08:30			42	68	110	20:30			30	30	60			
08:45			41	169	69	20:45			29	135	18	129	47	264
09:00			40	67	107	21:00			28	18	46			
09:15			46	71	117	21:15			20	21	41			
09:30			40	61	101	21:30			28	9	37			
09:45			51	177	55	21:45			16	92	13	61	29	153
10:00			74	59	133	22:00			12	13	25			
10:15			49	56	105	22:15			14	10	24			
10:30			40	69	109	22:30			11	7	18			
10:45			42	205	64	22:45			12	49	10	40	22	89
11:00			54	62	116	23:00			5	9	14			
11:15			58	59	117	23:15			10	9	19			
11:30			43	69	112	23:30			12	4	16			
11:45			78	233	68	23:45			7	34	2	24	9	58
<b>TOTALS</b>			1080	1567	2647	<b>TOTALS</b>			2533	2266	4799			
<b>SPLIT %</b>			40.8%	59.2%	35.5%	<b>SPLIT %</b>			52.8%	47.2%	64.5%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	3,613	3,833	7,446

AM Peak Hour			11:45	07:15	11:45	PM Peak Hour			16:00	17:00	16:30
AM Pk Volume			296	308	572	PM Pk Volume			358	306	651
Pk Hr Factor			0.925	0.846	0.894	Pk Hr Factor			0.904	0.968	0.914
7 - 9 Volume	0	0	318	565	883	4 - 6 Volume	0	0	684	584	1268
7 - 9 Peak Hour			07:45	07:15	07:30	4 - 6 Peak Hour			16:00	17:00	16:30
7 - 9 Pk Volume	0	0	176	308	479	4 - 6 Pk Volume	0	0	358	306	651
Pk Hr Factor	0.000	0.000	0.917	0.846	0.914	Pk Hr Factor	0.000	0.000	0.904	0.968	0.914

# VOLUME

Burgener Blvd Bet. Clairemont Dr & Field St

Day: Tuesday  
Date: 6/29/2021

City: San Diego  
Project #: CA21\_040112\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,842	4,137	0	0	8,979		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	5	8			13	12:00	81	84			165
00:15	6	7			13	12:15	81	85			166
00:30	0	6			6	12:30	97	78			175
00:45	2	13	3	24	5	12:45	88	347	68	315	156
01:00	5	8			37	13:00	79	69			662
01:15	4	2			13	13:15	80	78			148
01:30	1	6			6	13:30	79	57			158
01:45	1	11	0	16	7	13:45	74	312	62	266	136
02:00	1	2			27	14:00	72	64			136
02:15	2	4			3	14:15	83	63			146
02:30	4	1			6	14:30	69	81			150
02:45	0	7	1	8	1	14:45	87	311	90	298	177
03:00	0	0			15	15:00	89	70			609
03:15	2	2			0	15:15	74	99			159
03:30	1	1			4	15:30	95	80			173
03:45	1	4	6	9	2	15:45	93	351	97	346	175
04:00	1	1			7	16:00	77	105			190
04:15	7	2			13	16:15	92	82			697
04:30	6	2			2	16:30	95	107			182
04:45	11	25	4	9	8	16:45	74	338	108	402	174
05:00	10	3			15	17:00	85	81			202
05:15	19	9			34	17:15	89	99			182
05:30	38	4			2	17:30	92	103			740
05:45	28	95	21	37	49	17:45	80	346	80	363	188
06:00	32	19			132	18:00	77	73			195
06:15	34	15			51	18:15	75	66			160
06:30	40	17			49	18:30	69	66			709
06:45	57	163	20	71	77	18:45	48	269	63	268	150
07:00	56	29			85	19:00	59	61			141
07:15	83	43			126	19:15	51	43			135
07:30	111	55			166	19:30	33	43			111
07:45	99	349	54	181	153	19:45	35	178	51	198	537
08:00	95	48			85	20:00	51	61			120
08:15	102	54			143	20:15	40	36			94
08:30	100	57			156	20:30	39	33			76
08:45	93	390	68	227	157	20:45	22	152	35	165	76
09:00	89	69			161	21:00	15	24			317
09:15	86	55			158	21:15	19	19			39
09:30	82	61			141	21:30	17	32			38
09:45	76	333	59	244	143	21:45	13	64	16	91	49
10:00	79	97			135	22:00	13	18			29
10:15	72	60			176	22:15	7	18			155
10:30	77	50			132	22:30	16	12			31
10:45	73	301	38	245	127	22:45	10	46	13	61	25
11:00	97	49			111	23:00	10	8			28
11:15	97	52			146	23:15	8	12			23
11:30	106	57			149	23:30	8	13			107
11:45	106	406	97	255	163	23:45	5	31	5	38	18
TOTALS	2097	1326			203	TOTALS	2745	2811			5556
SPLIT %	61.3%	38.7%			38.1%	SPLIT %	49.4%	50.6%			61.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,842	4,137	0	0	8,979

AM Peak Hour	07:30	11:45			11:45	PM Peak Hour	15:30	16:00			15:45
AM Pk Volume	407	344			709	PM Pk Volume	357	402			748
Pk Hr Factor	0.917	0.887			0.873	Pk Hr Factor	0.939	0.931			0.926
7 - 9 Volume	739	408	0	0	1147	4 - 6 Volume	684	765	0	0	1449
7 - 9 Peak Hour	07:30	08:00			07:30	4 - 6 Peak Hour	16:15	16:00			16:00
7 - 9 Pk Volume	407	227	0	0	618	4 - 6 Pk Volume	346	402	0	0	740
Pk Hr Factor	0.917	0.835	0.000	0.000	0.931	Pk Hr Factor	0.911	0.931	0.000	0.000	0.916

### VOLUME

Cowley Way Bet. Mt Acadia Blvd & Palm Pt Ct/Iroquois Ave

Day: Tuesday  
Date: 6/29/2021

City: San Diego  
Project #: CA21\_040112\_003

DAILY TOTALS					NB	SB	EB	WB	Total		
					843	1,047	0	0	1,890		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	2	2			4	12:00	20	21			41
00:15	0	0			0	12:15	20	22			42
00:30	3	1			4	12:30	20	27			47
00:45	1	6	1	4	2	12:45	16	76	19	89	35
01:00	0	1			1	13:00	15	19			34
01:15	0	1			1	13:15	18	19			37
01:30	0	0			0	13:30	26	18			44
01:45	0	1	3		1	13:45	10	69	14	70	24
02:00	0	0			0	14:00	18	11			29
02:15	1	1			2	14:15	8	22			30
02:30	1	1			2	14:30	10	17			27
02:45	1	3	0	2	1	14:45	16	52	24	74	40
03:00	1	1			2	15:00	12	24			36
03:15	2	0			2	15:15	17	22			39
03:30	0	1			1	15:30	21	18			39
03:45	0	3	0	2	0	15:45	18	68	10	74	28
04:00	1	0			1	16:00	20	15			35
04:15	2	2			4	16:15	19	23			42
04:30	0	4			4	16:30	13	22			35
04:45	2	5	2	8	4	16:45	19	71	9	69	28
05:00	0	0			0	17:00	14	18			32
05:15	4	0			4	17:15	21	13			34
05:30	2	4			6	17:30	21	23			44
05:45	3	9	4	8	7	17:45	18	74	14	68	32
06:00	2	4			6	18:00	17	20			37
06:15	4	9			13	18:15	9	21			30
06:30	3	14			17	18:30	8	18			26
06:45	7	16	12	39	19	18:45	20	54	14	73	34
07:00	3	18			21	19:00	10	8			18
07:15	8	20			28	19:15	11	13			24
07:30	7	12			19	19:30	12	6			18
07:45	7	25	19	69	26	19:45	17	50	7	34	24
08:00	16	16			32	20:00	8	11			19
08:15	7	14			21	20:15	13	10			23
08:30	12	25			37	20:30	8	12			20
08:45	14	49	26	81	40	20:45	8	37	8	41	16
09:00	14	23			37	21:00	8	9			17
09:15	1	12			13	21:15	2	5			7
09:30	5	18			23	21:30	6	3			9
09:45	16	36	13	66	29	21:45	5	21	4	21	9
10:00	16	15			31	22:00	5	6			11
10:15	10	10			20	22:15	1	3			4
10:30	12	15			27	22:30	2	4			6
10:45	11	49	23	63	34	22:45	5	13	6	19	11
11:00	5	11			16	23:00	2	3			5
11:15	10	15			25	23:15	3	1			4
11:30	13	16			29	23:30	1	2			3
11:45	21	49	22	64	43	23:45	2	8	0	6	2
<b>TOTALS</b>	<b>250</b>	<b>409</b>			<b>659</b>	<b>TOTALS</b>	<b>593</b>	<b>638</b>			<b>1231</b>
<b>SPLIT %</b>	<b>37.9%</b>	<b>62.1%</b>			<b>34.9%</b>	<b>SPLIT %</b>	<b>48.2%</b>	<b>51.8%</b>			<b>65.1%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					843	1,047	0	0	1,890
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	15:30	12:00	12:00
AM Pk Volume	81	92			173	PM Pk Volume	78	89	165
Pk Hr Factor	0.964	0.852			0.920	Pk Hr Factor	0.929	0.824	0.878
7 - 9 Volume	74	150	0	0	224	4 - 6 Volume	145	137	0
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:45	16:15	17:00
7 - 9 Pk Volume	49	81	0	0	130	4 - 6 Pk Volume	75	72	0
Pk Hr Factor	0.766	0.779	0.000	0.000	0.813	Pk Hr Factor	0.893	0.783	0.000

### VOLUME

Iroquois Ave Bet. Cowley Way & Clairemont Dr

Day: Tuesday  
Date: 6/29/2021

City: San Diego  
Project #: CA21\_040112\_004

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	1,496	1,389	2,885					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			6	3	9	12:00			29	27	56			
00:15			1	2	3	12:15			24	22	46			
00:30			7	3	10	12:30			25	24	49			
00:45			5	19	2	10	12:45		22	100	22	95	44	195
01:00			3	1	4	13:00			31	25	56			
01:15			1	0	1	13:15			20	19	39			
01:30			3	0	3	13:30			23	29	52			
01:45			0	7	0	1	13:45		24	98	27	100	51	198
02:00			1	0	1	14:00			21	29	50			
02:15			2	0	2	14:15			30	20	50			
02:30			0	1	1	14:30			26	20	46			
02:45			0	3	1	2	14:45		25	102	19	88	44	190
03:00			1	1	2	15:00			30	22	52			
03:15			0	0	0	15:15			37	16	53			
03:30			1	0	1	15:30			26	17	43			
03:45			0	2	2	3	15:45		34	127	26	81	60	208
04:00			0	3	3	16:00			32	21	53			
04:15			0	1	1	16:15			30	20	50			
04:30			3	3	6	16:30			38	21	59			
04:45			3	6	5	12	16:45		32	132	17	79	49	211
05:00			1	5	6	17:00			29	19	48			
05:15			3	8	11	17:15			33	19	52			
05:30			2	9	11	17:30			39	16	55			
05:45			7	13	9	31	17:45		26	127	27	81	53	208
06:00			1	13	14	18:00			34	20	54			
06:15			7	6	13	18:15			40	21	61			
06:30			6	17	23	18:30			36	27	63			
06:45			6	20	17	53	18:45		24	134	15	83	39	217
07:00			7	18	25	19:00			24	19	43			
07:15			8	28	36	19:15			25	13	38			
07:30			12	36	48	19:30			14	11	25			
07:45			13	40	29	111	19:45		18	81	15	58	33	139
08:00			12	35	47	20:00			18	14	32			
08:15			17	35	52	20:15			22	14	36			
08:30			22	31	53	20:30			23	17	40			
08:45			20	71	19	120	20:45		20	83	13	58	33	141
09:00			1	21	22	21:00			21	16	37			
09:15			14	19	33	21:15			13	8	21			
09:30			17	19	36	21:30			17	6	23			
09:45			18	50	18	77	21:45		7	58	11	41	18	99
10:00			23	18	41	22:00			14	12	26			
10:15			16	26	42	22:15			13	6	19			
10:30			21	23	44	22:30			6	5	11			
10:45			17	77	14	81	22:45		8	41	7	30	15	71
11:00			24	14	38	23:00			7	3	10			
11:15			24	22	46	23:15			4	4	8			
11:30			12	25	37	23:30			5	6	11			
11:45			26	86	18	79	23:45		3	19	2	15	5	34
<b>TOTALS</b>			394	580	974	<b>TOTALS</b>			1102	809	1911			
<b>SPLIT %</b>			40.5%	59.5%	33.8%	<b>SPLIT %</b>			57.7%	42.3%	66.2%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	1,496	1,389	2,885

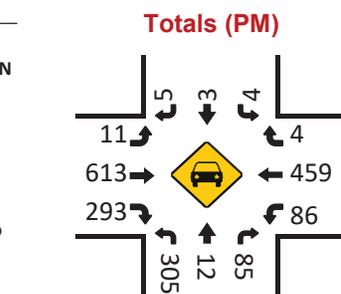
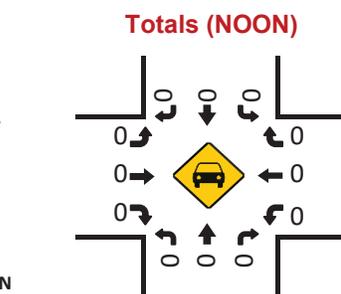
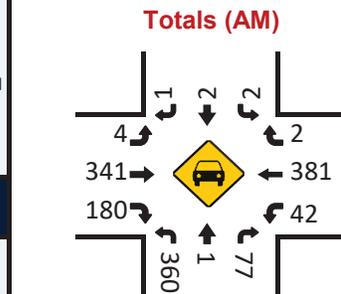
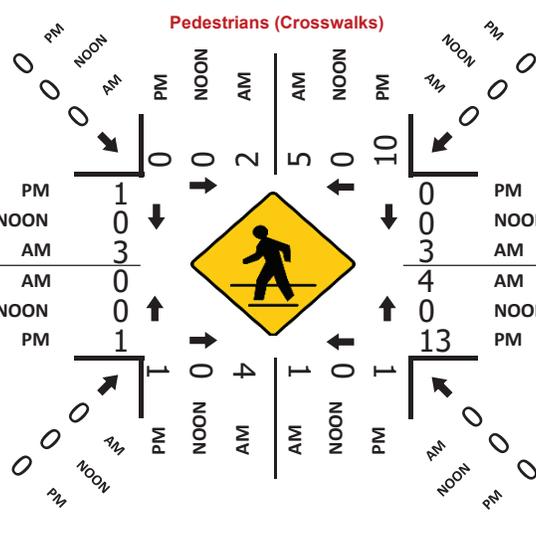
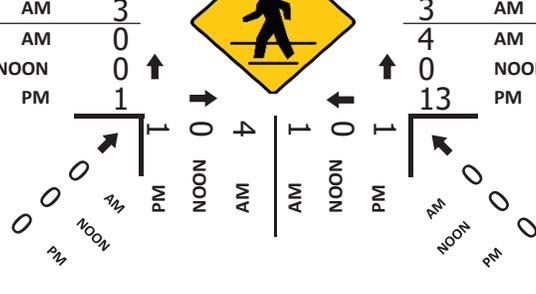
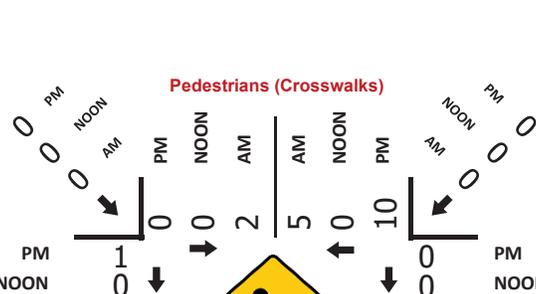
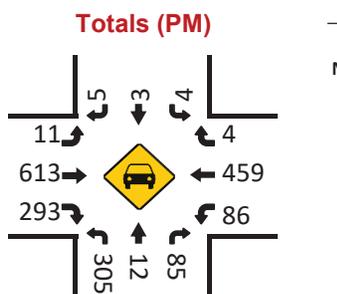
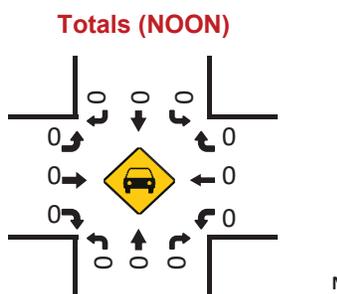
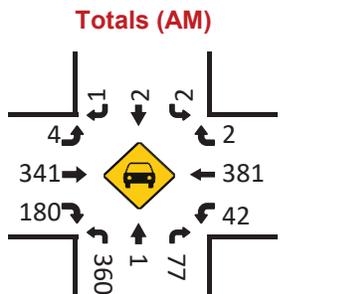
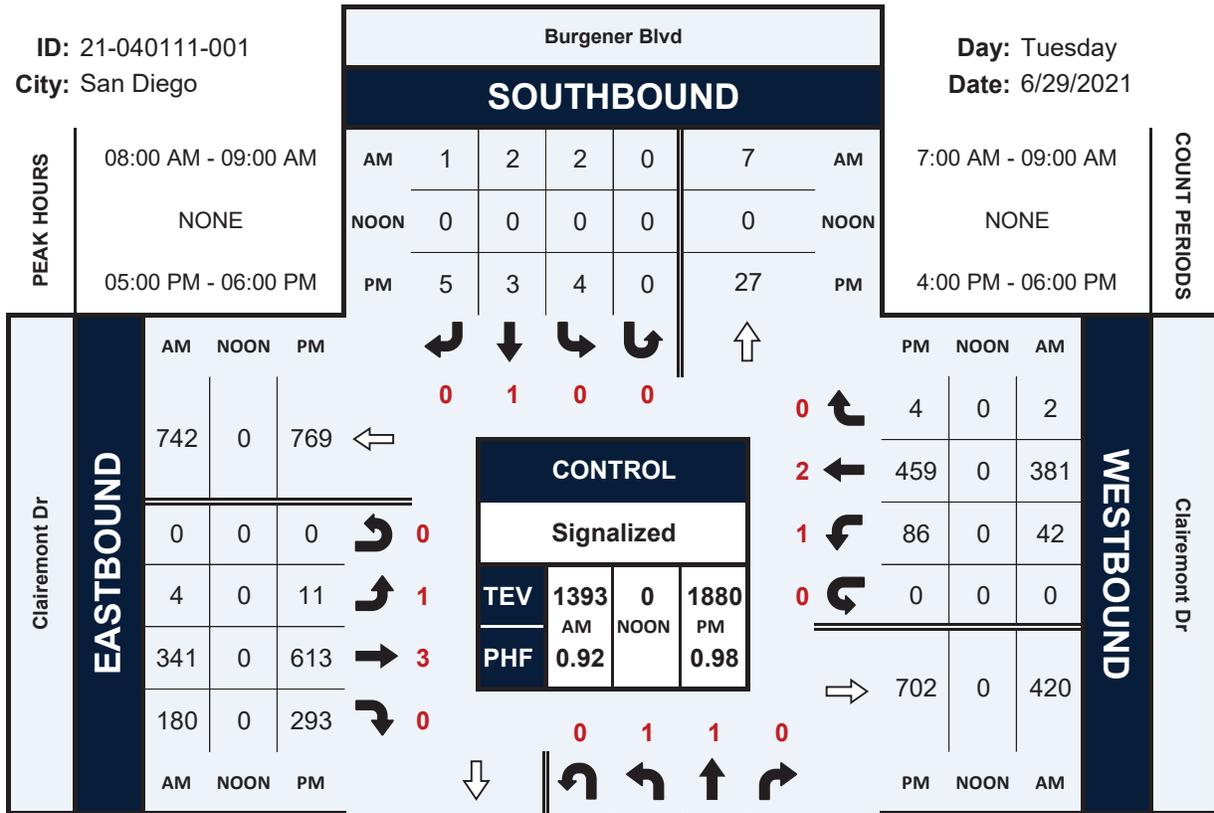
AM Peak Hour	11:45	07:30	11:45	PM Peak Hour	17:30	13:30	17:45				
AM Pk Volume	104	135	195	PM Pk Volume	139	105	231				
Pk Hr Factor	0.897	0.938	0.871	Pk Hr Factor	0.869	0.905	0.917				
7 - 9 Volume	0	0	111	231	342	4 - 6 Volume	0	0	259	160	419
7 - 9 Peak Hour	08:00	07:30	07:45	4 - 6 Peak Hour	16:45	17:00	16:00				
7 - 9 Pk Volume	0	0	71	135	194	4 - 6 Pk Volume	0	0	133	81	211
Pk Hr Factor	0.000	0.000	0.807	0.938	0.915	Pk Hr Factor	0.000	0.000	0.853	0.750	0.894

# Burgener Blvd & Clairemont Dr

## Peak Hour Turning Movement Count

ID: 21-040111-001  
City: San Diego

Day: Tuesday  
Date: 6/29/2021

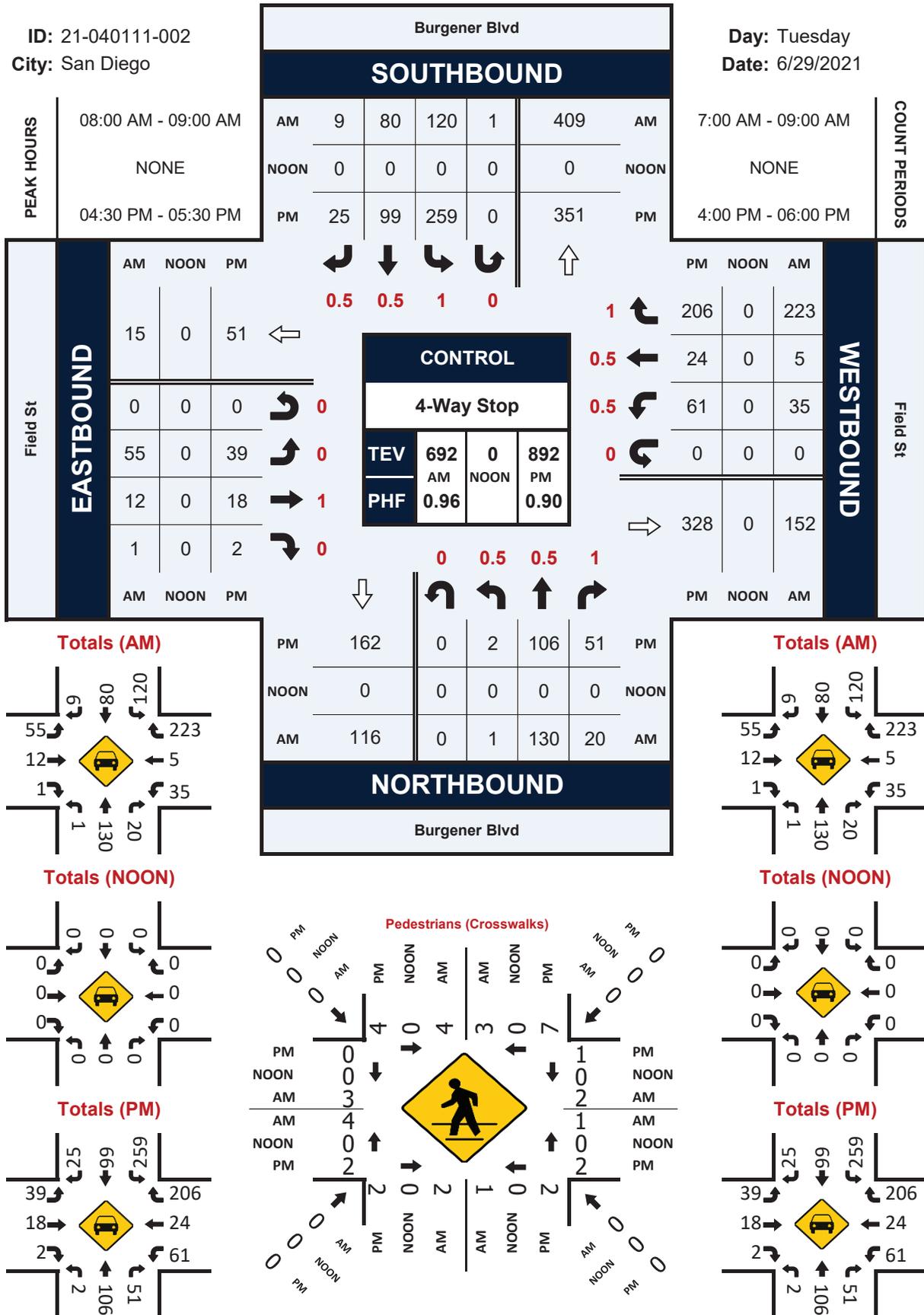


# Burgener Blvd & Field St

## Peak Hour Turning Movement Count

ID: 21-040111-002  
City: San Diego

Day: Tuesday  
Date: 6/29/2021

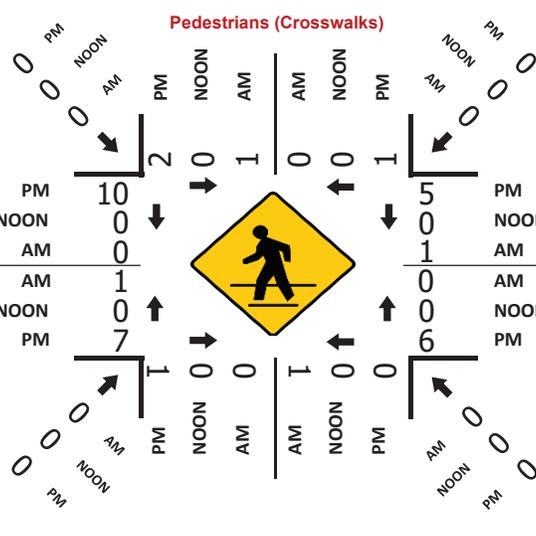
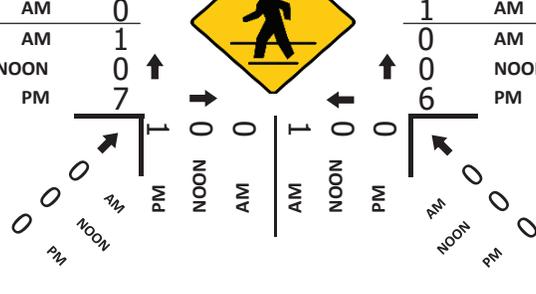
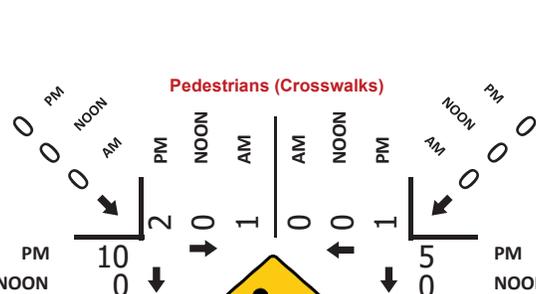
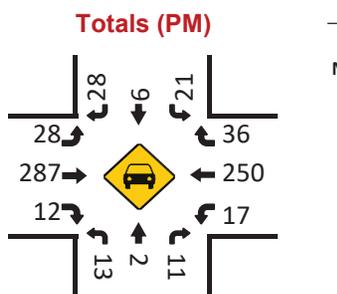
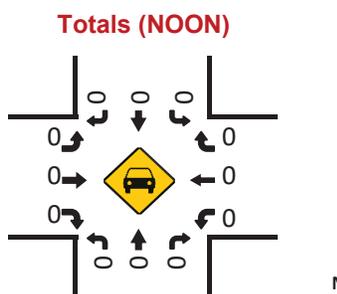
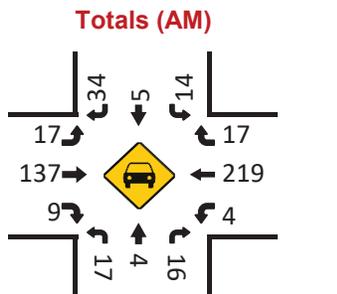
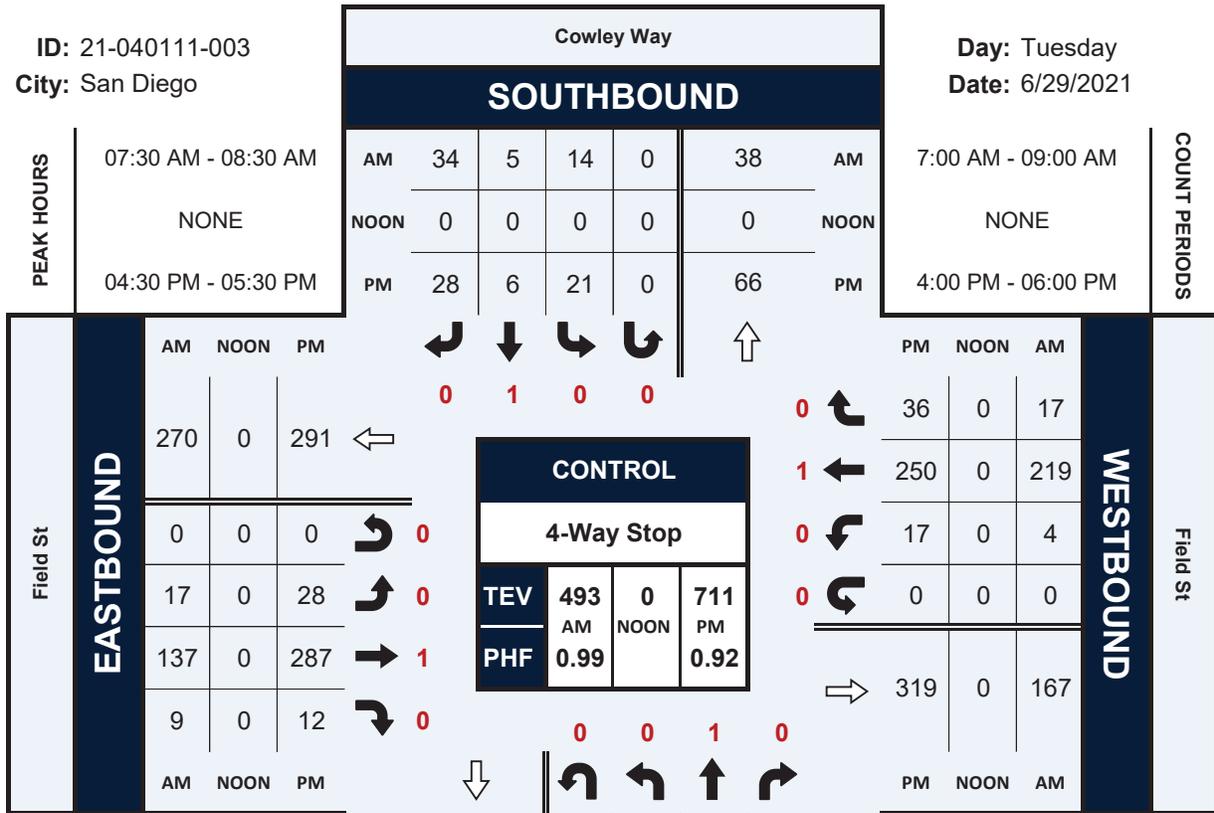


# Cowley Way & Field St

## Peak Hour Turning Movement Count

ID: 21-040111-003  
City: San Diego

Day: Tuesday  
Date: 6/29/2021





**INTERSECTION: Clairemont Drive and Burgener Boulevard**

Group Assignment:  
Field Master Assignment:  
System Reference Number:

N/S Street Name: Burgener Boulevard  
E/W Street Name: Clairemont Drive

Last Database Change:

Change Record		
Timing Sheet By	Approved By	Date
SGC	AL 3	3/7/18

Free Lag **<C/1+F+0>** \_2\_4\_6\_

Drop Number	<C/0+0+0>
Zone Number	<C/0+0+1>
Area Number	<C/0+0+2>
Area Address	<C/0+0+3>
QuicNet Channel	(QuicNet)

Manual Plan	0	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Manual Plan  
0 = Automatic  
1-9 = Plan 1-9  
14 = Free  
16 = Flash  
  
 Manual Offset  
0 = Automatic  
1 = Offset A  
2 = Offset B  
3 = Offset C

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>
FYA Red Revert	0.0	<F/1+0+5>
OVLP CHG Red	0.0	<F/1+0+3>

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

**Communication Addresses**

**Manual Selection**

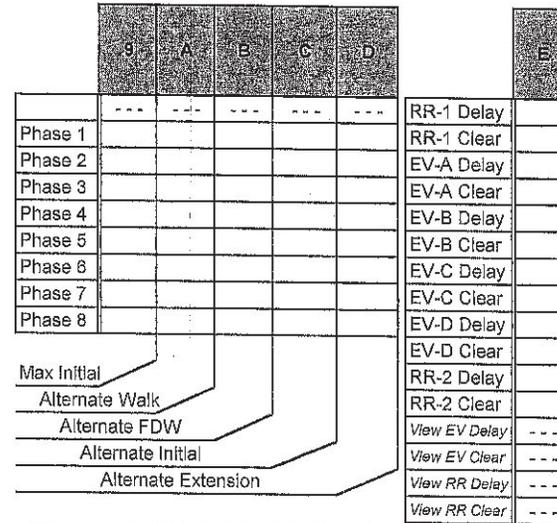
**Start / Revert Times**

**Exclusive Ped Phase**  
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Column Numbers ---->		Phase							
Row	Phase Names ---->	1	2	3	4	5	6	7	8
0	Ped Walk		7	7	7		7		
1	Ped FDW		10	25	24		9		
2	Min Green	4	10	4	4	4	10		
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	4.5	2.5	3.0	2.0	4.5		
6	Max Gap	2.0	4.5	2.5	3.0	2.0	4.5		
7	Min Gap	2.0	0.2	2.5	3.0	2.0	0.2		
8	Max Limit	30	60	45	25	30	60		
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every		0.7				0.7		
E	Yellow Change	3.4	4.3	3.9	3.9	3.4	4.3		
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0		

Phase Timing - Bank 1 <F/1+Phase+Row>

How to Set Page Access Code: F/1 - C + 0 + F = 1



Alternate Timing <F/1+Column+Phase>

Preempt Timing <F/1+E+Row>

Row	Phase Functions <F/1+F+Row>	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	Permit																
1	Red Lock																
2	Yellow Lock																
3	Min Recall																
4	Ped Recall																
5	View Set Peds																
6	Rest in Walk																
7	Red Rest																
8	Dual Entry																
9	Max Recall																
A	Soft Recall																
B	Max 2																
C	Cond. Service																
D	Man Cntrl Calls																
E	Yellow Start																
F	First Phases																

# INTERSECTION: Clairemont Drive and Burgener Boulevard

Column Numbers ---->		Overlap							
Row	Overlap Name ---->	1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases	3							
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases	1 4							
5	Neg Ped Phases	2 4							
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8	Overlap Recall								
9	Queue Jump Phase								
A	Queue Jump Time								
B	Minimum Green								
C	Maximum Green								
D	Green Clear								
E	Yellow Change	3.4							
F	Red Clear								

Overlap Assignments <E/29+Column+Row>

- Extra 1 Flags**  
 1 = TBC Type 1  
 2 = NEMA Ext. Coord  
 3 = Auto Daylight Savings  
 4 = Solid FDW on EV  
 5 = Extended Status  
 6 = International Ped  
 7 = Flash - Clear Outputs  
 8 = Split Ring

- Extra 2 Flags**  
 1 = AWB During Initial  
 2 = Reserved  
 3 = Disable Min Walk  
 4 = QuicNet System  
 5 = Ignore P/P on EV  
 6 = Manual Hold in FDW  
 7 = Allow QuicNet PE  
 8 = Flash Grn B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

**Preempt Priority**  
 <E/125+C+Row>  
 (\* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration <E/125+E+Row>

Row	Column Numbers ---->	F
0	Ext. Permit 1 Phases	
1	Ext. Permit 2 Phases	
2	Exclusive Ped Assign	
3	Preempt Non-Lock	
4	Ped for 2P Output	2
5	Ped for 6P Output	6
6	Ped for 4P Output	4
7	Ped for 8P Output	3
8	Yellow Flash Phases	
9	Low Priority A Phases	
A	Low Priority B Phases	
B	Low Priority C Phases	
C	Low Priority D Phases	
D	Restricted Phases	
E	Extra 2 Config. Bits	3

Configuration <E/125+F+Row>

Row	Column Numbers ---->	F
0	Fast Green Flash Phase	
1	Green Flash Phases	
2	Flashing Walk Phases	
3	Guaranteed Passage	
4	Simultaneous Gap Term	12345678
5	Sequential Timing	
6	Advance Walk Phases	
7	Delay Walk Phases	
8	External Recall	
9	Start-up Overlap Green	
A	Max Extension	
B	Inhibit Ped Reservice	
C	Semi-Actuated	
D	Start-up Overlap Yellow	
E	Start-up Vehicle Calls	123456
F	Start-up Ped Calls	2 4 6

Specials <F/2+F+Row>

- Flash to PE & PE Non-Lock**  
 1 = EV A 5 = RR 1  
 2 = EV B 6 = RR 2  
 3 = EV C 7 = SE 1  
 4 = EV D 8 = SE 2

- IC Select Flags**  
 1 =  
 2 = Modern  
 3 = 7-Wire Slave  
 4 =  
 5 =  
 6 = Simplex Master  
 7 =  
 8 = Offset Interrupter

Row	2	Row
0		0
1	Phase 1 10	1
2	Phase 2 10	2
3	Phase 3 10	3
4	Phase 4 10	4
5	Phase 5 10	5
6	Phase 6 10	6
7	Phase 7 10	7
8	Phase 8 10	8

**Coordination Transition Minimums**  
 <C/5+2+Row>

# INTERSECTION: Clairemont Drive and Burgener Boulevard

Column Numbers ---->		0	1	2	3	4	5
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0	2I2U	39	45 7	2	123 8		1.8
1	6J2U	40	45 7	6	123 8		1.8
2	4I6U	41	45 7	4	123 8	5.0	
3	8J6U	42	45 7	8	123		
4	2I2L	43	45 7	2	123		
5	6J2L	44	45 7	6	123		
6	4I6L	45	45 7	4	123		
7	8J6L	46	45 7	8	123		
8	2I4	47	67	2	123		
9	6J4	48	67	6	123		
A	4I8	49	67	4	123		
B	8J8	50	67	8	123		
C	5J1U	55	45 7	5	123		
D	1I1U	56	45 7	1	123		
E	7J5	57	45 7	7	123		
F	3I5	58	45 7	3	123		

Column Numbers ---->		Ped / Phase / Overlap								Row
		1	2	3	4	5	6	7	8	
0	Walk									0
1	Don't Walk									1
2	Phase Green									2
3	Phase Yellow									3
4	Phase Red									4
5	Overlap Green	35								5
6	Overlap Yellow	37								6
7	Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type | 30 | <E/125+D+0>

### Enable Redirection

(Enable Redirection = 30)

Max OFF (minutes) | 60 | <D/0+0+1>

Max ON (minutes) | 5 | <D/0+0+2>

Chatter Fall Time | 0 | <D/0+0+4>

### Detector Failure Monitor

	B	Row
One-Shot	0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

### Delay Logic Times

<D/0+B+Row> (seconds)

Column Numbers ---->		4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0	5J9U	59	45 7	5	123		
1	1I9U	60	45 7	1	123		
2	7J9L	61	45 7	7	123		
3	3I9L	62	45 7	3	123		
4	2I3U	63	45 7	2	123		
5	6J3U	64	45 7	6	123		
6	4I7U	65	45 7	4	123		
7	8J7U	66	45 7	8	123 8		
8	2 PPB	67	2	2	123		
9	6 PPB	68	2	6	123		
A	4 PPB	69	2	7	123		
B	8 PPB	70	2	7	123		
C	2I3L	76	45 7	2	123		
D	6J3L	77	45 7	6	123		
E	4I7L	78	45 7	4	123		
F	8J7L	79	45 7	8	123		

### Detector Attributes

- 1 = Full Time Delay
- 2 = Ped Call
- 3 = Overlap
- 4 = Count
- 5 = Extension
- 6 = Type 3
- 7 = Calling
- 8 = Alternate

### Det. Assignments

- 1 = Det. Set 1
- 2 = Det. Set 2
- 3 = Det. Set 3
- 4 =
- 5 =
- 6 = Failure - Min Recall
- 7 = Failure - Max Recall
- 8 = Report on Failure

Detector Assignments <E/126+Column+Row>

<D/0+Column+Row>



# INTERSECTION: Clairemont Drive and Burgener Boulevard

Column Numbers ---->		Plan								
Row	Plan Name ---->	1	2	3	4	5	6	7	8	9
0	Cycle Length									
1	Phase 1 - ForceOff									
2	Phase 2 - ForceOff									
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff									
5	Phase 5 - ForceOff									
6	Phase 6 - ForceOff									
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset 1									
B	Offset 2									
C	Offset 3									
D	Perm 1 - End									
E	Hold Release									
F	Reserved									

Coordination - Bank 1 <C/1+Plan+Row>

0	Ped Adjustment									
1	Perm 2 - Start									
2	Perm 2 - End									
3	Perm 3 - Start									
4	Perm 3 - End									
5	Reservice Time									
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase									
B	Perm 1 Ped Phase									
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C/2+Plan+Row>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

Row	E	Row
0		0
1	Plan 1 - Sync	1
2	Plan 2 - Sync	2
3	Plan 3 - Sync	3
4	Plan 4 - Sync	4
5	Plan 5 - Sync	5
6	Plan 6 - Sync	6
7	Plan 7 - Sync	7
8	Plan 8 - Sync	8
9	Plan 9 - Sync	9
A	NEMA Sync	A
B	NEMA Hold	B
C		C
D		D
E	Coord Extra	E
F		F

Sync Phases <C/1+E+Row>

Row	F	Row
0	Free Lag	0
1	Plan 1 - Lag	1
2	Plan 2 - Lag	2
3	Plan 3 - Lag	3
4	Plan 4 - Lag	4
5	Plan 5 - Lag	5
6	Plan 6 - Lag	6
7	Plan 7 - Lag	7
8	Plan 8 - Lag	8
9	Plan 9 - Lag	9
A	External Lag	A
B	Lag Hold	B
C		C
D		D
E		E
F		F

Lag Phases <C/1+F+Row>

Coordination Timing By:  
 Date:

**INTERSECTION: Clairemont Drive and Burgener Boulevard**

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	One-Shot Timer	Latch 1 Set	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term	0
1	AND-5 (a)	Latch 1 Reset	NOT-4	Reserved	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A	71
2	AND-5 (b)	Latch 2 Set	OR-4 (a)	Reserved	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B	72
3	AND-6 (a)	Latch 2 Reset	OR-4 (b)	Reserved	Plan 3	Gate Down	Offset 2 (7-Wire)	EV-C	73
4	AND-6 (b)	NAND-3 (a)	OR-5 (a)	Reserved	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D	74
5	Reserved	NAND-3 (b)	OR-5 (b)	Reserved	Plan 5	Stop Time	Free (7-Wire)	RR-1	51
6	Reserved	NAND-4 (a)	OR-6 (a)	Reserved	Plan 6	Flash Sense	Flash (7-Wire)	RR-2	52
7	Reserved	NAND-4 (b)	OR-6 (b)	Reserved	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1	
8	Spec. Funct. 1	OR-7 (a)	EXTMR	Reserved	Plan 8	Man. Advance	NOT-1	Spec. Event 2	
9	Spec. Funct. 2	OR-7 (b)	Reserved	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag	
A	Spec. Funct. 3	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	AND-1 (a)	
B	Spec. Funct. 4	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	AND-1 (b)	
C	Reserved	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	OR-2 (a)	AND-2 (a)	
D	Reserved	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)	AND-2 (b)	
E	Reserved	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)	AND-3 (a)	
F	Reserved	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)	AND-3 (b)	

Assignable Inputs <E/126+Column+Row>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Reserved	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	Dial 2 (7-Wire)	
1	Reserved	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	TOD Out 2	Dial 3 (7-Wire)	
2	Reserved	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3	Offset 1 (7-Wire)	
3	Reserved	Phase ON - 4	Sp Evnt Out 3	EXTMR	Plan 3	OR-3	TOD Out 4	Offset 2 (7-Wire)	
4	Reserved	Phase ON - 5	Sp Evnt Out 4	One-Shot Timer	Plan 4	AND-1	TOD Out 5	Offset 3 (7-Wire)	
5	Reserved	Phase ON - 6	Sp Evnt Out 5	Reserved	Plan 5	AND-2	TOD Out 6	Free (7-Wire)	
6	Reserved	Phase ON - 7	Sp Evnt Out 6	Latch 1	Plan 6	AND-3	TOD Out 7	Flash (7-Wire)	
7	Reserved	Phase ON - 8	Sp Evnt Out 7	Latch 2	Plan 7	NOT-2	TOD Out 8	Preempt	
8	Flh Yell Arrow 1	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1	Low Priority A	
9	Green 1	Ph. Check - 2	Coord On	NOT-4	Plan 9	EV-B	Adv. Warn - 2	Low Priority B	
A	Flh Yell Arrow 3	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A	Low Priority C	
B	Green 3	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B	Low Priority D	
C	Flh Yell Arrow 5	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C	AND-5	
D	Green 5	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D	AND-6	
E	Flh Yell Arrow 7	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E	Reserved	
F	Green 7	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F	Reserved	

Assignable Outputs <E/127+Column+Row>

# INTERSECTION: Clairemont Drive and Burgener Boulevard

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk								
1	Ped FDW								
2	Min Green								
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension								
6	Max Gap								
7	Min Gap								
8	Max Limit								
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every								
E	Yellow Change								
F	Red Clear								

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					

Max Initial  
Alternate Walk  
Alternate FDW  
Alternate Initial  
Alternate Extension

Alternate Timing

Transition Type  
0.X = Shortway  
1.X = Lengthen  
X.1 thru X.4 =  
Number of  
cycles when  
lengthing

Transition Type **0.3** <C/5+1+9>

**TBC Transition**

Hawk Select **0** <F/1+0+4>

**Hawk Select** 200 = Mid-Block, 201 = Hawk

Address **0** <C/1+0+6>

Select Parity **0** <C/1+0+5>

**AB3418 Comm 2** 0 = No Parity, 1 = Even

Begin Month **3** <C/5+2+A>

Begin Week **2** <C/5+2+B>

End Month **11** <C/5+2+C>

End Week **1** <C/5+2+D>

**Daylight Savings Time**

Daylight Savings  
Date  
If set to all zeros,  
standard dates  
will be used.

Time B4 Yellow **0.0** <F/1+C+E>

Phase Number **0** <F/1+C+F>

**Advance Warning Beacon - Sign 1**

Time B4 Yellow **0.0** <F/1+D+E>

Phase Number **0** <F/1+D+F>

**Advance Warning Beacon - Sign 2**

Offset Time **0** <C/5+2+E>

Max Cycle Time **20** <C/5+2+F>

**Yellow Yield Coordination**

Omit Alarm **12345678**  
**#NAME?** <C/5+F+0>

IEN Status **1** <C/5+1+B>

Synch Time **0.0** <C/5+1+C>

**Other Parameters**

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk								
1	Ped FDW								
2	Min Green								
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension								
6	Max Gap								
7	Min Gap								
8	Max Limit								
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every								
E	Yellow Change								
F	Red Clear								

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					

Max Initial  
Alternate Walk  
Alternate FDW  
Alternate Initial  
Alternate Extension

Alternate Timing

**INTERSECTION: Clairemont Drive and Burgener Boulevard**

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
A										
B										
C										
D										
E										
F										

**Special Event Schedule -- Table 1**

<C+0+E=27>

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<E/27+5+F>  
**Limited Service Interval**

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
A										
B										
C										
D										
E										
F										

**Special Event Schedule -- Table 2**

<C+0+E=28>

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<E/28+5+F>  
**Limited Service Interval**

**INTERSECTION: Clairemont Drive and Burgener Boulevard**

Min Time (seconds)  <F/1+0+8>  
**Min Green Before PE Force Off**

Max Time (minutes)  <F/1+0+9>  
**Max Preempt Time Before Failure**

Min Time (seconds)  <F/1+0+A>  
**Min Time Between Same Preempts**  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel  <E/125+C+8>  
**Disable Low Priority Channel**

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Row		
C	Bus Headway	0
D	Bus Delay	0
E	Max Early Grn	0
F	Max Grn Ext.	0

**Priority Parameters**  
 <F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

**Headway Schedule** <C+0+9=2.1>

Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

**Low Priority Preemption (Bus Priority)**

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

**SECTION: Clairemont Dr & Iroquois Ave**

**223 F ram**

Group Assignment:  
Field Master Assignment:

N/S Street Name: Iroquois Ave  
E/W Street Name: Clairemont Dr

Last Change:  
Timing Sheet By: DOC  
Approved By: *ZUC*  
Drawing Number: 13732-4-D  
Sys. Ref. Number:  
Timing implemented on:

Row	Column # -->	Clairemont Dr		Iroquois Ave							
		Phase # -->	1	2	3	4	5	6	7	8	
0	Ped Walk										
1	Ped FDW										
2	Min Green										
3	Type 3 Limit										
4	Add/Veh										
5	Veh Extn										
6	Max Gap										
7	Min Gap										
8	Max Limit										
9	Max Limit 2										
A	Bus Adv										
B	Call to Phs										
C	Reduce By										
D	Every										
E	Yellow										
F	Red Clear										

Phase Timing - Bank 1  
F + Phase + Row

<F Page>

Row	Phase	Value
0	RR-1 Delay	
1	RR-1 Clear	
2	EV-A Delay	
3	EV-A Clear	
4	EV-B Delay	
5	EV-B Clear	
6	EV-C Delay	
7	EV-C Clear	
8	EV-D Delay	
9	EV-D Clear	
A	RR-2 Delay	
B	RR-2 Clear	
C	View EV Delay	---
D	View EV Clear	---
E	View RR Delay	---
F	View RR Clear	---

Preempt Timing

F + E + Row

Row	Phase	Value
0	Permit	2_4
1	Red Lock	
2	Yellow Lock	
3	Min Recall	2
4	Ped Recall	
5	Peds (View)	2_4
6	Rest In Walk	
7	Red Rest	
8	Dbl Entry	
9	Max Recall	
A	Soft Recall	
B	Max 2	
C	Cond Serv	
D	Ped Lock	12345678
E	Yellow Start	2
F	1st Phases	4

Phase Functions

F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + 0

**Start / Revert Times**

Drop Number		C + 0 + 0
Zone Number		C + 0 + 1
Area Number		C + 0 + 2
Area Address		C + 0 + 3
QuicNet Channel		(QuicNet)

**Communication Addresses**

C + F + 0	Row
Free Lag	2_4
Lag Phases	0

<C Page>

Row	Phase	Green Clear	Yellow Change	Red Clear	Load-Switch #
A	Overlap A				
B	Overlap B				
C	Overlap C				
D	Overlap D				

Overlap Timing <F Page>

<D Page>

F + COLOR +

D + 0 + OVERLAP

Downtime Flash 255 (minutes)

Downtime Before Auto Manual Flash

F + 0 + 8

Manual Plan	14	C + A + 1
Manual Offset		C + B + 1

**Manual Selection**

Manual Plan  
0 = Automatic  
1-9 = Plan 1-9  
14 = Free  
15 = Flash

Manual Offset  
0 = Automatic  
1 = Offset A  
2 = Offset B  
3 = Offset C

Disable Ports 234

Disable Communications Ports

D + D + 9

13732-4-D / SCHEDULE 10; REASSIGN Φ 6 DETECTORS TO Φ 2 SINCE THE WIRING OF CABINET WILL NOT PERMIT THE SEPARATION OF THE TWO PHASES

*DOC*  
*2/28/03*



Row	1	3
0	Delay	Carry-over
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E		---
F	---	---

Detector Name	332 Input File	Detector Number
	.111	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row
A
B
C
D
E
F

Detector Numbers	E
1 2 3 4 5 6 7 8	12345678
9 10 11 12 -- -- --	1234
13 14 15 16 17 18 19 20	12345678
-- -- -- -- 21 22 23 24	5678
-- -- -- -- -- -- --	1234
-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	2	4
0	Delay	Carry-over
1		
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E		---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Row
0
1
2
3
4
5
6
7
8

Detector #	
System Det. # 1	0
System Det. # 2	0
System Det. # 3	0
System Det. # 4	0
System Det. # 5	0
System Det. # 6	0
System Det. # 7	0
System Det. # 8	0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

**Detector Failure Monitor**

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

**Advance Warning Beacon - Sign 1**

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

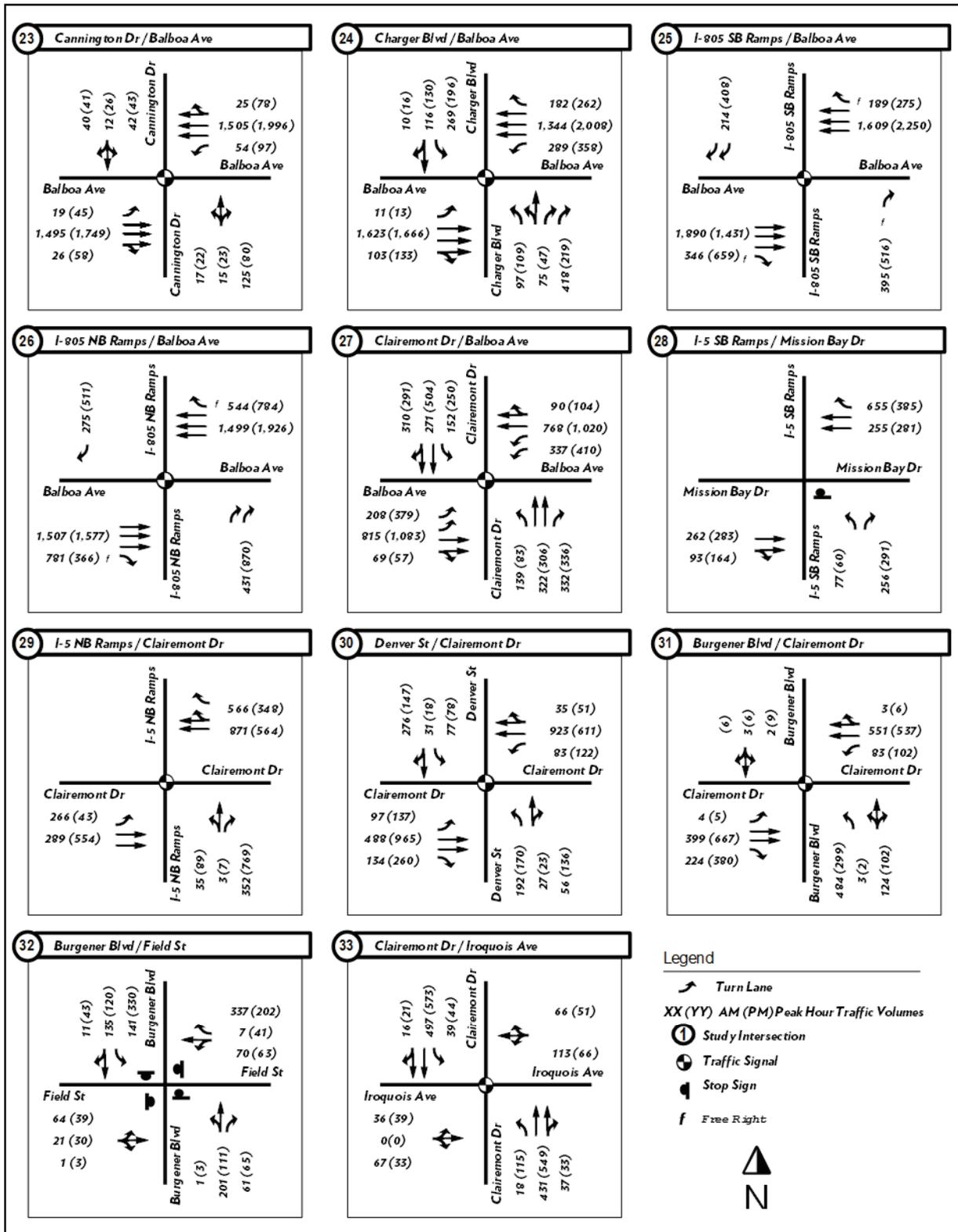
**Advance Warning Beacon - Sign 2**

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

**Power Cycle Correction (Default = 0.5)**  
(These parameters are NOT downloaded.)

Detector Delay & Carryover <D Page>

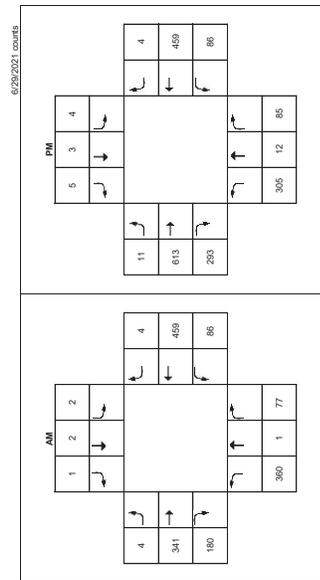
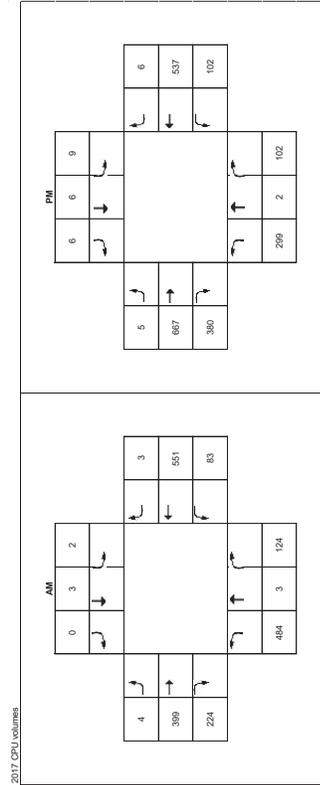
D + X (across) + ROW



**Table 4-26. Existing Roadway Segment Analysis**

Roadway Segment	Existing Conditions				
	Lanes/ Functional Class	LOS E Maximum Capacity	ADT	V/C	LOS
<b>Balboa Avenue</b>					
1. Morena Boulevard SB Ramps to Morena Boulevard NB Ramps	4MA	40,000	49,079	1.227	F
2. Morena Boulevard NB Ramps to Moraga Avenue	4MA	40,000	43,115	1.078	F
3. Moraga Avenue to Clairemont Drive	4MA	40,000	32,883	0.822	D
4. Clairemont Drive to Genesee Avenue	4MA	40,000	37,383	0.935	E
5. Genesee Avenue to Mt. Abernathy Avenue	6MA	50,000	42,290	0.846	D
6. Mt. Abernathy Avenue to Mt. Albertine Avenue	6MA	50,000	50,195	1.004	F
7. Mt. Albertine Avenue to Charger Boulevard	6MA	50,000	55,304	1.106	F
8. Charger Boulevard to I-805 SB Ramps	6MA	50,000	66,534	1.331	F
9. I-805 SB Ramps to I-805 NB Off-ramp (WB)	6MA	50,000	65,519	1.310	F
10. I-805 NB Off-ramp (WB) to I-805 NB Off-ramp (EB) <sup>1</sup>	6MA	50,000	64,043	1.281	F
<b>Clairemont Drive</b>					
11. Kleefeld Avenue to Clairemont Mesa Boulevard	4C	30,000	8,961	0.299	A
12. Clairemont Mesa Boulevard to Chippewa Court	2C	15,000	21,259	1.417	F
13. Chippewa Court to Balboa Avenue	4MA	40,000	21,259	0.531	C
14. Balboa Avenue to Iroquois Avenue	4MA	40,000	19,325	0.483	B
15. Iroquois Avenue to Burgener Boulevard	4C	30,000	14,075	0.469	C
16. Burgener Boulevard to Denver Street	2C	15,000	23,294	1.553	F
17. Denver Street to I-5 NB Ramps	4MA	40,000	31,162	0.779	D
18. I-5 NB Ramps to I-5 SB Ramps <sup>1</sup>	4MA	40,000	18,253	0.456	B
<b>Clairemont Mesa Boulevard</b>					
19. Luna Avenue to Moraga Avenue	4MA	40,000	18,122	0.453	B
20. Moraga Avenue to Clairemont Drive	4MA	40,000	22,046	0.551	C
21. Clairemont Drive to Rolfe Road	4MA	40,000	18,118	0.453	B
22. Rolfe Road to Clairemont Drive / Kleefeld Avenue	4MA	40,000	20,528	0.513	B
23. Clairemont Drive / Kleefeld Avenue to Genesee Avenue	4MA	40,000	25,310	0.633	C
24. Genesee Avenue to Doliva Drive	4MA	40,000	26,497	0.662	C
25. Doliva Drive to I-805 SB Off-ramp (WB)	5MA	50,000	35,656	0.792	D
26. I-805 SB Off-ramp (WB) to I-805 NB On-ramp (EB)	5MA	45,000	48,599	1.080	F
27. I-805 NB On-ramp (EB) to I-805 NB Off-ramp (EB) <sup>1</sup>	5MA	45,000	54,600	1.213	F
<b>Garnet Avenue</b>					
28. West of Mission Bay Drive <sup>1</sup>	4MA	40,000	61,958	1.549	F

Growth Factor Calculations



Intersection: Clairemont Dr. / Burgener Blvd.  
 Date of Counts: 6/29/2021  
 Company: Urban Systems Associates, Inc.

Total	AM	PM
1,880	1,517	1,680
2,121	1,880	1,517
(2017 counts - 6/29/2021 counts) AM	363	383
(2017 counts - 6/29/2021 counts) PM	241	241
% change from 6/29/21 counts AM	24%	24%
% change from 6/29/21 counts PM	13%	13%
Avg	18%	18%

Will assume 18% global growth, used the intersection to determine growth because it held the most volumes out of the study area

---

**Appendix B: Existing Am/PM Synchro Worksheets**

Provided on the following page.

HCM 6th Signalized Intersection Summary  
1: Burgener Blvd. & Clairemont Dr.

existing am  
10/05/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	402	230	101	542	5	461	1	91	2	2	1
Future Volume (veh/h)	5	402	230	101	542	5	461	1	91	2	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	437	250	110	589	5	594	0	0	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	10	808	751	141	1088	9	878	461	0	4	4	2
Arrive On Green	0.01	0.23	0.23	0.08	0.30	0.30	0.25	0.00	0.00	0.01	0.01	0.01
Sat Flow, veh/h	1781	3554	1585	1781	3611	31	3563	1870	0	708	708	354
Grp Volume(v), veh/h	5	437	250	110	290	304	594	0	0	5	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1781	1870	0	1771	0	0
Q Serve(g_s), s	0.1	4.8	4.4	2.7	6.0	6.0	6.7	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	4.8	4.4	2.7	6.0	6.0	6.7	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	0.40		0.20
Lane Grp Cap(c), veh/h	10	808	751	141	535	562	878	461	0	10	0	0
V/C Ratio(X)	0.52	0.54	0.33	0.78	0.54	0.54	0.68	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	206	1682	1141	266	901	946	2581	1355	0	1243	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.9	15.0	7.3	20.0	12.9	12.9	15.0	0.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	37.5	0.6	0.3	9.0	0.9	0.8	0.9	0.0	0.0	38.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.7	2.0	1.3	2.1	2.2	2.4	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	15.6	7.5	28.9	13.7	13.7	16.0	0.0	0.0	60.0	0.0	0.0
LnGrp LOS	E	B	A	C	B	B	B	A	A	E	A	A
Approach Vol, veh/h		692			704			594				5
Approach Delay, s/veh		13.0			16.1			16.0				60.0
Approach LOS		B			B			B				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	15.3		5.1	4.6	18.6		15.8				
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9				
Max Green Setting (Gmax), s	6.6	20.9		31.0	5.1	22.4		32.0				
Max Q Clear Time (g_c+I1), s	4.7	6.8		2.1	2.1	8.0		8.7				
Green Ext Time (p_c), s	0.0	3.3		0.0	0.0	3.1		2.2				

Intersection Summary

HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	65	15	1	41	6	263	1	153	24	143	94	11
Future Vol, veh/h	65	15	1	41	6	263	1	153	24	143	94	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	16	1	45	7	286	1	166	26	155	102	12
Number of Lanes	0	1	0	0	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	10.9	11.6	11	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	80%	87%	0%	100%	0%
Vol Thru, %	99%	0%	19%	13%	0%	0%	90%
Vol Right, %	0%	100%	1%	0%	100%	0%	10%
Sign Control	Stop						
Traffic Vol by Lane	154	24	81	47	263	143	105
LT Vol	1	0	65	41	0	143	0
Through Vol	153	0	15	6	0	0	94
RT Vol	0	24	1	0	263	0	11
Lane Flow Rate	167	26	88	51	286	155	114
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.287	0.04	0.161	0.092	0.423	0.283	0.189
Departure Headway (Hd)	6.175	5.461	6.587	6.476	5.328	6.55	5.969
Convergence, Y/N	Yes						
Cap	581	655	543	553	675	549	601
Service Time	3.917	3.203	4.639	4.216	3.067	4.29	3.708
HCM Lane V/C Ratio	0.287	0.04	0.162	0.092	0.424	0.282	0.19
HCM Control Delay	11.4	8.4	10.9	9.9	11.9	11.9	10.1
HCM Lane LOS	B	A	B	A	B	B	B
HCM 95th-tile Q	1.2	0.1	0.6	0.3	2.1	1.2	0.7

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

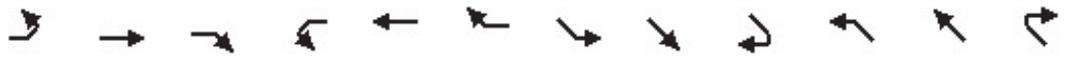
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	175	11	5	280	20	20	5	19	17	6	40
Future Vol, veh/h	20	175	11	5	280	20	20	5	19	17	6	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	190	12	5	304	22	22	5	21	18	7	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	10.5	8.5	8.5
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	10%	2%	27%
Vol Thru, %	11%	85%	92%	10%
Vol Right, %	43%	5%	7%	63%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	206	305	63
LT Vol	20	20	5	17
Through Vol	5	175	280	6
RT Vol	19	11	20	40
Lane Flow Rate	48	224	332	68
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.284	0.408	0.093
Departure Headway (Hd)	5.104	4.568	4.435	4.914
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	699	786	812	727
Service Time	3.156	2.604	2.467	2.964
HCM Lane V/C Ratio	0.069	0.285	0.409	0.094
HCM Control Delay	8.5	9.4	10.5	8.5
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	1.2	2	0.3

HCM 6th Signalized Intersection Summary  
4: Clairemont Dr. & Iroquois Ave.

existing am  
10/05/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	35	8	54	103	2	57	40	371	11	19	421	37
Future Volume (veh/h)	35	8	54	103	2	57	40	371	11	19	421	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	9	59	112	2	62	43	403	12	21	458	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	110	280	465	51	165	452	1137	34	488	1068	93
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	352	345	875	790	159	516	900	3524	105	971	3308	288
Grp Volume(v), veh/h	106	0	0	176	0	0	43	203	212	21	245	253
Grp Sat Flow(s),veh/h/ln	1573	0	0	1466	0	0	900	1777	1852	971	1777	1819
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	1.1	2.4	2.4	0.5	3.0	3.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	2.3	0.0	0.0	4.1	2.4	2.4	2.9	3.0	3.0
Prop In Lane	0.36		0.56	0.64		0.35	1.00		0.06	1.00		0.16
Lane Grp Cap(c), veh/h	679	0	0	682	0	0	452	574	598	488	574	587
V/C Ratio(X)	0.16	0.00	0.00	0.26	0.00	0.00	0.10	0.35	0.35	0.04	0.43	0.43
Avail Cap(c_a), veh/h	2132	0	0	2055	0	0	1282	2213	2306	1385	2213	2265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	0.0	7.2	0.0	0.0	9.0	7.2	7.2	8.3	7.4	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.4	0.4	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.5	0.0	0.0	0.2	0.6	0.6	0.1	0.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	0.0	0.0	7.3	0.0	0.0	9.1	7.5	7.5	8.3	7.9	7.9
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		106			176			458			519	
Approach Delay, s/veh		6.9			7.3			7.7			7.9	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.9		13.8		13.9		13.8				
Change Period (Y+Rc), s		5.0		4.9		* 5		4.9				
Max Green Setting (Gmax), s		35.6		34.5		* 36		34.5				
Max Q Clear Time (g_c+I1), s		3.3		6.1		4.3		5.0				
Green Ext Time (p_c), s		0.6		2.8		1.1		3.3				

Intersection Summary

HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A

Notes

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

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	42	96	24	24	96
Future Vol, veh/h	42	42	96	24	24	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	46	104	26	26	104
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	8.3	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	80%	50%	0%
Vol Thru, %	20%	0%	20%
Vol Right, %	0%	50%	80%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	120	84	120
LT Vol	96	42	0
Through Vol	24	0	24
RT Vol	0	42	96
Lane Flow Rate	130	91	130
Geometry Grp	1	1	1
Degree of Util (X)	0.158	0.109	0.135
Departure Headway (Hd)	4.355	4.291	3.713
Convergence, Y/N	Yes	Yes	Yes
Cap	815	840	948
Service Time	2.428	2.291	1.806
HCM Lane V/C Ratio	0.16	0.108	0.137
HCM Control Delay	8.3	7.8	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.4	0.5

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	243	401	0	24	24
Future Vol, veh/h	0	243	401	0	24	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	264	436	0	26	26

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	436	0	-	0	700 436
Stage 1	-	-	-	-	436 -
Stage 2	-	-	-	-	264 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1124	-	-	-	405 620
Stage 1	-	-	-	-	652 -
Stage 2	-	-	-	-	780 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1124	-	-	-	405 620
Mov Cap-2 Maneuver	-	-	-	-	405 -
Stage 1	-	-	-	-	652 -
Stage 2	-	-	-	-	780 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1124	-	-	-	490
HCM Lane V/C Ratio	-	-	-	-	0.106
HCM Control Delay (s)	0	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

**Intersection**

Int Delay, s/veh 2.8

**Movement** EBL EBR NBL NBT SBT SBR

Lane Configurations	W			W	W	
Traffic Vol, veh/h	24	24	0	45	63	0
Future Vol, veh/h	24	24	0	45	63	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	26	0	49	68	0

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	117	68	68	0	-	0
Stage 1	68	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	879	995	1533	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	879	995	1533	-	-	-
Mov Cap-2 Maneuver	879	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	973	-	-	-	-	-

**Approach** EB NB SB

HCM Control Delay, s 9.1 0 0  
HCM LOS A

**Minor Lane/Major Mvmt** NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1533	-	933	-	-
HCM Lane V/C Ratio	-	-	0.056	-	-
HCM Control Delay (s)	0	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th Signalized Intersection Summary  
1: Burgener Blvd. & Clairemont Dr.

existing pm  
10/05/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	723	375	101	542	5	390	14	100	5	4	6
Future Volume (veh/h)	13	723	375	101	542	5	390	14	100	5	4	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	786	408	110	589	5	274	225	109	5	4	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	1167	923	142	1424	12	452	302	146	8	7	12
Arrive On Green	0.01	0.33	0.33	0.08	0.39	0.39	0.25	0.25	0.25	0.02	0.02	0.02
Sat Flow, veh/h	1781	3554	1585	1781	3611	31	1781	1190	577	534	427	748
Grp Volume(v), veh/h	14	786	408	110	290	304	274	0	334	16	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1781	0	1767	1709	0	0
Q Serve(g_s), s	0.5	11.5	8.8	3.7	7.1	7.1	8.2	0.0	10.5	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	11.5	8.8	3.7	7.1	7.1	8.2	0.0	10.5	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.33	0.31		0.44
Lane Grp Cap(c), veh/h	25	1167	923	142	701	735	452	0	449	27	0	0
V/C Ratio(X)	0.57	0.67	0.44	0.77	0.41	0.41	0.61	0.00	0.74	0.60	0.00	0.00
Avail Cap(c_a), veh/h	150	1698	1160	253	952	999	942	0	934	876	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.7	17.5	7.1	27.3	13.3	13.3	19.9	0.0	20.8	29.6	0.0	0.0
Incr Delay (d2), s/veh	18.8	0.7	0.3	8.7	0.4	0.4	1.3	0.0	2.5	19.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.4	4.7	1.8	2.6	2.7	3.3	0.0	4.3	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	18.2	7.4	36.0	13.7	13.6	21.2	0.0	23.2	49.4	0.0	0.0
LnGrp LOS	D	B	A	D	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1208			704			608			16	
Approach Delay, s/veh		14.9			17.1			22.3			49.4	
Approach LOS		B			B			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	25.2		5.8	5.2	29.2		20.3				
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9				
Max Green Setting (Gmax), s	8.6	28.9		31.0	5.1	32.4		32.0				
Max Q Clear Time (g_c+I1), s	5.7	13.5		2.6	2.5	9.1		12.5				
Green Ext Time (p_c), s	0.1	6.3		0.0	0.0	3.7		2.8				

Intersection Summary

HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕	↕	↕	↕	
Traffic Vol, veh/h	46	23	2	72	31	243	2	125	60	306	117	30
Future Vol, veh/h	46	23	2	72	31	243	2	125	60	306	117	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	25	2	78	34	264	2	136	65	333	127	33
Number of Lanes	0	1	0	0	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	11.8	12.9	11.1	17.3
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	65%	70%	0%	100%	0%
Vol Thru, %	98%	0%	32%	30%	0%	0%	80%
Vol Right, %	0%	100%	3%	0%	100%	0%	20%
Sign Control	Stop						
Traffic Vol by Lane	127	60	71	103	243	306	147
LT Vol	2	0	46	72	0	306	0
Through Vol	125	0	23	31	0	0	117
RT Vol	0	60	2	0	243	0	30
Lane Flow Rate	138	65	77	112	264	333	160
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.259	0.109	0.157	0.219	0.438	0.625	0.271
Departure Headway (Hd)	6.742	6.019	7.332	7.031	5.966	6.765	6.112
Convergence, Y/N	Yes						
Cap	530	592	486	508	600	532	585
Service Time	4.52	3.797	5.426	4.803	3.737	4.528	3.875
HCM Lane V/C Ratio	0.26	0.11	0.158	0.22	0.44	0.626	0.274
HCM Control Delay	11.9	9.5	11.8	11.8	13.4	20.2	11.2
HCM Lane LOS	B	A	B	B	B	C	B
HCM 95th-tile Q	1	0.4	0.6	0.8	2.2	4.3	1.1

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

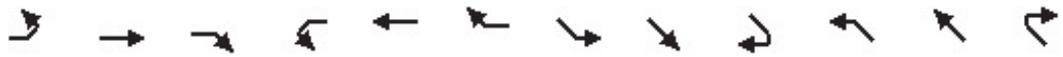
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	367	14	20	320	42	15	2	13	25	7	33
Future Vol, veh/h	33	367	14	20	320	42	15	2	13	25	7	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	399	15	22	348	46	16	2	14	27	8	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.2	13.1	9.3	9.5
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	8%	5%	38%
Vol Thru, %	7%	89%	84%	11%
Vol Right, %	43%	3%	11%	51%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	414	382	65
LT Vol	15	33	20	25
Through Vol	2	367	320	7
RT Vol	13	14	42	33
Lane Flow Rate	33	450	415	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.585	0.538	0.113
Departure Headway (Hd)	5.936	4.677	4.667	5.772
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	607	765	768	625
Service Time	3.939	2.743	2.734	3.774
HCM Lane V/C Ratio	0.054	0.588	0.54	0.114
HCM Control Delay	9.3	14.2	13.1	9.5
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	3.9	3.3	0.4

HCM 6th Signalized Intersection Summary  
4: Clairemont Dr. & Iroquois Ave.

existing pm  
10/05/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	41	5	40	58	5	46	61	561	25	80	602	92
Future Volume (veh/h)	41	5	40	58	5	46	61	561	25	80	602	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	5	43	63	5	50	66	610	27	87	654	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	72	183	329	64	166	425	1532	68	473	1366	209
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	545	278	708	628	246	643	710	3466	153	791	3090	472
Grp Volume(v), veh/h	93	0	0	118	0	0	66	312	325	87	376	378
Grp Sat Flow(s),veh/h/ln	1532	0	0	1517	0	0	710	1777	1843	791	1777	1785
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	2.4	3.9	3.9	2.8	4.9	5.0
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.8	0.0	0.0	7.4	3.9	3.9	6.7	4.9	5.0
Prop In Lane	0.48		0.46	0.53		0.42	1.00		0.08	1.00		0.26
Lane Grp Cap(c), veh/h	558	0	0	560	0	0	425	785	814	473	785	789
V/C Ratio(X)	0.17	0.00	0.00	0.21	0.00	0.00	0.16	0.40	0.40	0.18	0.48	0.48
Avail Cap(c_a), veh/h	1735	0	0	1729	0	0	864	1885	1955	963	1885	1894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.6	0.0	0.0	9.7	0.0	0.0	9.1	6.3	6.3	8.5	6.5	6.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.0	0.2	0.3	0.3	0.2	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.5	0.0	0.0	0.3	0.9	1.0	0.4	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	0.0	0.0	9.9	0.0	0.0	9.3	6.6	6.6	8.7	7.0	7.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		93			118			703			841	
Approach Delay, s/veh		9.7			9.9			6.8			7.2	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.6		19.5		13.6		19.5				
Change Period (Y+Rc), s		5.0		4.9		5.0		4.9				
Max Green Setting (Gmax), s		35.0		35.1		35.0		35.1				
Max Q Clear Time (g_c+I1), s		3.4		9.4		3.8		8.7				
Green Ext Time (p_c), s		0.5		4.8		0.7		5.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				7.4								
HCM 6th LOS				A								

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	79	54	24	24	54
Future Vol, veh/h	79	79	54	24	24	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	86	59	26	26	59
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.1	8.1	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	69%	50%	0%
Vol Thru, %	31%	0%	31%
Vol Right, %	0%	50%	69%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	78	158	78
LT Vol	54	79	0
Through Vol	24	0	24
RT Vol	0	79	54
Lane Flow Rate	85	172	85
Geometry Grp	1	1	1
Degree of Util (X)	0.105	0.192	0.094
Departure Headway (Hd)	4.442	4.023	3.991
Convergence, Y/N	Yes	Yes	Yes
Cap	794	878	903
Service Time	2.538	2.115	1.991
HCM Lane V/C Ratio	0.107	0.196	0.094
HCM Control Delay	8.1	8.1	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.7	0.3

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	386	343	0	24	24
Future Vol, veh/h	0	386	343	0	24	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	420	373	0	26	26

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	373	0	-	0	793 373
Stage 1	-	-	-	-	373 -
Stage 2	-	-	-	-	420 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1185	-	-	-	358 673
Stage 1	-	-	-	-	696 -
Stage 2	-	-	-	-	663 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1185	-	-	-	358 673
Mov Cap-2 Maneuver	-	-	-	-	358 -
Stage 1	-	-	-	-	696 -
Stage 2	-	-	-	-	663 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1185	-	-	-	467
HCM Lane V/C Ratio	-	-	-	-	0.112
HCM Control Delay (s)	0	-	-	-	13.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	24	24	0	78	65	0
Future Vol, veh/h	24	24	0	78	65	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	26	0	85	71	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	156	71	71	0	-	0
Stage 1	71	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	835	991	1529	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	835	991	1529	-	-	-
Mov Cap-2 Maneuver	835	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1529	-	906	-	-
HCM Lane V/C Ratio	-	-	0.058	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

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**Appendix C: Opening Year 2026 AM/PM Synchro Worksheets**

Provided on the following page.

HCM 6th Signalized Intersection Summary  
1: Burgener Blvd. & Clairemont Dr.

nearterm am  
10/05/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	474	271	119	640	6	544	1	107	2	2	1
Future Volume (veh/h)	6	474	271	119	640	6	544	1	107	2	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	515	295	129	696	7	700	0	0	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	858	812	166	1179	12	966	507	0	4	4	2
Arrive On Green	0.01	0.24	0.24	0.09	0.33	0.33	0.27	0.00	0.00	0.01	0.01	0.01
Sat Flow, veh/h	1781	3554	1585	1781	3604	36	3563	1870	0	708	708	354
Grp Volume(v), veh/h	7	515	295	129	343	360	700	0	0	5	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1864	1781	1870	0	1771	0	0
Q Serve(g_s), s	0.2	6.4	5.6	3.5	8.1	8.1	8.9	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.4	5.6	3.5	8.1	8.1	8.9	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	0.40		0.20
Lane Grp Cap(c), veh/h	13	858	812	166	581	609	966	507	0	10	0	0
V/C Ratio(X)	0.53	0.60	0.36	0.78	0.59	0.59	0.72	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	181	1468	1084	242	794	833	2275	1194	0	1096	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.8	16.9	7.3	22.2	14.1	14.1	16.6	0.0	0.0	24.9	0.0	0.0
Incr Delay (d2), s/veh	29.2	0.7	0.3	9.4	1.0	0.9	1.1	0.0	0.0	38.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	2.8	1.8	2.9	3.1	3.3	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	17.5	7.6	31.6	15.0	15.0	17.6	0.0	0.0	63.3	0.0	0.0
LnGrp LOS	D	B	A	C	B	B	B	A	A	E	A	A
Approach Vol, veh/h		817			832			700				5
Approach Delay, s/veh		14.3			17.6			17.6				63.3
Approach LOS		B			B			B				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	17.4		5.2	4.8	21.7		18.5				
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9				
Max Green Setting (Gmax), s	6.8	20.7		31.0	5.1	22.4		32.0				
Max Q Clear Time (g_c+I1), s	5.5	8.4		2.1	2.2	10.1		10.9				
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	3.5		2.7				

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	77	18	1	48	7	310	1	181	28	169	111	13
Future Vol, veh/h	77	18	1	48	7	310	1	181	28	169	111	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	20	1	52	8	337	1	197	30	184	121	14
Number of Lanes	0	1	0	0	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	12	14.1	12.6	12.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	80%	87%	0%	100%	0%
Vol Thru, %	99%	0%	19%	13%	0%	0%	90%
Vol Right, %	0%	100%	1%	0%	100%	0%	10%
Sign Control	Stop						
Traffic Vol by Lane	182	28	96	55	310	169	124
LT Vol	1	0	77	48	0	169	0
Through Vol	181	0	18	7	0	0	111
RT Vol	0	28	1	0	310	0	13
Lane Flow Rate	198	30	104	60	337	184	135
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.362	0.05	0.204	0.113	0.531	0.354	0.238
Departure Headway (Hd)	6.582	5.865	7.052	6.82	5.668	6.928	6.345
Convergence, Y/N	Yes						
Cap	544	607	505	524	633	518	563
Service Time	4.356	3.639	5.145	4.589	3.436	4.698	4.114
HCM Lane V/C Ratio	0.364	0.049	0.206	0.115	0.532	0.355	0.24
HCM Control Delay	13.1	9	12	10.5	14.7	13.5	11.1
HCM Lane LOS	B	A	B	B	B	B	B
HCM 95th-tile Q	1.6	0.2	0.8	0.4	3.1	1.6	0.9

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	207	13	6	330	24	24	6	22	20	7	47
Future Vol, veh/h	24	207	13	6	330	24	24	6	22	20	7	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	225	14	7	359	26	26	7	24	22	8	51
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	12	9	8.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	10%	2%	27%
Vol Thru, %	12%	85%	92%	9%
Vol Right, %	42%	5%	7%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	244	360	74
LT Vol	24	24	6	20
Through Vol	6	207	330	7
RT Vol	22	13	24	47
Lane Flow Rate	57	265	391	80
Geometry Grp	1	1	1	1
Degree of Util (X)	0.084	0.347	0.495	0.115
Departure Headway (Hd)	5.374	4.711	4.555	5.169
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	660	759	787	687
Service Time	3.459	2.765	2.603	3.249
HCM Lane V/C Ratio	0.086	0.349	0.497	0.116
HCM Control Delay	9	10.3	12	8.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.3	1.6	2.8	0.4

HCM 6th Signalized Intersection Summary  
4: Clairemont Dr. & Iroquois Ave.

nearterm am  
10/05/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	41	9	64	122	2	67	47	438	13	22	497	44
Future Volume (veh/h)	41	9	64	122	2	67	47	438	13	22	497	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	10	70	133	2	73	51	476	14	24	540	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	103	274	449	46	161	432	1260	37	473	1181	105
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	360	328	876	806	148	516	828	3525	104	906	3302	293
Grp Volume(v), veh/h	125	0	0	208	0	0	51	240	250	24	290	298
Grp Sat Flow(s),veh/h/ln	1564	0	0	1470	0	0	828	1777	1852	906	1777	1818
Q Serve(g_s), s	0.0	0.0	0.0	1.4	0.0	0.0	1.5	3.0	3.0	0.6	3.8	3.8
Cycle Q Clear(g_c), s	1.6	0.0	0.0	3.1	0.0	0.0	5.3	3.0	3.0	3.6	3.8	3.8
Prop In Lane	0.36		0.56	0.64		0.35	1.00		0.06	1.00		0.16
Lane Grp Cap(c), veh/h	652	0	0	656	0	0	432	635	662	473	635	650
V/C Ratio(X)	0.19	0.00	0.00	0.32	0.00	0.00	0.12	0.38	0.38	0.05	0.46	0.46
Avail Cap(c_a), veh/h	1961	0	0	1884	0	0	1088	2043	2129	1191	2043	2090
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	0.0	0.0	8.1	0.0	0.0	9.4	7.2	7.2	8.5	7.4	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.4	0.4	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.7	0.0	0.0	0.2	0.7	0.8	0.1	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	0.0	0.0	8.4	0.0	0.0	9.6	7.5	7.5	8.5	7.9	7.9
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		125			208			541			612	
Approach Delay, s/veh		7.8			8.4			7.7			7.9	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.4		15.6		14.4		15.6				
Change Period (Y+Rc), s		5.0		4.9		5.0		4.9				
Max Green Setting (Gmax), s		35.6		34.5		35.6		34.5				
Max Q Clear Time (g_c+I1), s		3.6		7.3		5.1		5.8				
Green Ext Time (p_c), s		0.8		3.4		1.3		4.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				7.9								
HCM 6th LOS				A								

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	50	113	28	28	113
Future Vol, veh/h	50	50	113	28	28	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	54	123	30	30	123
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.1	8.5	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	80%	50%	0%
Vol Thru, %	20%	0%	20%
Vol Right, %	0%	50%	80%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	141	100	141
LT Vol	113	50	0
Through Vol	28	0	28
RT Vol	0	50	113
Lane Flow Rate	153	109	153
Geometry Grp	1	1	1
Degree of Util (X)	0.188	0.133	0.165
Departure Headway (Hd)	4.405	4.392	3.87
Convergence, Y/N	Yes	Yes	Yes
Cap	802	820	930
Service Time	2.504	2.401	1.881
HCM Lane V/C Ratio	0.191	0.133	0.165
HCM Control Delay	8.5	8.1	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.5	0.6

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	287	473	0	28	28
Future Vol, veh/h	0	287	473	0	28	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	312	514	0	30	30

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	514	0	-	0	826 514
Stage 1	-	-	-	-	514 -
Stage 2	-	-	-	-	312 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1052	-	-	-	342 560
Stage 1	-	-	-	-	600 -
Stage 2	-	-	-	-	742 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1052	-	-	-	342 560
Mov Cap-2 Maneuver	-	-	-	-	342 -
Stage 1	-	-	-	-	600 -
Stage 2	-	-	-	-	742 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	425
HCM Lane V/C Ratio	-	-	-	-	0.143
HCM Control Delay (s)	0	-	-	-	14.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	28	28	0	53	74	0
Future Vol, veh/h	28	28	0	53	74	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	30	0	58	80	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	138	80	80	0	-	0
Stage 1	80	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	855	980	1518	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	855	980	1518	-	-	-
Mov Cap-2 Maneuver	855	-	-	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1518	-	913	-	-
HCM Lane V/C Ratio	-	-	0.067	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th Signalized Intersection Summary  
 1: Burgener Blvd. & Clairemont Dr.

near term pm  
 10/05/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	853	443	119	640	6	460	17	118	6	5	7
Future Volume (veh/h)	15	853	443	119	640	6	460	17	118	6	5	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	927	482	129	696	7	323	266	128	7	5	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1211	982	163	1504	15	497	333	160	11	8	13
Arrive On Green	0.02	0.34	0.34	0.09	0.42	0.42	0.28	0.28	0.28	0.02	0.02	0.02
Sat Flow, veh/h	1781	3554	1585	1781	3604	36	1781	1193	574	601	429	687
Grp Volume(v), veh/h	16	927	482	129	343	360	323	0	394	20	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1864	1781	0	1767	1717	0	0
Q Serve(g_s), s	0.6	16.8	12.0	5.1	10.1	10.1	11.5	0.0	14.9	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.6	16.8	12.0	5.1	10.1	10.1	11.5	0.0	14.9	0.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.32	0.35		0.40
Lane Grp Cap(c), veh/h	27	1211	982	163	741	778	497	0	493	31	0	0
V/C Ratio(X)	0.59	0.77	0.49	0.79	0.46	0.46	0.65	0.00	0.80	0.64	0.00	0.00
Avail Cap(c_a), veh/h	126	1425	1077	213	799	838	791	0	785	738	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	21.2	7.5	32.0	15.2	15.2	22.9	0.0	24.1	35.1	0.0	0.0
Incr Delay (d2), s/veh	18.8	2.2	0.4	13.8	0.5	0.4	1.4	0.0	3.1	19.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.8	7.3	2.8	3.8	4.0	4.8	0.0	6.3	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	23.4	7.9	45.9	15.6	15.6	24.3	0.0	27.2	54.5	0.0	0.0
LnGrp LOS	D	C	A	D	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1425			832			717			20	
Approach Delay, s/veh		18.5			20.3			25.9			54.5	
Approach LOS		B			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	29.9		6.2	5.5	35.4		25.0				
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9				
Max Green Setting (Gmax), s	8.6	28.9		31.0	5.1	32.4		32.0				
Max Q Clear Time (g_c+I1), s	7.1	18.8		2.8	2.6	12.1		16.9				
Green Ext Time (p_c), s	0.0	5.8		0.1	0.0	4.3		3.2				

Intersection Summary		
HCM 6th Ctrl Delay		21.0
HCM 6th LOS		C

Notes  
 User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	19.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	54	27	2	85	37	287	2	148	71	361	138	35
Future Vol, veh/h	54	27	2	85	37	287	2	148	71	361	138	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	29	2	92	40	312	2	161	77	392	150	38
Number of Lanes	0	1	0	0	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	13.2	16.1	12.8	26.6
HCM LOS	B	C	B	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	65%	70%	0%	100%	0%
Vol Thru, %	99%	0%	33%	30%	0%	0%	80%
Vol Right, %	0%	100%	2%	0%	100%	0%	20%
Sign Control	Stop						
Traffic Vol by Lane	150	71	83	122	287	361	173
LT Vol	2	0	54	85	0	361	0
Through Vol	148	0	27	37	0	0	138
RT Vol	0	71	2	0	287	0	35
Lane Flow Rate	163	77	90	133	312	392	188
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.335	0.143	0.203	0.279	0.564	0.798	0.348
Departure Headway (Hd)	7.399	6.673	8.095	7.581	6.512	7.32	6.664
Convergence, Y/N	Yes						
Cap	486	537	443	475	555	498	543
Service Time	5.147	4.421	6.149	5.323	4.253	5.02	4.364
HCM Lane V/C Ratio	0.335	0.143	0.203	0.28	0.562	0.787	0.346
HCM Control Delay	13.9	10.5	13.2	13.2	17.4	33.1	12.9
HCM Lane LOS	B	B	B	B	C	D	B
HCM 95th-tile Q	1.5	0.5	0.8	1.1	3.5	7.4	1.5

Intersection	
Intersection Delay, s/veh	18.1
Intersection LOS	C

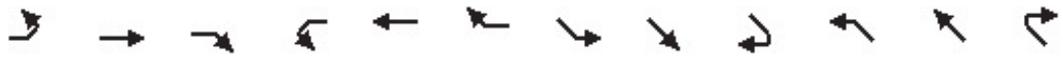
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	433	17	24	378	50	18	2	15	30	8	39
Future Vol, veh/h	39	433	17	24	378	50	18	2	15	30	8	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	471	18	26	411	54	20	2	16	33	9	42
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	20.3	17.7	9.9	10.3
HCM LOS	C	C	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	8%	5%	39%
Vol Thru, %	6%	89%	84%	10%
Vol Right, %	43%	3%	11%	51%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	489	452	77
LT Vol	18	39	24	30
Through Vol	2	433	378	8
RT Vol	15	17	50	39
Lane Flow Rate	38	532	491	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.732	0.676	0.144
Departure Headway (Hd)	6.413	4.956	4.956	6.2
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	557	734	732	577
Service Time	4.471	2.97	2.971	4.252
HCM Lane V/C Ratio	0.068	0.725	0.671	0.146
HCM Control Delay	9.9	20.3	17.7	10.3
HCM Lane LOS	A	C	C	B
HCM 95th-tile Q	0.2	6.5	5.3	0.5

HCM 6th Signalized Intersection Summary  
4: Clairemont Dr. & Iroquois Ave.

near term pm  
10/05/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	48	6	47	68	6	54	72	662	30	94	710	109
Future Volume (veh/h)	48	6	47	68	6	54	72	662	30	94	710	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	7	51	74	7	59	78	720	33	102	772	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	70	177	303	61	158	391	1690	77	444	1509	231
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	544	285	717	631	248	640	625	3460	159	710	3090	472
Grp Volume(v), veh/h	110	0	0	140	0	0	78	370	383	102	444	446
Grp Sat Flow(s),veh/h/ln	1546	0	0	1518	0	0	625	1777	1842	710	1777	1785
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	3.6	5.0	5.0	4.1	6.4	6.4
Cycle Q Clear(g_c), s	1.9	0.0	0.0	2.6	0.0	0.0	10.0	5.0	5.0	9.1	6.4	6.4
Prop In Lane	0.47		0.46	0.53		0.42	1.00		0.09	1.00		0.26
Lane Grp Cap(c), veh/h	524	0	0	522	0	0	391	868	900	444	868	872
V/C Ratio(X)	0.21	0.00	0.00	0.27	0.00	0.00	0.20	0.43	0.43	0.23	0.51	0.51
Avail Cap(c_a), veh/h	1534	0	0	1525	0	0	671	1666	1726	762	1666	1674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	0.0	11.5	0.0	0.0	10.0	6.2	6.2	9.1	6.5	6.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.3	0.3	0.3	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.8	0.0	0.0	0.4	1.2	1.3	0.5	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	0.0	11.8	0.0	0.0	10.2	6.5	6.5	9.4	7.0	7.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		110			140			831			992	
Approach Delay, s/veh		11.5			11.8			6.9			7.2	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.3		23.2		14.3		23.2				
Change Period (Y+Rc), s		5.0		4.9		5.0		4.9				
Max Green Setting (Gmax), s		35.0		35.1		35.0		35.1				
Max Q Clear Time (g_c+I1), s		3.9		12.0		4.6		11.1				
Green Ext Time (p_c), s		0.6		5.8		0.8		7.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				7.6								
HCM 6th LOS				A								

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	93	64	28	28	64
Future Vol, veh/h	93	93	64	28	28	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	101	70	30	30	70
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.3	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	70%	50%	0%
Vol Thru, %	30%	0%	30%
Vol Right, %	0%	50%	70%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	92	186	92
LT Vol	64	93	0
Through Vol	28	0	28
RT Vol	0	93	64
Lane Flow Rate	100	202	100
Geometry Grp	1	1	1
Degree of Util (X)	0.129	0.235	0.113
Departure Headway (Hd)	4.628	4.183	4.082
Convergence, Y/N	Yes	Yes	Yes
Cap	777	861	880
Service Time	2.643	2.196	2.098
HCM Lane V/C Ratio	0.129	0.235	0.114
HCM Control Delay	8.3	8.5	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.9	0.4

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	455	405	0	28	28
Future Vol, veh/h	0	455	405	0	28	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	495	440	0	30	30

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	440	0	-	0	935 440
Stage 1	-	-	-	-	440 -
Stage 2	-	-	-	-	495 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1120	-	-	-	295 617
Stage 1	-	-	-	-	649 -
Stage 2	-	-	-	-	613 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1120	-	-	-	295 617
Mov Cap-2 Maneuver	-	-	-	-	295 -
Stage 1	-	-	-	-	649 -
Stage 2	-	-	-	-	613 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1120	-	-	-	399
HCM Lane V/C Ratio	-	-	-	-	0.153
HCM Control Delay (s)	0	-	-	-	15.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	28	28	0	92	77	0
Future Vol, veh/h	28	28	0	92	77	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	30	0	100	84	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	184	84	84	0	-	0
Stage 1	84	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	805	975	1513	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	975	1513	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	924	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1513	-	882	-	-
HCM Lane V/C Ratio	-	-	0.069	-	-
HCM Control Delay (s)	0	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

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**Appendix D: Opening Year 2026 Plus Project AM/PM Synchro Worksheets**

Provided on the following page

HCM 6th Signalized Intersection Summary  
 1: Burgener Blvd. & Clairemont Dr.

nearterm am + p  
 10/05/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	474	284	120	640	6	596	1	113	2	2	1
Future Volume (veh/h)	6	474	284	120	640	6	596	1	113	2	2	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	515	309	130	696	7	764	0	0	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	845	834	167	1168	12	1028	540	0	4	4	2
Arrive On Green	0.01	0.24	0.24	0.09	0.32	0.32	0.29	0.00	0.00	0.01	0.01	0.01
Sat Flow, veh/h	1781	3554	1585	1781	3604	36	3563	1870	0	708	708	354
Grp Volume(v), veh/h	7	515	309	130	343	360	764	0	0	5	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1864	1781	1870	0	1771	0	0
Q Serve(g_s), s	0.2	6.7	6.0	3.7	8.4	8.4	10.1	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.7	6.0	3.7	8.4	8.4	10.1	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	0.40		0.20
Lane Grp Cap(c), veh/h	13	845	834	167	576	604	1028	540	0	9	0	0
V/C Ratio(X)	0.53	0.61	0.37	0.78	0.60	0.60	0.74	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	175	1413	1088	233	765	802	2190	1150	0	1055	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.7	17.7	7.2	23.1	14.7	14.7	16.8	0.0	0.0	25.8	0.0	0.0
Incr Delay (d2), s/veh	29.4	0.7	0.3	10.7	1.0	0.9	1.1	0.0	0.0	38.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.5	3.2	1.9	3.1	3.2	3.8	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	18.4	7.5	33.7	15.7	15.7	17.9	0.0	0.0	64.4	0.0	0.0
LnGrp LOS	E	B	A	C	B	B	B	A	A	E	A	A
Approach Vol, veh/h		831			833			764				5
Approach Delay, s/veh		14.7			18.5			17.9				64.4
Approach LOS		B			B			B				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	17.7		5.2	4.8	22.2		19.9				
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9				
Max Green Setting (Gmax), s	6.8	20.7		31.0	5.1	22.4		32.0				
Max Q Clear Time (g_c+I1), s	5.7	8.7		2.1	2.2	10.4		12.1				
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	3.4		2.9				

Intersection Summary

HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	77	18	1	54	7	368	1	181	29	184	111	13
Future Vol, veh/h	77	18	1	54	7	368	1	181	29	184	111	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	20	1	59	8	400	1	197	32	200	121	14
Number of Lanes	0	1	0	0	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	12.5	17.4	13.3	13.5
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	80%	89%	0%	100%	0%
Vol Thru, %	99%	0%	19%	11%	0%	0%	90%
Vol Right, %	0%	100%	1%	0%	100%	0%	10%
Sign Control	Stop						
Traffic Vol by Lane	182	29	96	61	368	184	124
LT Vol	1	0	77	54	0	184	0
Through Vol	181	0	18	7	0	0	111
RT Vol	0	29	1	0	368	0	13
Lane Flow Rate	198	32	104	66	400	200	135
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.383	0.055	0.215	0.128	0.642	0.399	0.247
Departure Headway (Hd)	6.966	6.247	7.422	6.933	5.774	7.28	6.694
Convergence, Y/N	Yes						
Cap	520	577	485	513	620	498	540
Service Time	4.666	3.947	5.436	4.73	3.57	4.98	4.394
HCM Lane V/C Ratio	0.381	0.055	0.214	0.129	0.645	0.402	0.25
HCM Control Delay	13.9	9.3	12.5	10.8	18.5	14.7	11.6
HCM Lane LOS	B	A	B	B	C	B	B
HCM 95th-tile Q	1.8	0.2	0.8	0.4	4.6	1.9	1

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

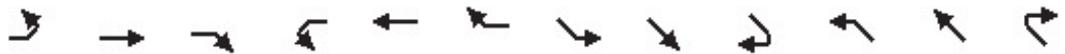
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	207	13	6	330	28	24	6	22	37	7	53
Future Vol, veh/h	25	207	13	6	330	28	24	6	22	37	7	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	225	14	7	359	30	26	7	24	40	8	58
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	12.5	9.1	9.3
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	10%	2%	38%
Vol Thru, %	12%	84%	91%	7%
Vol Right, %	42%	5%	8%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	245	364	97
LT Vol	24	25	6	37
Through Vol	6	207	330	7
RT Vol	22	13	28	53
Lane Flow Rate	57	266	396	105
Geometry Grp	1	1	1	1
Degree of Util (X)	0.087	0.355	0.509	0.154
Departure Headway (Hd)	5.552	4.799	4.628	5.272
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	649	743	772	673
Service Time	3.552	2.87	2.692	3.368
HCM Lane V/C Ratio	0.088	0.358	0.513	0.156
HCM Control Delay	9.1	10.5	12.5	9.3
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.3	1.6	2.9	0.5

HCM 6th Signalized Intersection Summary  
4: Clairemont Dr. & Iroquois Ave.

nearterm am + p  
10/05/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	41	9	64	122	2	107	57	439	13	22	503	44
Future Volume (veh/h)	41	9	64	122	2	107	57	439	13	22	503	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	10	70	133	2	116	62	477	14	24	547	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	102	276	373	55	214	432	1293	38	476	1213	106
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	370	327	886	623	176	687	823	3525	103	906	3306	289
Grp Volume(v), veh/h	125	0	0	251	0	0	62	240	251	24	293	302
Grp Sat Flow(s),veh/h/ln	1583	0	0	1486	0	0	823	1777	1852	906	1777	1818
Q Serve(g_s), s	0.0	0.0	0.0	2.3	0.0	0.0	1.9	3.0	3.1	0.6	3.9	3.9
Cycle Q Clear(g_c), s	1.7	0.0	0.0	4.1	0.0	0.0	5.8	3.0	3.1	3.7	3.9	3.9
Prop In Lane	0.36		0.56	0.53		0.46	1.00		0.06	1.00		0.16
Lane Grp Cap(c), veh/h	652	0	0	642	0	0	432	652	679	476	652	667
V/C Ratio(X)	0.19	0.00	0.00	0.39	0.00	0.00	0.14	0.37	0.37	0.05	0.45	0.45
Avail Cap(c_a), veh/h	1896	0	0	1852	0	0	1052	1990	2074	1158	1990	2037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.6	0.0	0.0	9.6	7.1	7.1	8.5	7.4	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	0.0	0.2	0.3	0.3	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.9	0.0	0.0	0.3	0.8	0.8	0.1	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	0.0	0.0	9.0	0.0	0.0	9.7	7.5	7.5	8.5	7.9	7.9
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		125			251			553				619
Approach Delay, s/veh		8.0			9.0			7.7				7.9
Approach LOS		A			A			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.6		16.2		14.6		16.2				
Change Period (Y+Rc), s		5.0		4.9		5.0		4.9				
Max Green Setting (Gmax), s		35.6		34.5		35.6		34.5				
Max Q Clear Time (g_c+I1), s		3.7		7.8		6.1		5.9				
Green Ext Time (p_c), s		0.8		3.5		1.7		4.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								

Intersection

Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	59	148	28	28	113
Future Vol, veh/h	50	59	148	28	28	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	64	161	30	30	123
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	9	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	84%	46%	0%
Vol Thru, %	16%	0%	20%
Vol Right, %	0%	54%	80%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	176	109	141
LT Vol	148	50	0
Through Vol	28	0	28
RT Vol	0	59	113
Lane Flow Rate	191	118	153
Geometry Grp	1	1	1
Degree of Util (X)	0.241	0.146	0.168
Departure Headway (Hd)	4.541	4.449	3.939
Convergence, Y/N	Yes	Yes	Yes
Cap	796	807	913
Service Time	2.541	2.471	1.954
HCM Lane V/C Ratio	0.24	0.146	0.168
HCM Control Delay	9	8.2	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.5	0.6

**Intersection**

Int Delay, s/veh 2.1

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	15	288	479	0	28	86
Future Vol, veh/h	15	288	479	0	28	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	313	521	0	30	93

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	521	0	-	0	866	521
Stage 1	-	-	-	-	521	-
Stage 2	-	-	-	-	345	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1045	-	-	-	324	555
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1045	-	-	-	318	555
Mov Cap-2 Maneuver	-	-	-	-	318	-
Stage 1	-	-	-	-	585	-
Stage 2	-	-	-	-	717	-

**Approach** EB WB SB

HCM Control Delay, s 0.4 0 15.4

HCM LOS C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1045	-	-	-	469
HCM Lane V/C Ratio	0.016	-	-	-	0.264
HCM Control Delay (s)	8.5	0	-	-	15.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.1

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	63	51	6	533	74	9
Future Vol, veh/h	63	51	6	533	74	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	55	7	579	80	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	678	85	90	0	0
Stage 1	85	-	-	-	-
Stage 2	593	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	418	974	1505	-	-
Stage 1	938	-	-	-	-
Stage 2	552	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	415	974	1505	-	-
Mov Cap-2 Maneuver	415	-	-	-	-
Stage 1	931	-	-	-	-
Stage 2	552	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1505	-	558	-	-
HCM Lane V/C Ratio	0.004	-	0.222	-	-
HCM Control Delay (s)	7.4	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

HCM 6th Signalized Intersection Summary  
1: Burgener Blvd. & Clairemont Dr.

nearterm pm + p  
10/05/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	853	499	125	640	6	484	17	121	6	5	7
Future Volume (veh/h)	15	853	499	125	640	6	484	17	121	6	5	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	927	542	136	696	7	338	281	132	7	5	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1197	989	171	1505	15	512	346	162	11	8	12
Arrive On Green	0.02	0.34	0.34	0.10	0.42	0.42	0.29	0.29	0.29	0.02	0.02	0.02
Sat Flow, veh/h	1781	3554	1585	1781	3604	36	1781	1203	565	601	429	687
Grp Volume(v), veh/h	16	927	542	136	343	360	338	0	413	20	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1864	1781	0	1769	1717	0	0
Q Serve(g_s), s	0.7	17.4	14.6	5.6	10.4	10.4	12.4	0.0	16.2	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.7	17.4	14.6	5.6	10.4	10.4	12.4	0.0	16.2	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.32	0.35		0.40
Lane Grp Cap(c), veh/h	27	1197	989	171	742	778	512	0	508	31	0	0
V/C Ratio(X)	0.59	0.77	0.55	0.80	0.46	0.46	0.66	0.00	0.81	0.64	0.00	0.00
Avail Cap(c_a), veh/h	122	1378	1070	206	773	811	765	0	760	714	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.5	22.2	8.0	33.0	15.7	15.7	23.4	0.0	24.7	36.3	0.0	0.0
Incr Delay (d2), s/veh	19.1	2.5	0.5	16.4	0.4	0.4	1.5	0.0	4.2	19.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.2	9.1	3.1	4.0	4.2	5.2	0.0	7.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	24.6	8.5	49.4	16.1	16.1	24.8	0.0	28.8	56.1	0.0	0.0
LnGrp LOS	E	C	A	D	B	B	C	A	C	E	A	A
Approach Vol, veh/h		1485			839			751			20	
Approach Delay, s/veh		19.1			21.5			27.0			56.1	
Approach LOS		B			C			C			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	30.4		6.3	5.5	36.4		26.3				
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9				
Max Green Setting (Gmax), s	8.6	28.9		31.0	5.1	32.4		32.0				
Max Q Clear Time (g_c+I1), s	7.6	19.4		2.9	2.7	12.4		18.2				
Green Ext Time (p_c), s	0.0	5.7		0.1	0.0	4.3		3.2				

Intersection Summary

HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	29.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕	↕	↕	↕	
Traffic Vol, veh/h	54	27	2	88	37	314	2	148	77	424	138	35
Future Vol, veh/h	54	27	2	88	37	314	2	148	77	424	138	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	29	2	96	40	341	2	161	84	461	150	38
Number of Lanes	0	1	0	0	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	13.9	19	13.4	45.4
HCM LOS	B	C	B	E

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	65%	70%	0%	100%	0%
Vol Thru, %	99%	0%	33%	30%	0%	0%	80%
Vol Right, %	0%	100%	2%	0%	100%	0%	20%
Sign Control	Stop						
Traffic Vol by Lane	150	77	83	125	314	424	173
LT Vol	2	0	54	88	0	424	0
Through Vol	148	0	27	37	0	0	138
RT Vol	0	77	2	0	314	0	35
Lane Flow Rate	163	84	90	136	341	461	188
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.35	0.163	0.213	0.297	0.643	0.958	0.356
Departure Headway (Hd)	7.733	7.004	8.502	7.858	6.782	7.481	6.825
Convergence, Y/N	Yes						
Cap	465	511	421	458	532	484	527
Service Time	5.487	4.757	6.566	5.601	4.525	5.225	4.569
HCM Lane V/C Ratio	0.351	0.164	0.214	0.297	0.641	0.952	0.357
HCM Control Delay	14.6	11.1	13.9	13.9	21	58.5	13.3
HCM Lane LOS	B	B	B	B	C	F	B
HCM 95th-tile Q	1.6	0.6	0.8	1.2	4.5	11.9	1.6

Intersection	
Intersection Delay, s/veh	19.4
Intersection LOS	C

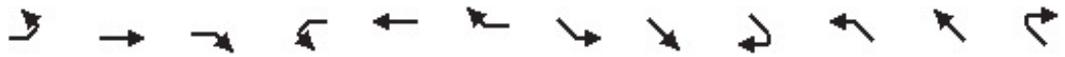
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	433	17	24	378	69	18	2	15	38	8	42
Future Vol, veh/h	45	433	17	24	378	69	18	2	15	38	8	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	471	18	26	411	75	20	2	16	41	9	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	21.7	19.3	10.1	10.6
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	9%	5%	43%
Vol Thru, %	6%	87%	80%	9%
Vol Right, %	43%	3%	15%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	495	471	88
LT Vol	18	45	24	38
Through Vol	2	433	378	8
RT Vol	15	17	69	42
Lane Flow Rate	38	538	512	96
Geometry Grp	1	1	1	1
Degree of Util (X)	0.069	0.752	0.71	0.168
Departure Headway (Hd)	6.546	5.031	4.993	6.312
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	546	721	722	567
Service Time	4.607	3.061	3.025	4.364
HCM Lane V/C Ratio	0.07	0.746	0.709	0.169
HCM Control Delay	10.1	21.7	19.3	10.6
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	0.2	6.9	6	0.6

HCM 6th Signalized Intersection Summary  
4: Clairemont Dr. & Iroquois Ave.

nearterm pm + p  
10/05/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	48	6	47	68	6	73	116	668	30	94	713	109
Future Volume (veh/h)	48	6	47	68	6	73	116	668	30	94	713	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	7	51	74	7	79	126	726	33	102	775	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	66	170	253	59	177	402	1803	82	456	1610	245
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	557	282	725	524	251	755	623	3462	157	706	3092	471
Grp Volume(v), veh/h	110	0	0	160	0	0	126	373	386	102	445	448
Grp Sat Flow(s),veh/h/ln	1565	0	0	1530	0	0	623	1777	1842	706	1777	1786
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	0.0	6.6	5.2	5.2	4.1	6.5	6.5
Cycle Q Clear(g_c), s	2.1	0.0	0.0	3.4	0.0	0.0	13.1	5.2	5.2	9.3	6.5	6.5
Prop In Lane	0.47		0.46	0.46		0.49	1.00		0.09	1.00		0.26
Lane Grp Cap(c), veh/h	498	0	0	489	0	0	402	925	959	456	925	930
V/C Ratio(X)	0.22	0.00	0.00	0.33	0.00	0.00	0.31	0.40	0.40	0.22	0.48	0.48
Avail Cap(c_a), veh/h	1413	0	0	1416	0	0	617	1539	1595	699	1539	1546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	13.1	0.0	0.0	10.4	5.9	5.9	8.7	6.2	6.2
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.0	0.0	0.4	0.3	0.3	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	1.1	0.0	0.0	0.7	1.3	1.3	0.5	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	0.0	0.0	13.5	0.0	0.0	10.8	6.2	6.2	9.0	6.6	6.6
LnGrp LOS	B	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		110			160			885			995	
Approach Delay, s/veh		12.9			13.5			6.8			6.8	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.5		26.0		14.5		26.0				
Change Period (Y+Rc), s		5.0		4.9		5.0		4.9				
Max Green Setting (Gmax), s		35.0		35.1		35.0		35.1				
Max Q Clear Time (g_c+I1), s		4.1		15.1		5.4		11.3				
Green Ext Time (p_c), s		0.6		6.0		1.0		7.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				7.6								
HCM 6th LOS				A								

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	131	80	28	28	64
Future Vol, veh/h	93	131	80	28	28	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	142	87	30	30	70
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.8	8.6	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	74%	42%	0%
Vol Thru, %	26%	0%	30%
Vol Right, %	0%	58%	70%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	108	224	92
LT Vol	80	93	0
Through Vol	28	0	28
RT Vol	0	131	64
Lane Flow Rate	117	243	100
Geometry Grp	1	1	1
Degree of Util (X)	0.154	0.282	0.117
Departure Headway (Hd)	4.728	4.165	4.195
Convergence, Y/N	Yes	Yes	Yes
Cap	760	864	855
Service Time	2.751	2.182	2.217
HCM Lane V/C Ratio	0.154	0.281	0.117
HCM Control Delay	8.6	8.8	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	1.2	0.4

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	63	461	408	0	28	55
Future Vol, veh/h	63	461	408	0	28	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	501	443	0	30	60

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	443	0	-	0	1080 443
Stage 1	-	-	-	-	443 -
Stage 2	-	-	-	-	637 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1117	-	-	-	241 615
Stage 1	-	-	-	-	647 -
Stage 2	-	-	-	-	527 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1117	-	-	-	221 615
Mov Cap-2 Maneuver	-	-	-	-	221 -
Stage 1	-	-	-	-	593 -
Stage 2	-	-	-	-	527 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1117	-	-	-	384
HCM Lane V/C Ratio	0.061	-	-	-	0.235
HCM Control Delay (s)	8.4	0	-	-	17.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

**Intersection**

Int Delay, s/veh 3.2

**Movement** EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	44	39	25	92	77	38
Future Vol, veh/h	44	39	25	92	77	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	42	27	100	84	41

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	259	105	125	0	-	0
Stage 1	105	-	-	-	-	-
Stage 2	154	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	730	949	1462	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	715	949	1462	-	-	-
Mov Cap-2 Maneuver	715	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	874	-	-	-	-	-

**Approach** EB NB SB

HCM Control Delay, s	10	1.6	0
HCM LOS	B		

**Minor Lane/Major Mvmt** NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1462	-	809	-	-
HCM Lane V/C Ratio	0.019	-	0.112	-	-
HCM Control Delay (s)	7.5	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

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**Appendix E: 95<sup>th</sup> Percentile Queuing Worksheets**

Provided on the following page

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:12	8:12	8:12	8:12	8:12	8:12	8:12
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4354	4281	4346	4400	4366	4305	4387
Vehs Exited	4365	4292	4328	4410	4363	4298	4393
Starting Vehs	41	32	24	38	31	22	30
Ending Vehs	30	21	42	28	34	29	24
Travel Distance (mi)	441	433	436	441	435	435	443
Travel Time (hr)	30.8	30.8	30.8	30.6	30.3	30.2	30.8
Total Delay (hr)	12.8	13.2	13.0	12.7	12.6	12.4	12.7
Total Stops	3386	3354	3393	3342	3307	3356	3431
Fuel Used (gal)	25.3	25.2	25.4	25.4	24.9	24.9	25.4

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:57	6:57	6:57	6:57
End Time	8:12	8:12	8:12	8:12
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4446	4418	4513	4379
Vehs Exited	4442	4411	4526	4382
Starting Vehs	29	40	38	28
Ending Vehs	33	47	25	25
Travel Distance (mi)	446	446	454	441
Travel Time (hr)	31.1	31.4	32.1	30.9
Total Delay (hr)	12.9	13.3	13.6	12.9
Total Stops	3401	3422	3455	3384
Fuel Used (gal)	25.7	25.7	26.4	25.4

Interval #0 Information Seeding

Start Time	6:57
End Time	7:12
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:12
End Time	8:12
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4354	4281	4346	4400	4366	4305	4387
Vehs Exited	4365	4292	4328	4410	4363	4298	4393
Starting Vehs	41	32	24	38	31	22	30
Ending Vehs	30	21	42	28	34	29	24
Travel Distance (mi)	441	433	436	441	435	435	443
Travel Time (hr)	30.8	30.8	30.8	30.6	30.3	30.2	30.8
Total Delay (hr)	12.8	13.2	13.0	12.7	12.6	12.4	12.7
Total Stops	3386	3354	3393	3342	3307	3356	3431
Fuel Used (gal)	25.3	25.2	25.4	25.4	24.9	24.9	25.4

Interval #1 Information Recording

Start Time	7:12
End Time	8:12
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4446	4418	4513	4379
Vehs Exited	4442	4411	4526	4382
Starting Vehs	29	40	38	28
Ending Vehs	33	47	25	25
Travel Distance (mi)	446	446	454	441
Travel Time (hr)	31.1	31.4	32.1	30.9
Total Delay (hr)	12.9	13.3	13.6	12.9
Total Stops	3401	3422	3455	3384
Fuel Used (gal)	25.7	25.7	26.4	25.4

Intersection: 1: Burgener Blvd. & Clairemont Dr.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	B19	B19	SB
Directions Served	L	T	T	R	L	T	TR	L	LTR	T	T	LTR
Maximum Queue (ft)	23	191	138	70	123	224	154	104	122	23	69	39
Average Queue (ft)	3	106	38	31	67	111	58	58	84	1	12	5
95th Queue (ft)	16	171	93	64	117	189	116	94	127	10	48	25
Link Distance (ft)	216	216	216	216		255	255	36	36	41	41	135
Upstream Blk Time (%)		0				0		19	27	0	2	
Queuing Penalty (veh)		0				0		46	66	0	4	
Storage Bay Dist (ft)					100							
Storage Blk Time (%)					4	8						
Queuing Penalty (veh)					10	8						

Intersection: 2: Burgener Blvd. & Field St.

Movement	EB	WB	WB	NB	NB	SB	SB	B19
Directions Served	LTR	LT	R	LT	R	L	TR	T
Maximum Queue (ft)	62	36	67	77	36	84	68	2
Average Queue (ft)	33	19	28	40	16	42	36	0
95th Queue (ft)	54	36	53	65	39	68	59	2
Link Distance (ft)	108	70	70	311	311	41	41	36
Upstream Blk Time (%)			0			6	4	
Queuing Penalty (veh)			0			10	6	
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Field St. & Cowley Wy.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	114	49	59
Average Queue (ft)	40	58	23	27
95th Queue (ft)	65	94	46	50
Link Distance (ft)	109	137	75	137
Upstream Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clairemont Dr. & Iroquois Ave.

Movement	EB	WB	SE	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	83	114	56	123	62	39	112	75
Average Queue (ft)	32	49	20	57	21	8	58	29
95th Queue (ft)	62	93	47	100	53	26	98	61
Link Distance (ft)	92	134		162	162		205	205
Upstream Blk Time (%)	0	0		0				
Queuing Penalty (veh)	0	0		0				
Storage Bay Dist (ft)			125			70		
Storage Blk Time (%)				0		0	3	
Queuing Penalty (veh)				0		0	1	

Intersection: 5: Cowley Wy. & Iroquois Ave.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	62	72	71
Average Queue (ft)	34	38	37
95th Queue (ft)	55	59	61
Link Distance (ft)	220	221	216
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Field St. & Project Drwy.

Movement	SB
Directions Served	LR
Maximum Queue (ft)	56
Average Queue (ft)	27
95th Queue (ft)	50
Link Distance (ft)	156
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 7: Cowley Wy. & Project Drwy.

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Movement	EB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	25
95th Queue (ft)	48
Link Distance (ft)	252
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Network Summary

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Network wide Queuing Penalty: 152

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5520	5514	5470	5419	5508	5404	5408
Vehs Exited	5525	5517	5476	5416	5507	5420	5405
Starting Vehs	58	41	42	33	43	42	43
Ending Vehs	53	38	36	36	44	26	46
Travel Distance (mi)	555	562	554	547	561	551	548
Travel Time (hr)	40.9	42.1	40.5	39.9	41.6	40.4	40.1
Total Delay (hr)	18.6	19.4	18.4	17.8	18.9	18.2	18.0
Total Stops	4112	4354	4157	4113	4228	4195	4171
Fuel Used (gal)	32.4	33.0	32.4	31.6	32.8	32.0	31.8

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5572	5599	5576	5501
Vehs Exited	5557	5605	5563	5500
Starting Vehs	34	38	30	33
Ending Vehs	49	32	43	32
Travel Distance (mi)	563	565	564	557
Travel Time (hr)	42.0	42.6	41.4	41.2
Total Delay (hr)	19.2	19.9	18.6	18.7
Total Stops	4272	4297	4237	4212
Fuel Used (gal)	33.0	33.3	32.8	32.5

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5520	5514	5470	5419	5508	5404	5408
Vehs Exited	5525	5517	5476	5416	5507	5420	5405
Starting Vehs	58	41	42	33	43	42	43
Ending Vehs	53	38	36	36	44	26	46
Travel Distance (mi)	555	562	554	547	561	551	548
Travel Time (hr)	40.9	42.1	40.5	39.9	41.6	40.4	40.1
Total Delay (hr)	18.6	19.4	18.4	17.8	18.9	18.2	18.0
Total Stops	4112	4354	4157	4113	4228	4195	4171
Fuel Used (gal)	32.4	33.0	32.4	31.6	32.8	32.0	31.8

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5572	5599	5576	5501
Vehs Exited	5557	5605	5563	5500
Starting Vehs	34	38	30	33
Ending Vehs	49	32	43	32
Travel Distance (mi)	563	565	564	557
Travel Time (hr)	42.0	42.6	41.4	41.2
Total Delay (hr)	19.2	19.9	18.6	18.7
Total Stops	4272	4297	4237	4212
Fuel Used (gal)	33.0	33.3	32.8	32.5

Intersection: 1: Burgener Blvd. & Clairemont Dr.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	B19	B19	SB
Directions Served	L	T	T	R	L	T	TR	L	LTR	T	T	LTR
Maximum Queue (ft)	43	233	217	124	124	246	173	106	129	19	72	48
Average Queue (ft)	9	179	102	48	71	126	69	59	93	1	21	15
95th Queue (ft)	30	253	197	94	126	214	140	98	131	9	62	43
Link Distance (ft)	216	216	216	216		255	255	36	36	41	41	135
Upstream Blk Time (%)		4	0			0		24	35	0	4	
Queuing Penalty (veh)		0	0			0		49	72	0	8	
Storage Bay Dist (ft)					100							
Storage Blk Time (%)					4	11						
Queuing Penalty (veh)					11	11						

Intersection: 2: Burgener Blvd. & Field St.

Movement	EB	WB	WB	NB	NB	SB	SB	B19
Directions Served	LTR	LT	R	LT	R	L	TR	T
Maximum Queue (ft)	79	55	87	73	62	109	71	46
Average Queue (ft)	32	27	34	37	27	63	41	3
95th Queue (ft)	61	44	66	62	50	100	63	21
Link Distance (ft)	108	70	70	311	311	41	41	36
Upstream Blk Time (%)	0	0	1			20	6	1
Queuing Penalty (veh)	0	0	1			49	13	1
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Field St. & Cowley Wy.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	139	42	71
Average Queue (ft)	56	72	19	30
95th Queue (ft)	86	117	43	56
Link Distance (ft)	109	137	75	137
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clairemont Dr. & Iroquois Ave.

Movement	EB	WB	SE	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	81	80	84	152	98	81	148	105
Average Queue (ft)	34	35	28	72	38	27	66	44
95th Queue (ft)	64	67	61	128	81	58	123	87
Link Distance (ft)	92	134		162	162		205	205
Upstream Blk Time (%)	0		0	0			0	
Queuing Penalty (veh)	0		0	0			0	
Storage Bay Dist (ft)			125			70		
Storage Blk Time (%)				1		0	4	
Queuing Penalty (veh)				0		1	3	

Intersection: 5: Cowley Wy. & Iroquois Ave.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	82	59	62
Average Queue (ft)	44	31	31
95th Queue (ft)	69	52	52
Link Distance (ft)	220	221	216
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Field St. & Project Drwy.

Movement	SB
Directions Served	LR
Maximum Queue (ft)	55
Average Queue (ft)	26
95th Queue (ft)	50
Link Distance (ft)	156
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 7: Cowley Wy. & Project Drwy.

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Movement	EB
Directions Served	LR
Maximum Queue (ft)	45
Average Queue (ft)	27
95th Queue (ft)	46
Link Distance (ft)	252
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Network Summary

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Network wide Queuing Penalty: 221

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Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:45	7:45	7:45	7:45	7:45	7:45	7:45
End Time	9:00	9:00	9:00	9:00	9:00	9:00	9:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5069	5217	5312	5238	5181	5224	5155
Vehs Exited	5100	5204	5324	5233	5195	5220	5166
Starting Vehs	62	29	38	36	49	29	41
Ending Vehs	31	42	26	41	35	33	30
Travel Distance (mi)	514	521	537	522	524	525	518
Travel Time (hr)	38.1	37.5	40.6	38.0	38.3	38.8	38.3
Total Delay (hr)	17.1	16.3	18.8	16.8	16.9	17.3	17.2
Total Stops	4024	4028	4252	4054	4071	4022	4044
Fuel Used (gal)	30.3	30.5	32.0	30.5	30.9	30.9	30.7

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:45	7:45	7:45	7:45
End Time	9:00	9:00	9:00	9:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5269	5195	5130	5202
Vehs Exited	5260	5195	5136	5204
Starting Vehs	31	37	34	32
Ending Vehs	40	37	28	29
Travel Distance (mi)	528	524	515	523
Travel Time (hr)	38.5	38.7	37.7	38.5
Total Delay (hr)	17.1	17.3	16.7	17.1
Total Stops	4069	4038	3973	4058
Fuel Used (gal)	31.0	30.7	30.3	30.8

Interval #0 Information Seeding

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	8:00
End Time	9:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5069	5217	5312	5238	5181	5224	5155
Vehs Exited	5100	5204	5324	5233	5195	5220	5166
Starting Vehs	62	29	38	36	49	29	41
Ending Vehs	31	42	26	41	35	33	30
Travel Distance (mi)	514	521	537	522	524	525	518
Travel Time (hr)	38.1	37.5	40.6	38.0	38.3	38.8	38.3
Total Delay (hr)	17.1	16.3	18.8	16.8	16.9	17.3	17.2
Total Stops	4024	4028	4252	4054	4071	4022	4044
Fuel Used (gal)	30.3	30.5	32.0	30.5	30.9	30.9	30.7

Interval #1 Information Recording

Start Time	8:00
End Time	9:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5269	5195	5130	5202
Vehs Exited	5260	5195	5136	5204
Starting Vehs	31	37	34	32
Ending Vehs	40	37	28	29
Travel Distance (mi)	528	524	515	523
Travel Time (hr)	38.5	38.7	37.7	38.5
Total Delay (hr)	17.1	17.3	16.7	17.1
Total Stops	4069	4038	3973	4058
Fuel Used (gal)	31.0	30.7	30.3	30.8

Intersection: 1: Burgener Blvd. & Clairemont Dr.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	B19	B19	SB
Directions Served	L	T	T	R	L	T	TR	L	LTR	T	T	LTR
Maximum Queue (ft)	29	220	147	98	125	258	180	111	127	48	76	34
Average Queue (ft)	4	129	56	37	78	139	78	69	98	3	26	5
95th Queue (ft)	19	199	121	76	133	231	148	110	132	22	70	24
Link Distance (ft)	216	216	216	216		255	255	36	36	41	41	135
Upstream Blk Time (%)		0				0		24	34	0	4	
Queuing Penalty (veh)		0				0		69	97	1	13	
Storage Bay Dist (ft)					100							
Storage Blk Time (%)					8	13						
Queuing Penalty (veh)					26	15						

Intersection: 2: Burgener Blvd. & Field St.

Movement	EB	WB	WB	B8	NB	NB	SB	SB	B19
Directions Served	LTR	LT	R	T	LT	R	L	TR	T
Maximum Queue (ft)	78	44	103	2	86	55	92	82	7
Average Queue (ft)	37	21	39	0	44	19	47	40	0
95th Queue (ft)	63	38	76	2	72	46	77	66	7
Link Distance (ft)	108	70	70	109	311	311	41	41	36
Upstream Blk Time (%)	0	0	1				8	5	0
Queuing Penalty (veh)	0	0	3				17	9	0
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Field St. & Cowley Wy.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	86	134	62	61
Average Queue (ft)	44	68	26	29
95th Queue (ft)	71	108	51	52
Link Distance (ft)	109	137	75	137
Upstream Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clairemont Dr. & Iroquois Ave.

Movement	EB	WB	SE	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	87	123	85	139	81	45	149	84
Average Queue (ft)	36	57	25	69	30	8	71	33
95th Queue (ft)	68	102	61	116	66	30	121	68
Link Distance (ft)	92	134		162	162		205	205
Upstream Blk Time (%)	0	0		0				
Queuing Penalty (veh)	0	0		0				
Storage Bay Dist (ft)			125			70		
Storage Blk Time (%)			0	0			6	
Queuing Penalty (veh)			0	0			1	

Intersection: 5: Cowley Wy. & Iroquois Ave.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	69	76	77
Average Queue (ft)	35	40	41
95th Queue (ft)	57	62	63
Link Distance (ft)	220	221	216
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Field St. & Project Drwy.

Movement	SB
Directions Served	LR
Maximum Queue (ft)	67
Average Queue (ft)	30
95th Queue (ft)	58
Link Distance (ft)	156
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 7: Cowley Wy. & Project Drwy.

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Movement	EB
Directions Served	LR
Maximum Queue (ft)	63
Average Queue (ft)	28
95th Queue (ft)	53
Link Distance (ft)	252
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Network Summary

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Network wide Queuing Penalty: 252

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Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	6480	6533	6528	6402	6598	6399	6606
Vehs Exited	6499	6522	6534	6384	6585	6399	6603
Starting Vehs	70	38	48	45	42	64	60
Ending Vehs	51	49	42	63	55	64	63
Travel Distance (mi)	654	660	663	651	666	645	668
Travel Time (hr)	52.0	52.2	54.4	52.4	52.6	48.7	53.5
Total Delay (hr)	25.6	25.4	27.5	26.1	25.6	22.8	26.5
Total Stops	5102	4985	5152	5065	5053	4798	5083
Fuel Used (gal)	39.5	39.5	40.6	39.3	40.0	38.1	40.2

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	6480	6548	6512	6510
Vehs Exited	6493	6559	6529	6511
Starting Vehs	58	51	62	46
Ending Vehs	45	40	45	43
Travel Distance (mi)	655	663	657	658
Travel Time (hr)	50.8	51.1	52.3	52.0
Total Delay (hr)	24.3	24.5	25.8	25.4
Total Stops	4859	4957	5033	5012
Fuel Used (gal)	39.0	39.2	39.7	39.5

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	6480	6533	6528	6402	6598	6399	6606
Vehs Exited	6499	6522	6534	6384	6585	6399	6603
Starting Vehs	70	38	48	45	42	64	60
Ending Vehs	51	49	42	63	55	64	63
Travel Distance (mi)	654	660	663	651	666	645	668
Travel Time (hr)	52.0	52.2	54.4	52.4	52.6	48.7	53.5
Total Delay (hr)	25.6	25.4	27.5	26.1	25.6	22.8	26.5
Total Stops	5102	4985	5152	5065	5053	4798	5083
Fuel Used (gal)	39.5	39.5	40.6	39.3	40.0	38.1	40.2

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	6480	6548	6512	6510
Vehs Exited	6493	6559	6529	6511
Starting Vehs	58	51	62	46
Ending Vehs	45	40	45	43
Travel Distance (mi)	655	663	657	658
Travel Time (hr)	50.8	51.1	52.3	52.0
Total Delay (hr)	24.3	24.5	25.8	25.4
Total Stops	4859	4957	5033	5012
Fuel Used (gal)	39.0	39.2	39.7	39.5

Intersection: 1: Burgener Blvd. & Clairemont Dr.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	B19	B19	SB
Directions Served	L	T	T	R	L	T	TR	L	LTR	T	T	LTR
Maximum Queue (ft)	49	246	235	167	125	266	224	109	124	40	77	60
Average Queue (ft)	12	211	148	61	85	155	88	66	101	3	31	17
95th Queue (ft)	36	265	241	124	142	245	176	107	132	19	74	48
Link Distance (ft)	216	216	216	216		255	255	36	36	41	41	135
Upstream Blk Time (%)		10	2	0		1	0	27	42	0	8	
Queuing Penalty (veh)		0	0	0		0	0	67	103	1	20	
Storage Bay Dist (ft)					100							
Storage Blk Time (%)					10	17						
Queuing Penalty (veh)					33	20						

Intersection: 2: Burgener Blvd. & Field St.

Movement	EB	WB	WB	B8	NB	NB	SB	SB	B19
Directions Served	LTR	LT	R	T	LT	R	L	TR	T
Maximum Queue (ft)	76	66	130	17	96	63	118	84	68
Average Queue (ft)	37	31	48	1	44	31	76	46	7
95th Queue (ft)	62	54	94	10	76	53	115	72	38
Link Distance (ft)	108	70	70	109	311	311	41	41	36
Upstream Blk Time (%)	0	0	3				31	7	1
Queuing Penalty (veh)	0	0	7				87	20	4
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Field St. & Cowley Wy.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	106	154	56	79
Average Queue (ft)	62	87	21	32
95th Queue (ft)	92	142	47	58
Link Distance (ft)	109	137	75	137
Upstream Blk Time (%)	0	2	0	
Queuing Penalty (veh)	1	0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clairemont Dr. & Iroquois Ave.

Movement	EB	WB	SE	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	95	109	81	165	127	89	170	142
Average Queue (ft)	42	45	33	81	45	37	83	56
95th Queue (ft)	79	85	65	139	95	76	150	112
Link Distance (ft)	92	134		162	162		205	205
Upstream Blk Time (%)	0	0		0	0		0	0
Queuing Penalty (veh)	0	0		0	0		0	0
Storage Bay Dist (ft)			125			70		
Storage Blk Time (%)				1		1	7	
Queuing Penalty (veh)				1		3	7	

Intersection: 5: Cowley Wy. & Iroquois Ave.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	86	66	63
Average Queue (ft)	45	34	34
95th Queue (ft)	70	55	54
Link Distance (ft)	220	221	216
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Field St. & Project Drwy.

Movement	SB
Directions Served	LR
Maximum Queue (ft)	68
Average Queue (ft)	29
95th Queue (ft)	57
Link Distance (ft)	156
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 7: Cowley Wy. & Project Drwy.

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Movement	EB
Directions Served	LR
Maximum Queue (ft)	61
Average Queue (ft)	29
95th Queue (ft)	52
Link Distance (ft)	252
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Network Summary

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Network wide Queuing Penalty: 374

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:45	7:45	7:45	7:45	7:45	7:45	7:45
End Time	9:00	9:00	9:00	9:00	9:00	9:00	9:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5884	6063	5973	5871	6028	5854	5948
Vehs Exited	5899	6077	5958	5869	6025	5849	5952
Starting Vehs	44	49	41	35	42	37	55
Ending Vehs	29	35	56	37	45	42	51
Travel Distance (mi)	611	624	612	602	626	603	614
Travel Time (hr)	44.1	45.8	43.8	42.3	45.1	43.2	43.0
Total Delay (hr)	19.2	20.5	19.0	17.7	19.7	18.7	18.0
Total Stops	4427	4559	4348	4365	4485	4305	4361
Fuel Used (gal)	34.9	36.0	34.9	34.2	35.7	34.3	34.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:45	7:45	7:45	7:45
End Time	9:00	9:00	9:00	9:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	6074	6011	6048	5973
Vehs Exited	6062	6012	6058	5975
Starting Vehs	30	36	55	35
Ending Vehs	42	35	45	35
Travel Distance (mi)	624	620	623	616
Travel Time (hr)	45.1	44.1	44.7	44.1
Total Delay (hr)	19.6	18.9	19.3	19.1
Total Stops	4543	4422	4428	4424
Fuel Used (gal)	36.0	35.2	35.3	35.1

Interval #0 Information Seeding

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	8:00
End Time	9:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5884	6063	5973	5871	6028	5854	5948
Vehs Exited	5899	6077	5958	5869	6025	5849	5952
Starting Vehs	44	49	41	35	42	37	55
Ending Vehs	29	35	56	37	45	42	51
Travel Distance (mi)	611	624	612	602	626	603	614
Travel Time (hr)	44.1	45.8	43.8	42.3	45.1	43.2	43.0
Total Delay (hr)	19.2	20.5	19.0	17.7	19.7	18.7	18.0
Total Stops	4427	4559	4348	4365	4485	4305	4361
Fuel Used (gal)	34.9	36.0	34.9	34.2	35.7	34.3	34.6

Interval #1 Information Recording

Start Time	8:00
End Time	9:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	6074	6011	6048	5973
Vehs Exited	6062	6012	6058	5975
Starting Vehs	30	36	55	35
Ending Vehs	42	35	45	35
Travel Distance (mi)	624	620	623	616
Travel Time (hr)	45.1	44.1	44.7	44.1
Total Delay (hr)	19.6	18.9	19.3	19.1
Total Stops	4543	4422	4428	4424
Fuel Used (gal)	36.0	35.2	35.3	35.1

Intersection: 1: Burgener Blvd. & Clairemont Dr.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	B19	B19	SB
Directions Served	L	T	T	R	L	T	TR	L	LTR	T	T	LTR
Maximum Queue (ft)	31	223	158	101	125	262	192	114	118	33	81	30
Average Queue (ft)	5	138	58	39	79	151	83	67	101	2	34	5
95th Queue (ft)	21	209	135	78	136	240	159	108	130	18	78	22
Link Distance (ft)	216	216	216	216		255	255	36	36	41	41	135
Upstream Blk Time (%)		1				0	0	23	38	0	8	
Queuing Penalty (veh)		0				0	0	73	119	1	24	
Storage Bay Dist (ft)					100							
Storage Blk Time (%)					5	16						
Queuing Penalty (veh)					17	19						

Intersection: 2: Burgener Blvd. & Field St.

Movement	EB	WB	WB	B8	NB	NB	SB	SB
Directions Served	LTR	LT	R	T	LT	R	L	TR
Maximum Queue (ft)	79	48	128	27	93	54	88	76
Average Queue (ft)	37	21	52	2	44	18	47	39
95th Queue (ft)	64	39	104	21	74	44	74	62
Link Distance (ft)	108	70	70	109	311	311	41	41
Upstream Blk Time (%)	0	0	5	0			9	4
Queuing Penalty (veh)	0	0	10	0			18	9
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Field St. & Cowley Wy.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	140	52	58
Average Queue (ft)	41	72	26	34
95th Queue (ft)	64	117	48	54
Link Distance (ft)	109	137	75	137
Upstream Blk Time (%)		0	0	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clairemont Dr. & Iroquois Ave.

Movement	EB	WB	SE	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	93	146	101	159	88	49	156	109
Average Queue (ft)	37	63	28	72	32	9	75	39
95th Queue (ft)	70	119	66	125	70	32	134	82
Link Distance (ft)	92	134		162	162		205	205
Upstream Blk Time (%)	0	1	0	0			0	
Queuing Penalty (veh)	0	0	0	0			0	
Storage Bay Dist (ft)			125			70		
Storage Blk Time (%)			0	1		0	7	
Queuing Penalty (veh)			0	0		0	2	

Intersection: 5: Cowley Wy. & Iroquois Ave.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	68	83	79
Average Queue (ft)	36	45	41
95th Queue (ft)	58	71	66
Link Distance (ft)	220	221	216
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Field St. & Project Drwy.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	49	84
Average Queue (ft)	5	42
95th Queue (ft)	28	69
Link Distance (ft)	161	156
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Cowley Wy. & Project Drwy.

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	90	6
Average Queue (ft)	42	0
95th Queue (ft)	72	5
Link Distance (ft)	252	309
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 291

Intersection: 7: Internal St. & Parking Entrance

Movement	WB	NB
Directions Served	LR	TR
Maximum Queue (ft)	49	63
Average Queue (ft)	17	29
95th Queue (ft)	44	52
Link Distance (ft)	164	128
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Parking Entrance & Internal St.

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	63	56
Average Queue (ft)	30	19
95th Queue (ft)	54	46
Link Distance (ft)	159	124
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 31: Cowley Wy. & Project Drwy.

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	66	38
Average Queue (ft)	34	4
95th Queue (ft)	53	22
Link Distance (ft)	252	309
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 520

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	6987	6948	6996	6853	6851	6764	6920
Vehs Exited	7009	6946	6988	6870	6847	6768	6931
Starting Vehs	76	67	47	69	57	56	62
Ending Vehs	54	69	55	52	61	52	51
Travel Distance (mi)	710	710	705	697	696	690	703
Travel Time (hr)	60.0	59.1	60.4	56.7	55.0	56.5	57.4
Total Delay (hr)	31.0	30.0	31.4	28.3	26.4	28.3	28.5
Total Stops	5469	5502	5533	5331	5371	5331	5424
Fuel Used (gal)	43.9	43.3	44.1	42.7	42.1	41.9	42.9

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	6957	6924	6917	6912
Vehs Exited	6944	6935	6937	6916
Starting Vehs	59	44	75	55
Ending Vehs	72	33	55	46
Travel Distance (mi)	707	698	704	702
Travel Time (hr)	57.9	56.1	58.1	57.7
Total Delay (hr)	28.9	27.6	29.1	28.9
Total Stops	5440	5360	5514	5428
Fuel Used (gal)	43.2	42.3	43.0	42.9

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	6987	6948	6996	6853	6851	6764	6920
Vehs Exited	7009	6946	6988	6870	6847	6768	6931
Starting Vehs	76	67	47	69	57	56	62
Ending Vehs	54	69	55	52	61	52	51
Travel Distance (mi)	710	710	705	697	696	690	703
Travel Time (hr)	60.0	59.1	60.4	56.7	55.0	56.5	57.4
Total Delay (hr)	31.0	30.0	31.4	28.3	26.4	28.3	28.5
Total Stops	5469	5502	5533	5331	5371	5331	5424
Fuel Used (gal)	43.9	43.3	44.1	42.7	42.1	41.9	42.9

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	6957	6924	6917	6912
Vehs Exited	6944	6935	6937	6916
Starting Vehs	59	44	75	55
Ending Vehs	72	33	55	46
Travel Distance (mi)	707	698	704	702
Travel Time (hr)	57.9	56.1	58.1	57.7
Total Delay (hr)	28.9	27.6	29.1	28.9
Total Stops	5440	5360	5514	5428
Fuel Used (gal)	43.2	42.3	43.0	42.9

Intersection: 1: Burgener Blvd. & Clairemont Dr.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	B19	B19	SB
Directions Served	L	T	T	R	L	T	TR	L	LTR	T	T	LTR
Maximum Queue (ft)	40	250	232	210	125	271	225	112	127	39	82	48
Average Queue (ft)	11	214	152	78	92	162	93	67	104	3	39	14
95th Queue (ft)	33	261	242	158	143	263	181	112	130	20	80	42
Link Distance (ft)	216	216	216	216		255	255	36	36	41	41	135
Upstream Blk Time (%)		11	2	1		2	0	28	44	0	12	
Queuing Penalty (veh)		0	0	0		0	0	73	115	1	30	
Storage Bay Dist (ft)					100							
Storage Blk Time (%)					14	18						
Queuing Penalty (veh)					46	22						

Intersection: 2: Burgener Blvd. & Field St.

Movement	EB	WB	WB	B8	NB	NB	SB	SB	B19	B19
Directions Served	LTR	LT	R	T	LT	R	L	TR	T	T
Maximum Queue (ft)	73	67	129	29	84	76	132	99	89	3
Average Queue (ft)	38	32	55	2	43	34	89	47	20	0
95th Queue (ft)	64	54	110	19	71	61	130	78	69	3
Link Distance (ft)	108	70	70	109	311	311	41	41	36	36
Upstream Blk Time (%)		0	7	0			47	7	6	0
Queuing Penalty (veh)		0	14	0			147	23	19	0
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 3: Field St. & Cowley Wy.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	109	160	42	63
Average Queue (ft)	59	92	21	32
95th Queue (ft)	90	147	45	54
Link Distance (ft)	109	137	75	137
Upstream Blk Time (%)	0	2	0	
Queuing Penalty (veh)	1	0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clairemont Dr. & Iroquois Ave.

Movement	EB	WB	SE	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	90	125	138	178	130	93	204	142
Average Queue (ft)	41	49	52	82	50	36	88	59
95th Queue (ft)	76	93	102	148	98	78	160	110
Link Distance (ft)	92	134		162	162		205	205
Upstream Blk Time (%)	0	0	0	0	0		0	
Queuing Penalty (veh)	0	0	0	0	0		0	
Storage Bay Dist (ft)			125			70		
Storage Blk Time (%)			1	1		1	8	
Queuing Penalty (veh)			2	1		4	7	

Intersection: 5: Cowley Wy. & Iroquois Ave.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	86	74	64
Average Queue (ft)	48	35	35
95th Queue (ft)	74	57	56
Link Distance (ft)	220	221	216
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Field St. & Project Drwy.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	114	76
Average Queue (ft)	22	35
95th Queue (ft)	72	60
Link Distance (ft)	161	156
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Cowley Wy. & Project Drwy.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	59	38	2
Average Queue (ft)	32	3	0
95th Queue (ft)	52	21	2
Link Distance (ft)	252	309	311
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 506

Intersection: 7: Internal St. & Parking Entrance

Movement	WB	NB
Directions Served	LR	TR
Maximum Queue (ft)	49	63
Average Queue (ft)	17	29
95th Queue (ft)	44	52
Link Distance (ft)	164	128
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Parking Entrance & Internal St.

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	63	56
Average Queue (ft)	30	19
95th Queue (ft)	54	46
Link Distance (ft)	159	124
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 31: Cowley Wy. & Project Drwy.

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	66	38
Average Queue (ft)	34	4
95th Queue (ft)	53	22
Link Distance (ft)	252	309
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 520